PIONEER
ENVIRONMENTAL, INC.

ASSESSMENT • ENGINEERING • REMEDIATION

FOCUSED SITE INVESTIGATION & REMEDIAL ACTION COMPLETION REPORT

The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Prepared For:

MC Holdings, Inc.
100 Morey Drive
Woodridge, Illinois 60517
Attn: Mr. Dana Morey

Prepared By:

Pioneer Environmental, Inc.
1000 North Halsted Street, Suite 202
Chicago, Illinois 60622
(312) 587-1021

Date Submitted:

November 8, 2000

Pioneer Project # 00618

The following personnel have prepared and/or reviewed this report.

Michael P. Ciserella, P.E.
Vice President

Wayne Smith, P.G.
Senior Project Manager

Thomas Brecheisen
Project Engineer

Pioneer Project Number: 99755

November 8, 2000
Date

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1.0 INTRODUCTION

1.1 Site Investigation Objectives

Pioneer Environmental, Inc. (Pioneer) was contracted by MC Holdings, Inc. (Remediation Applicant / client) to conduct a "focused" site investigation and provide environmental consulting services for the subject site located at 2659 Wisconsin Avenue in Downers Grove, Illinois (Figure 1). The purpose of the focused site investigation was to determine the nature and extent of contamination related to accidental releases of waste cleaning solvent that was previously identified during an initial assessment, and then use the regulatory options provided in 35 IAC Part 740-Site Remediation Program (SRP), and Part 742-Tiered Approach to Corrective Action Objectives (TACO), to obtain a focused "No Further Remediation" Letter (NFR Letter) for the subject site.

The following report is strictly related to the subsurface investigation activities conducted by Pioneer and is intended to serve as a *Focused Site Investigation & Remedial Action Completion Report* pursuant to Sections 740.435, 740.445 and 740.455. The contents of this report include a detailed discussion of the site characterization work and the TACO procedures utilized to establish site-specific remediation objectives and determine the degree of remedial action necessary to obtain a NFR Letter in accordance with Part 740, Subpart F and Section 58.10 of the Illinois Environmental Protection Act.

1.2 Background Information

The subject property, encompassing approximately 3.9 acres of land, consists of two parcels of land owned by MC Holdings, Inc. The Remediation Site consists of an approximate 1,200 square foot area located near the east-central portion of the subject property (Figure 2). A tall, one-story structure and an adjacent asphalt parking lot comprise the subject property which is located within the Ellsworth Industrial Park. The subject property is currently vacant and the property owner informed Pioneer that the building was formerly used for the manufacturing of small electronic components (See Section 2.1). Legal descriptions for the subject property and the Remediation Site are included in Appendix A.

The client is hereby submitting the required paperwork (Appendix A) to notify the Illinois Environmental Protection Agency (IEPA) of their election to proceed under the Site Remediation Program (SRP). This is being done for the express purpose of securing a NFR Letter from the State.

1.3 Recognized Environmental Conditions

As previously discussed, the subject property was used for manufacturing small electronic components. According to the property owner, historical site operations involved the storage of miscellaneous liquid wastes in a small, dedicated room along the subject building's eastern wall. This waste primarily included cleaning solvent and soldering by-products (i.e. flux). A floor drain from the waste storage room discharged to the ground surface immediately outside the building's eastern wall. Pioneer was informed that an initial assessment was previously performed at the site and identified certain volatile organic compounds (VOCs) in soil samples collected from the area around this drain pipe. Therefore, the presence of VOC-impacted soils was identified as a recognized environmental condition (REC) and provided the focus for the site investigation activities conducted at the subject site by Pioneer.

1.4 Contaminants of Concern

Based on the REC, the information from the previous assessment, and the nature of the suspected source at the subject site, Pioneer established volatile organic compounds (VOCs) as the appropriate contaminants of concern (COCs) at the subject site. The VOC analysis includes the full-scan of organic compounds typically found in waste cleaning solvents, including tetrachloroethylene (PCE), trichloroethylene (TCE) and the various degradation compounds of PCE and TCE.

2.0 SITE CHARACTERIZATION

2.1 Site Description

The subject site consists of two parcels of land owned by MC Holdings, Inc. The subject site is rectangular in shape and encompasses approximately 3.9 acres of land located near the southwest corner of the intersection of Wisconsin Street and Katrine Avenue in the Village of Downers Grove, Illinois. The subject site is occupied by an approximate 43,200 square foot one-story building located within the Ellsworth Industrial Park. The site is bordered to the north and east by Wisconsin Street and Katrine Avenue, respectively, beyond which are industrial/commercial buildings. An asphalt parking lot lies to the west of the subject building, beyond which is industrial/commercial development. South of the subject building is an asphalt parking lot beyond which is densely vegetated vacant land.

The subject building consists primarily of an open warehouse area, where former soldering workstations were utilized to manufacture small electrical and mechanical assemblies (i.e. circuit boards). As assemblies were completed, they were cleaned with solvent and the solvent was then stored in a 55-gallon drum in the aforementioned waste storage room located along the eastern side of the subject building. A floor drain routed any small spills of the wastes to a discharge point immediately outside the subject building and directly east of the waste storage room (Figure 3). Evidence of past spills (i.e. staining) was noted on the floor in the waste storage room.

The subject site is located in a manufacturing district (M1) within the Village of Downers Grove. The following list summarizes the adjacent properties noted during the recent investigation.

North: The site is bordered to the north by Wisconsin Street beyond which is Novartis Seeds, Inc. and Amkus Rescue Systems.

East: The site is bordered to the east by Katrine Avenue, beyond which is Lovejoy.

West: The site is bordered to the west by a public storage facility.

South: The subject property is bordered to the south by vacant land that is known as Elmore Avenue (dedicated right-of-way), beyond which is densely vegetated vacant land, reportedly located in an unincorporated portion of Downers Grove.

2.2 Sampling Plan

Based on the reported presence of solvent contamination beneath the discharge pipe outside the eastern edge of the building, Pioneer developed a sampling plan to adequately characterize the site conditions associated with the REC. The objectives of the assessment activities were to confirm and supplement previous assessment activities which indicated the site's soils had been impacted by VOCs and then to delineate the horizontal and vertical extent of the potential VOC contamination based on Pioneer's assessment results.

As mentioned, Pioneer was informed by the owner that VOC-impacted soils were identified by a previous assessment conducted in the area outside the east wall of the subject building from a floor drain discharge related to spills from former waste transfer operations previously conducted on-site. Pioneer noted evidence of past spills on the floor of the former waste storage room (i.e. staining). The owner stated that an excavation (3' x 3' x 4' deep) was dug manually beneath the discharge pipe. Soils from the excavation were stockpiled inside 55-gallon drums outside the subject building (Figure 3) and are intended for proper disposal according to the applicable regulations. Therefore, based on the information provided, Pioneer's assessment targeted the area beneath the waste storage room and beneath the discharge pipe outside the eastern portion of the subject building as the potential source area.

As a result, Pioneer advanced 15 soil borings throughout the site. Soil samples were collected and analyzed for VOCs according to USEPA Method 5035/8260B. For purposes of a TACO evaluation, one soil sample was also analyzed for pH and fraction of organic carbon (f_{oc}), according to respective USEPA Methods 9045 and 9060.

2.3 Soil Boring Advancement/Sampling

On August 28 and 29, 2000, Pioneer mobilized subsurface drilling equipment and OSHA-certified personnel to the subject site. A total of 15 soil borings were advanced at strategic locations inside the subject building and throughout the eastern portion of the subject property (Figure 3). Soil borings outside the subject building were advanced through a surface finish of either concrete or vegetated topsoil while soil borings advanced inside the subject building were advanced through concrete and an approximate 6-12 inch layer of associated gravel base materials. Internal soil borings were advanced using a manually-operated jackhammer-driven sinker drill. Exterior soil borings were advanced using a truck-mounted hydraulically-driven sinker drill. Soil samples were collected using a stainless steel barrel sampler with dedicated PVC liner sleeves. A photographic log of these activities is included in Appendix B.

The soil samples obtained from each interval were logged according to their predominant geological characteristics and then divided into two representative portions by a Pioneer Project Engineer. A measured portion of each sample (13 grams) was transferred from the sampling device(s) into pre-labeled laboratory provided glass containers with appropriate preservative (in accordance with SW-846 Method 5035 for VOCs), designated for possible analysis, and stored in a cooler on ice to preserve the integrity of the sample. The remaining portion of each sample was sealed in a pre-labeled plastic bag and set aside to be field screened.

After a sufficient amount of time had elapsed to allow the soil vapors to equilibrate with the air in the sample bags, the sealed soil vapors were field screened using either a MicroFID™ IS-3000 hand-held flame ionization detector (FID). This device is sensitive to a variety of VOCs, including those commonly associated with waste solvents and their degradation compounds. The instrument provides a quantitative indication of the relative concentrations of these compounds in the soil sample by measuring the amount of VOCs trapped in the headspace of the bags.

Pioneer selected soil samples from various boring locations for analytical testing. The samples were selected based on the scope of work, FID readings, and judgment of the

Project Engineer. The selected samples were then shipped overnight to an independent laboratory under standard chain-of-custody procedures, and submitted for analysis of the appropriate targeted compounds (VOCs). Pioneer's complete protocol for subsurface soil sampling and soil boring logs are provided in Appendix C.

2.4 Field Observations

No visual/olfactory indications of potential contamination were noted in any of the soil borings advanced on-site; however, elevated FID readings were noted in three of the 15 soil borings advanced at the subject site. This field evidence of contamination was primarily observed in samples collected beneath the former waste storage room and near the floor drain discharge pipe outside the eastern portion of the subject building (i.e. source area) and was observed from near surface grade to depths up to 12 feet BSG.

2.5 Site Geology

Soils beneath asphalt and concrete surface materials consisted primarily of brown silty clay and clayey silt from near surface grade to depths ranging from approximately 6 to 9 feet below surface grade (BSG). In general, the upper silty clay unit contained varying percentages of gravel, sand and silt, retained a loose, firm to stiff consistency, and exhibited brown to dark brown color variations.

Beneath this brown upper silty clay unit, a gray silty clay unit was encountered in all borings at depths ranging from 6 to 12 feet BSG with the exception of B-9, which was terminated at 9 feet BSG. The gray silty clay unit contained trace percentages of fine sand and its consistency ranged from soft to stiff. Based on observations from B-6, which began approximately 4 feet below natural surface grade due to the recessed loading dock, the gray silty clay persisted to at least 16 feet BSG. There was no obvious evidence of groundwater detected during any of the subsurface investigation activities performed by Pioneer.

According to the Illinois State Geological Survey (ISGS) map dated 1984 and titled *Stack-Unit Mapping of Geological Materials in Illinois to a Depth of 15 Meters*, by Kempton, John P. et al., and the ISGS map dated 1970 and titled *Surficial Geology of the Chicago Region*, by Willman and Lineback, the subject site is situated on the Wadsworth Member of the Wedron Formation, which is described as mostly gray clayey and silty clayey till, with low pebble, cobble and boulder content and local silt lenses present from approximately six to 15 feet BSG. The Wedron Formation is described as silty and clayey tills with interspersed beds of alluvial sand and gravel deposits.

Pioneer also reviewed Plate 1 of the ISGS Circular dated 1984 and titled *Potential for Contamination of Shallow Aquifers in Illinois*, by Berg, Richard C. et al. Plate 1 indicates the subject site is located on the border of areas designated as "C2" and "E". A "C2" classification is described as sand and gravel within 20-50 feet of surface underlain by impermeable till. An "E" classification is described as uniform, relatively impermeable silty or clayey till at least 50 feet thick. Based on the actual subsurface sediments encountered at the subject site, the site geology appears more consistent with an "E" classification.

Based on the Berg Circular and the predominant soil types encountered at the subject site, hydraulic conductivities were estimated to range from 10^{-9} to 10^{-7} cm/s, which indicate the site's soils have a low permeability. A complete listing of the geological conditions encountered during drilling are provided on the soil boring logs in Appendix C. Copies of the ISGS maps are included in Appendix D.

3.0 TIER 1 EVALUATION

3.1 Introduction

Based on the nature of the REC, each of the soil samples analyzed during the site investigation was tested for VOCs. In order to further characterize the site and for purposes of a potential Tier 2 evaluation, one soil sample was analyzed for pH and one soil sample was also analyzed for its fraction of organic carbon (f_{oc}). All analytical tests were performed by an independent laboratory in accordance with accepted State and Federal test methods.

Based on the site's historical and intended future industrial use, soil sample analytical results contained herein are compared to the most stringent soil remediation objectives (SROs) for industrial/commercial property, also referred to as Tier 1 SROs, found in 35 IAC 742, Tiered Approach to Corrective Action Objectives (TACO). The industrial/commercial Tier 1 SROs represent baseline contaminant concentrations that are acceptable to the IEPA. These Tier 1 SROs are based on a risk assessment that incorporates a conservative exposure scenario and yields values relative to three primary exposure pathways; namely, ingestion, inhalation, and the groundwater ingestion exposure routes (migration to groundwater), and for two target populations, industrial/commercial workers and construction workers.

Although these Tier 1 SROs may not represent final remediation objectives for the site, the analytical results of the soil and groundwater samples are herein compared to the most stringent Tier 1 SROs for industrial/commercial property use for initial screening purposes. Pursuant to the Part 742 regulations, the values for each of the three exposure pathways must be presented for matters of comparison and the most stringent becomes the remediation objective for a Tier 1 Evaluation.

3.2 Soil Sample Analytical Results

A total of 14 soil samples were analyzed for VOCs. The analytical results of the soil samples tested for VOCs indicated that concentrations of five of the 37 targeted compounds exceeded the most stringent Tier 1 SROs in seven of the samples analyzed. Table 3.2.1 provides a detailed breakdown of the particular pathway-specific Tier 1 SROs that were exceeded.

TABLE 3.2.1
Contaminants of Concern Exceeding Tier 1 SROs
The Morey Corporation
2659 Wisconsin Street / Downers Grove, Illinois

Sample ID	TACO Exposure Pathways						
	Route Specific Values				*Soil Component of Groundwater Ingestion Exposure Route*		*Soil Saturation Limit*
	Industrial - Commercial		*Construction Worker*				
	Ingestion	*Inhalation*	*Ingestion*	*Inhalation*	*Class I*	*Class II*	C_{sat}
B-1 (3'-6')	PCE	PCE		PCE	PCE, TCE, DCE, VC	PCE, TCE, DCE	
B-1 (9'-12')					DCE		
B-2 (6'-9')					PCE		
B-6 (3'-6')					PCE, TCE, DCE, VC	PCE, TCE, DCE	
B-10 (4'-6')		PCE		PCE	PCE	PCE	
B-10 (10'-12')					PCE	PCE	
B-12 (4'-6')					MC		

Notes:
PCE = Tetrachloroethylene; TCE = Trichloroethylene; DCE = cis 1,2-Dichloroethylene; VC = Vinyl Chloride
MC = Methylene Chloride

Analytical results show that remaining VOCs in these seven soil samples and the VOCs in all other soil samples were either not detected at the stated detection limits or were detected below the most stringent Tier 1 SROs. A complete summary of soil analytical results is provided in Table No. 1 and laboratory reports are included in Appendix E. Soil sample locations and exceedances of the Tier 1 SROs are shown on Figure 4.

Soil samples B-7 (3'-6') and B-14 (3'-6'), which were collected from non-impacted areas, were also analyzed for pH and f_{oc} respectively. Results yielded a pH of 7.20 standard units

and an organic carbon content of 1.08 % (or 0.0108 g-C / g-soil), which is approximately 5 times greater than the IEPA subsurface default value of 0.2% (0.002 g-C / g-soil).

3.3 Tier 1 Evaluation – Summary

The analytical results have demonstrated that soils beneath the eastern portion of the subject site have been impacted, to varying degrees, by: tetrachloroethylene (PCE), trichloroethylene (TCE), cis 1-2 dichloroethylene (DCE), vinyl chloride (VC) and methylene chloride (MC). The soil contamination appears to be most severe beneath the former waste storage room and the floor drain discharge pipe, which was considered the apparent source area based on the information previously provided by the owner.

4.0 ENDANGERMENT ASSESSMENT / REMEDIATION OBJECTIVES DETERMINATION

4.1 Introduction

As mentioned above, the analytical results of the soil samples indicated that the subject property has been impacted by certain VOCs at concentrations above the industrial/commercial Tier 1 SROs (Figure 4). As a result, Pioneer performed an endangerment assessment in accordance with the procedures outlined in the TACO regulations. The approach of this endangerment assessment was to eliminate the groundwater ingestion pathway and to establish site-specific Tier 2 SROs for remaining pathways for those contaminants detected above the most stringent industrial/commercial Tier 1 SROs. The five COCs at the site that were analytically confirmed to exceed the most stringent industrial/commercial Tier 1 SROs for any pathway are herein referred to as Targeted COCs and have been outlined below in Table 4.1.1.

Table 4.1.1
Targeted Contaminants of Concern

Targeted COCs	*Pathway Exceeded*			
	Ingestion	*Inhalation*	*Class I*	*Class II*
Tetrachloroethylene (PCE)	X	X	X	X
Trichloroethylene (TCE)			X	X
Cis 1,2 Dichloroethylene (DCE)			X	X
Vinyl Chloride (VC)			X	
Methylene Chloride (MC)			X	

4.2 Exposure Route Evaluation

Each of the potential exposure routes was evaluated pursuant to Subpart C of the Part 742 regulations to determine the feasibility of excluding specific pathways (i.e. groundwater ingestion and migration to groundwater) for the targeted COCs identified at the site. As provided in Subpart C of the Part 742 regulations, exposure pathways may be excluded from consideration if it can be demonstrated that an actual or potential impact to a receptor

or potential receptor can be eliminated. If exposure pathways can be excluded, their corresponding objectives are no longer applicable.

However, prior to conducting an exposure pathway assessment, the specific targeted COCs must be identified at the site. Based on the analytical results of the assessment work, the compounds listed in Table 4.1.1 were the only COCs identified at the site that required investigation beyond a Tier 1 evaluation.

As outlined in Section 742.305, prior to elimination of any pathways at a site, certain minimum requirements must be evaluated and satisfied. These requirements include the following:

- The sum of the concentrations of all organic COCs shall not exceed the attenuation capacity of the soil as determined under Section 742.215 (Section 742.305(a));

Pioneer calculated the sum of the organic compounds from each of the soil samples analyzed, using the value of the corresponding detection limit when the compound was not detected. The sum of the organic COCs from the most contaminated soil sample analyzed, B-1 (3'-6'), totaled 121 ppm (Table No. 1). Therefore, based on the analytical results of the soil samples collected, and the comparison to the most stringent default attenuation capacity for the site (2,000 ppm), it has been demonstrated that the attenuation capacity of the soil has not been exceeded; thus, this requirement has been satisfied.

- The concentrations of any organic COCs remaining in the soil shall not exceed the soil saturation limit as determined under Section 742.220 (Section 742.305(b)).

The maximum concentration and the soil saturation limits of the Targeted COCs (with melting points below 30°C) have been outlined below in Table 4.2.1. As illustrated, the default soil saturation limits are not exceeded by the maximum concentration of any of the Targeted COCs; therefore, this requirement has been satisfied for the subject property.

Table 4.2.1
Maximum Concentration of COCs (with melting points below 30°C) and Soil Saturation Limits

Targeted COCs	*Maximum Concentration (ppb)*	*Soil Saturation Limit (ppb)*
Tetrachloroethylene	110,000	240,000
Trichloroethylene	8,000	1,300,000
Cis 1,2 Dichloroethylene	3,300	1,200,000
Vinyl Chloride	46	1,200,000
Methylene Chloride	40	1,200,000

- Any soil which contains COCs shall not exhibit characteristics of reactivity for hazardous waste (Section 742.305(c));

Based on the physical and chemical properties and the relative concentrations of the contaminants identified at the site, it is unlikely that the soil at the subject property would exhibit the characteristics of reactivity as outlined in 35 IAC 721.123; thus, this requirement has been satisfied.

- Any soil which contains COCs shall not exhibit a pH less than or equal to 2.0 or greater than or equal to 12.5 (Section 742.305(d)); and

Based on the result of B-7 (3'-6'), the measured pH of the soil was 7.20 standard units (Appendix E); therefore, this requirement has been satisfied.

- Any soil which contains arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver shall not exhibit any of the characteristics of toxicity for hazardous waste (Section 742.305(e)).

None of the metals listed above were identified as COCs based on the nature of the REC. Therefore, this condition has been satisfied by default.

Based on the preceding evaluation, exclusion of potential exposure pathways is possible at the subject property; however, as described below, additional criteria must also be satisfied

before a particular exposure pathway can be formally excluded from consideration at the site.

4.3 Groundwater Ingestion Pathway

Pursuant to Section 742.320, the groundwater ingestion exposure route, which includes migration from soil to groundwater and direct ingestion of groundwater, may be excluded from consideration if, in addition to the criteria previously outlined in Section 4.2 of this report, the criteria described below are also satisfied. It should be noted that the Village of Downers Grove does not have a groundwater ordinance as required by Section 742.320(d). As a result, elimination of the groundwater ingestion pathway is pursued from a regulatory context under Section 742.900(c)(6). However, the information requested by Section 742.320 is still provided in the subsequent text as it discusses relevant issues needed to support groundwater ingestion pathway elimination under a Tier 3 Evaluation pursuant to Section 742.925(b).

- Corrective action measures must be completed to remove any free product to the maximum extent practicable (Section 742.320(b));

No free product was identified during site assessment activities conducted within the source area or outside the source area; thus, this requirement has been satisfied.

- The source of the release is not located within the minimum or designated maximum setback zone or within a regulated recharge area of a potable water supply well (Section 742.320(c));

Pioneer conducted an Illinois State Geological Survey (ISGS) well search to locate potable water supply wells within a one-mile radius of the source. A review of the ISGS records revealed several private water wells and one community water supply well within 2,500 feet of the site (Appendix F). A representative from the Groundwater Section of the IEPA Bureau of Water informed Pioneer the setback zone for the public water supply well is 400 feet and that there is no regulated recharge area associated with this well. The setback zone for all remaining private wells is 200 feet. Pioneer was additionally informed no maximum setback zone was established for the public water supply well referenced previously. Based on the locations of these wells, the site is not located within the minimum or

designated maximum setback zone of any potable water well or any regulated recharge area. Therefore, this condition is satisfied.

- For any area within 2,500 feet from the source of the release, an ordinance adopted by the unit of local government is in place that effectively prohibits the installation of potable water supply wells (and the use of such wells) (Section 742.320(d));

Pioneer contacted the Village of Downers Grove to determine whether the Village has an ordinance prohibiting the installation of private wells for potable purposes and to determine where the Village gets its potable water supply. Pioneer was informed the Village obtains its public water supply from the City of Chicago, via the DuPage Water Commission, which uses Lake Michigan as its source of potable water. According to the Village representatives, the Village of Downers Grove has a municipal ordinance prohibiting the installation of private wells for potable purposes where municipal water is available within 250 feet. If a business or residence is not within 250 feet of the municipal water supply system, a private well may be installed for potable purposes. Private wells may also be installed solely for irrigation purposes. The remediation site is currently serviced with municipal water and since the site is located within 250 feet of a Village water main, the installation of a private well for potable purposes would be prohibited under the municipal ordinance. A copy of this ordinance is included as Appendix G. However, since the municipal ordinance is not approved by the IEPA for TACO purposes as required under Section 742.1015, this requirement is not satisfied.

Because this condition is not met, Pioneer continued to pursue the exclusion of the groundwater ingestion exposure route under a Tier 3 Evaluation as allowed by Section 742.900(c)(6). The purpose of this Tier 3 Evaluation is to prohibit the potable use of groundwater at the site through a site-specific groundwater use restriction pursuant to Section 742.925.

As previously mentioned, there was no obvious evidence of groundwater encountered during any of Pioneer's subsurface investigation activities and the site is not located within the minimum or designated maximum setback zone of an existing potable water supply well. Further, as described in Section 4.4 of this report, Equation R-14/R-26 modeling calculations show that any *potentially* impacted groundwater would not migrate off-site at

levels above the Class I GROs, based on maximum soil concentrations and corresponding, conservative *theoretical* groundwater contamination.

Based on the information provided in connection with the pathway exclusion justification under Section 742.925 (including Section 742.320), Pioneer believes it has been adequately demonstrated that both the soil and groundwater components of the groundwater ingestion exposure route can be excluded from consideration at this site, as allowed under a Tier 3 Evaluation (Section 742.900[c][6]). An institutional control, in the form of the NFR Letter for the site, will be utilized to prohibit the potable use of groundwater at the site.

4.4 Equation R-14 / R-26 Modeling

Equations R-14 and R-26 were utilized to model predicted future impacts associated with the residual soil contamination at the site. The source area was identified as the area beneath the former waste storage room and the floor drain discharge pipe outside the subject building and is delineated as shown on Figure 4.

Since there was no obvious evidence of groundwater at the site, Equation R-14 was used to predict theoretical groundwater impacts from soil contaminants leaching to groundwater. *Maximum* detected soil concentrations from actual samples collected from the site were used to predict the most conservative theoretical groundwater impacts (C_{source}). The corresponding C_{source} values were then inputted into Equation R-26 to evaluate the current and future potential for impacted groundwater to migrate as a result of the impacted soil leaching to groundwater.

The site-specific input values required for Equation R-14 include the hydraulic conductivity (K), the hydraulic gradient (i), pH, fraction of organic carbon (f_{oc}) and source area dimensions as described below.

- Hydraulic Conductivity (K)

According to the Berg Circular for "E" type soils, typical hydraulic conductivity values range from 10^{-9} to 10^{-7} cm/s. However, Pioneer used a hydraulic conductivity value of 10^{-5} cm/s as a conservative measure.

- Hydraulic Gradient (i)

Pioneer used a hydraulic gradient of 0.01 ft/ft for the calculations. This is a very conservative value given the lack of groundwater observed during the subsurface investigation.

- pH

Pioneer used a site-specific pH of 7.20 standard units as measured from the site's soil (B-7[3'-6']).

- Organic Carbon (f_{oc})

Pioneer used a site-specific f_{oc} value of 1.08% (B-14 [3'-6']) as measured from the site's soil.

- Source Area Dimensions (W, S_w, X)

Site-specific source area parameters used in the R-14/R-26 calculations are shown on Figure 4. These parameters include: width of source area parallel to the direction of groundwater movement (W); source width perpendicular to the groundwater flow direction in the horizontal plane (S_w); and the distance along the centerline of the groundwater plume in the direction of groundwater flow (X). Since the eastern property line is closest to the source area, the distance from the source to the eastern property line was used as 'X' to provide the most conservative result for the R-26 modeling calculation. Remaining parameters are IEPA default values found in 35 IAC 742. Results of Equation R-26 calculations indicated that the Class I GROs would be achieved at the nearest property border (i.e. eastern property line). The R-14/R-26 modeling calculations are included in Appendix H.

4.5 Tier 2 Soil Evaluation

Since the groundwater ingestion pathway and the soil component of the groundwater ingestion pathway have been eliminated under a Tier 3 Evaluation, the remaining pathways (i.e. inhalation, ingestion) were evaluated under a Tier 2 Evaluation. Given the site's intended industrial/commercial redevelopment, Pioneer developed industrial/commercial Tier 2 SROs for the inhalation and ingestion pathways in order to calculate higher, yet acceptable remediation objectives. Pursuant to Subparts F and G of the Part 742 regulations, Tier 2 SROs may be developed utilizing site-specific information and are considered to be equally protective of human health and the environment even though they are less stringent than the conservative Tier 1 SROs.

As outlined in Section 742.600(e), prior to developing Tier 2 SROs for a site, certain minimum requirements must be evaluated and satisfied. These requirements are provided below and are followed by an explanation of how they apply to the subject property.

- The sum of all organic COCs shall not exceed the attenuation capacity of the soil (Sections 742.600(e)(1) and 742.215);

This condition has been met as previously outlined in Section 4.2.

- If more than one noncarcinogenic COC at the site affects the same target organ, the calculated remediation values shall be corrected for cumulative effects (Sections 742.600(e)(2) and 742.720);

Of the site's Targeted COCs (PCE, TCE, DCE, VC and MC), DCE is the only *noncarcinogenic* COC. Because not more than one noncarcinogenic COC is present at the site, remediation values were not corrected and this requirement is satisfied.

- For any organic COC with a melting point below 30°C, the concentration remaining in the soil shall not exceed the soil saturation limit (Sections 742.600(e)(3) and 742.220).

This condition has been met as previously discussed in Section 4.2 (See Table 4.2.1).

Since each of these initial conditions was satisfied, a Tier 2 analysis was considered valid for the subject property. Therefore, Pioneer established Tier 2 SROs for both of the remaining exposure pathways (i.e. inhalation and ingestion). Pioneer utilized the Soil Screening Level (SSL) equations as provided in Section 742.710 to calculate the Tier 2 values. Tier 2 SROs were calculated utilizing a widely accepted third-party software program (TACO PRO™ [2.0]). Tier 2 SROs were calculated for two populations, industrial/commercial workers and commercial workers.

Site-specific variables used during the Tier 2 calculations were limited to include only the measured pH (7.20), the organic carbon fraction of the soil collected from the site (1.08%), and the finite source area dimensions (Figure 4). The IEPA default values provided in Appendix C of the Part 742 regulations were used for all remaining parameters. See Appendix H for a copy of the appropriate IEPA Tier 2 data worksheets containing the Tier 2 SROs calculated for the Targeted COCs as well as a list of the TACO equations used to develop the Tier 2 SROs. Table 4.5.1 compares maximum site concentrations of the targeted COCs to the Tier 2 SROs calculated for the industrial/commercial populations as they are more stringent than the Tier 2 SROs calculated for the construction worker population as required by Section 742.600(h) (Appendix H).

TABLE 4.5.1
Tier 2 Industrial/Commercial SROs
The Morey Corporation
2659 Wisconsin Street / Downers Grove, Illinois

COC	*Maximum Site Concentration*	*Ingestion (Ind/Comm)*	*Inhalation (Ind/Comm)*	*C_{sat} (Surficial)*
Tetrachloroethylene	110,000	110,062	144,728	382,949
Trichloroethylene	8,000	520,291	49,378	2,168,731
cis-1,2-Dichloroethylene	3,300	20,440,000	1,801,007	1,801,007
Vinyl Chloride	46	3,012	999	1,402,301
Methylene Chloride	40	763,093	178,600	3,160,595

All concentrations in µg/kg.

MOR 000064

As indicated by a comparison of the maximum detected concentrations at the site to the most stringent industrial/commercial Tier 2 SROs calculated using TACO equations (Table No. 4.5.1), it was determined that the concentrations of COCs at the site are all less than the calculated Tier 2 SROs for industrial/commercial land use. Therefore, given the elimination of the groundwater ingestion pathway and the use of Tier 2 SROs, the actual risk posed by the residual COCs has been mitigated and the impacted soil may be adequately managed in-place.

5.0 FINDINGS

5.1 Summary

Pioneer was contracted by MC Holdings, Inc. (Remediation Applicant / client) to conduct a "focused" site investigation and provide environmental consulting services for the subject site located at 2659 Wisconsin Street in Downers Grove, Illinois (Figure 1). The purpose of the site investigation was to determine/verify whether subsurface soils had been impacted by VOC-contamination and then use the regulatory options provided in 35 IAC Parts 740 and 742 to address the impacts and obtain a "focused" No Further Remediation Letter for the remediation site. Pioneer was informed by the owner that the soils near the east-central portion of the subject building were impacted with VOC contamination related to accidental spills of cleaning solvents in a waste storage room during past facility operations.

Pioneer mobilized to the subject site to perform site characterization work on August 28 and 29, 2000. As a result, 15 soil borings were advanced at various locations on the subject site and select samples were analyzed for VOCs, the COCs established based on the source.

The Tier 1 Evaluation revealed that soil was impacted by certain chlorinated VOCs above industrial/commercial Tier 1 SROs to varying degrees. The assessment activities indicated the contamination was mainly present beneath the building and pavement within the source area and from near surface grade to approximately six feet BSG near the eastern portion of the subject site. Based on the results of the soil testing, the horizontal and vertical extent of contamination was adequately defined.

Pioneer then performed an endangerment assessment in accordance with TACO regulations to justify the elimination of the groundwater ingestion pathway (soil migration to groundwater) and to develop Tier 2 SROs for the targeted COCs at the site. The groundwater ingestion pathway was eliminated under a Tier 3 Evaluation pursuant to Section 742.925. Equations R-14 and R-26 were utilized to evaluate the potential for

theoretical, predicted future groundwater impacts to migrate. Results of the conservative modeling calculations indicated that the *potential* concentrations of COCs in groundwater would not migrate off-site at concentrations exceeding the Class I GROs as modeled from the source area to the nearest property boundary (Figure 4, Appendix H).

Pioneer then developed Tier 2 SROs for industrial/commercial and construction worker populations to address the remaining exceedances of the Tier 1 SROs for the ingestion and inhalation pathways. The only site-specific variables used for the Tier 2 calculations were the finite source area dimensions (Figure 4), pH (7.20) and the fraction of organic carbon (1.08%); TACO default values were used for all other parameters. Maximum soil contaminant concentrations were compared to the calculated Tier 2 SROs. Since there were no actual site concentrations that exceeded the most stringent calculated Tier 2 SROs (Table 4.5.1), it was determined that no further investigation was warranted and the residual contamination could be adequately managed in-place. A Site Base Map showing the area of contaminants remaining in-place is included as Figure 5.

5.2 Conclusions

Based on the site characterization work which has adequately defined the nature and extent of contamination and the endangerment assessment performed in accordance with the TACO regulations, Pioneer has demonstrated that the applicable remediation objectives have been achieved and that the risk associated with the soil contamination identified at the subject site can be adequately managed in-place. Thus, Pioneer maintains that no further remedial action is warranted in connection with the subsurface impacts identified at the subject site. In addition, Pioneer believes the site conditions warrant the issuance of a "focused" No Further Remediation Letter from the IEPA as acknowledgment of formal site closure in accordance with 35 IAC 740.430 and 415 ILCS 5/58.10 of the Illinois Environmental Protection Act. Pioneer respectfully requests the NFR letter include the following conditions and institutional controls:

- The land use is limited to industrial/commercial use;

- No person shall construct, install, maintain, or operate a water system or well at the remediation site for potable purposes;

- There are no engineering controls;

- Any contaminated soil (or groundwater) that is removed, excavated, or disturbed from the subject property must be handled in accordance with applicable laws and regulations; and

- The NFR Letter shall be recorded as a permanent part of the chain of title for the subject property and serve as an appropriate institutional control.

6.0 CLOSING REMARKS

This report has been prepared for the sole use of the client identified in the report and evaluation by the Illinois EPA, and can not be relied upon by other persons or entities without the joint permission of the client and Pioneer Environmental, Inc. (Pioneer). The observations and conclusions contained herein are limited by the scope and intent of the work mutually agreed upon by the client and Pioneer and the work actually performed. There are no warranties, implied or expressed, concerning the environmental integrity of areas and/or mediums not analytically tested.

7.0 REFERENCES

American Society for Testing and Materials. 1984. "Standard Method for Penetration Test and Split-Barrel Sampling of Soils". (ASTM D1586). Reprinted from *Annual Book of ASTM Standards,* Vol 04.08.

Berg, Richard C. et al. 1984. *Potential for Contamination of Shallow Aquifers in Illinois*. Illinois State Geological Survey Circular 532.

Berg, Richard C. and Kempton, John P. 1988. *Stack-unit Mapping of Geologic Materials in Illinois to a Depth of 15 Meters*. Illinois State Geological Survey Circular 542.

Illinois Pollution Control Board. 1997. *Site Remediation Program.* Title 35 Illinois Administrative Code Part 740. Springfield, IL.

Illinois Pollution Control Board. 1997. *Tiered Approach to Corrective Action Objectives*. Title 35 Illinois Administrative Code Part 742. Springfield, IL.

Willman, H.B. 1971. *Summary of the Geology of the Chicago Area*. Illinois State Geological Survey Circular 460.

Morey Corporation Chemical Inventory by Product Name

Acti-Brite
Acid Cleaner
3880 Adhesive Elect. Cond.
Air Dry Enamel (Glyptal)
Air Lube
Alkyd Resin Solution - Glyptal
Aluminum Alloys
Alloy Steel
Ammonium Hydroxide - (Liquid Mask)
BE Series Baking Epoxy Ink
Bobbing Compound
Brass
Bronze
BSC - 93 - PC
Carbon Steel
Castle Metals - variety
Catalyst 23 LV
Cleaner 320
Copper
Loctite ODC cleaner and degreaser - 20260
Chemask DA
Cho-Therm 1674 Solvent Based Silicone
onductive Adhesive
SL 588 Electronic Grade Sealant/Adhesive
lesstic TK 460 Lubricating Oil
E Solvent
v Corning High Vacuum Grease
Corning (4) Electrical Insulating Compound
Corning (R) 340 Heat Sink Compound
Lube Aerosol Lubricant 2W757-BT.F.E.
FR Black Epoxy Resin
ond A-401-37
el 1265 Clear, Part A
l 1265 Part B
ip 93 Organic Solvent
eric Rubber Flange Sealant
olor Paste Black
us Medicated First Aid Spray
alant 509 850 c
Anaerobic Gasket Flange Sealant
Solder 245

1090370
TMC 1090350
per Jhon

M I B

MATERIAL SAFETY DATA SHEET
SLIDE PRODUCTS, INC.
430 S. WHEELING RD.
WHEELING, IL 60090

Rec. 8/13/99

PRODUCT NAME: SLIDE EPOXEASE AEROSOL

EMERGENCY TELEPHONE: 800-535-5053
INFORMATION TELEPHONE: 847-541-7220
D.U.N.S. NUMBER: 00-299-4168
PREPARED BY: MICHAEL MUTH

REVISION DATE: 6-1-97
PRODUCT NUMBER: 40616T
FAX NUMBER: 847-541-7986

SECTION I. IDENTIFICATION

CHEMICAL NAME: SYNTHETIC WAX DISPERSION
CHEMICAL FAMILY: SYNTHETIC WAX
FORMULA: 40616T
SYNONYMS: EPOXEASE
DOT HAZARD CLASSIFICATION: ORM-D
DOT SHIPPING NAME: CONSUMER COMMODITY
CHEMICAL ABSTRACT REGISTRY NUMBER: N/A, MIXTURE
IDENTIFICATION NUMBER: NONE
H.M.I.S. RATING: 1,3,0,1

SECTION II. PHYSICAL DATA

DATA IN SECTION II APPLIES TO CONCENTRATE BEFORE ADDING PROPELLANT

BOILING POINT: 103-337 DEGREES F.
FREEZING POINT: < -40 DEGREES F.
SPECIFIC GRAVITY: (H20 =1): 1.02
WEIGHT PER GALLON @ 60 F.: 8.58
VAPOR PRESSURE @ 70 F. (MM HG): 350
VAPOR DENSITY (AIR = 1): > 1
SOLUBILITY IN WATER, % BY WT.: NIL
PERCENT VOLATILE BY WEIGHT: 96
EVAPORATION RATE (MINUTES): 20
APPEARANCE AND ODOR: OPAQUE BROWN LIQUID - CHLORINATED SOLVENT ODOR

SECTION III. HAZARDOUS INGREDIENTS

MATERIAL:	APPROX. WEIGHT %:	CAS NUMBER:	PEL (OSHA)
TRICHLOROETHYLENE **	55-65	79-01-6	100 PPM
PROPANE A-108	10-20	74-98-6	1000
ALIPHATIC NAPHTHA	20-26	68513-03-1*	130
SYNTHETIC WAX	1-6	MIXTURE	N/A

##CONTAINS NO OZONE DEPLETING CHEMICALS##
ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA DIRECTORY
**)SEE SECTIONS X AND XI FOR DETAILED CAUTIONS

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS IN AIR: LEL: 1.0 UEL: 9.5 (VOLUME %)
FLASH POINT: N/A
SPECIAL FIRE FIGHTING PROCEDURES: CHLORINATED HYDROCARBON FORM HCL, HF AND TRACES OF PHOSGENE UPON PYROLYSIS.
UNUSUAL FIRE & EXPLOSION HAZARDS: AEROSOLS MAY RUPTURE VIOLENTLY AT TEMPERATURES ABOVE 120' F.

PO0153.05 1 Purchase Order Inquiry 09:28:02 5/10/01
* HISTORY * Receiver Detail

Product 1090370 GEN LUB MOLD RELEASE

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6515	STOCK	66030	7215	10	80592	12.000	.000	SR
6515	STOCK	66565	8718	10	90992	24.000	.000	SR
6515	STOCK	67366	10799	10	102992	48.000	.000	SR
6515	STOCK	72277	22881	10	91093	48.000	48.000	SR
6515	STOCK	76081	30920	10	42194	24.000	24.000	SR
6515	STOCK	84281	47580	10	21395	60.000	60.000	SR
9855	STOCK	93680	76578	10	31596	12.000	12.000	SR
9855	STOCK	93681	76959	10	32196	12.000	12.000	SR
9855	STOCK	93803	80533	10	51796	24.000	24.000	SR
6888	STOCK	94675	81377	10	53096	12.000	12.000	SR
9855	STOCK	95284	105940	30	42897	24.000	2.000	SR
9855	STOCK	106316	129137	10	42798	24.000	24.000	SR
9855	STOCK	108583	141329	10	113098	12.000	12.000	SR

F3=Exit F7=Fold F12=Previous

Spray Cans

1992 84 CANS
1993 48
1994 24
1995 60
1996 48
1997 24
1998 36

1999 15
2000 33
2001 18
390

PO0151.09 1 Purchase Order Inquiry 09:28:35 5/10/01
Purchase Order Line Item Summary

Purchase Orders by Product 1090370 GEN LUB MOLD RELEASE

P.O.	Line	Vendor	Received	Ordered	Remain	Wh	Expecte
110590	10	6888	34.000	34.000	.000	SR	12/27/1
116904	10	6888	32.000	39.000	7.000	SR	12/27/1

F13=Prod Rls Inq F17=LINE:Item Rls Inq F19=LINE:P.O. Rls Inq
F3=Exit F7=Fold F12=Cancel

Figures

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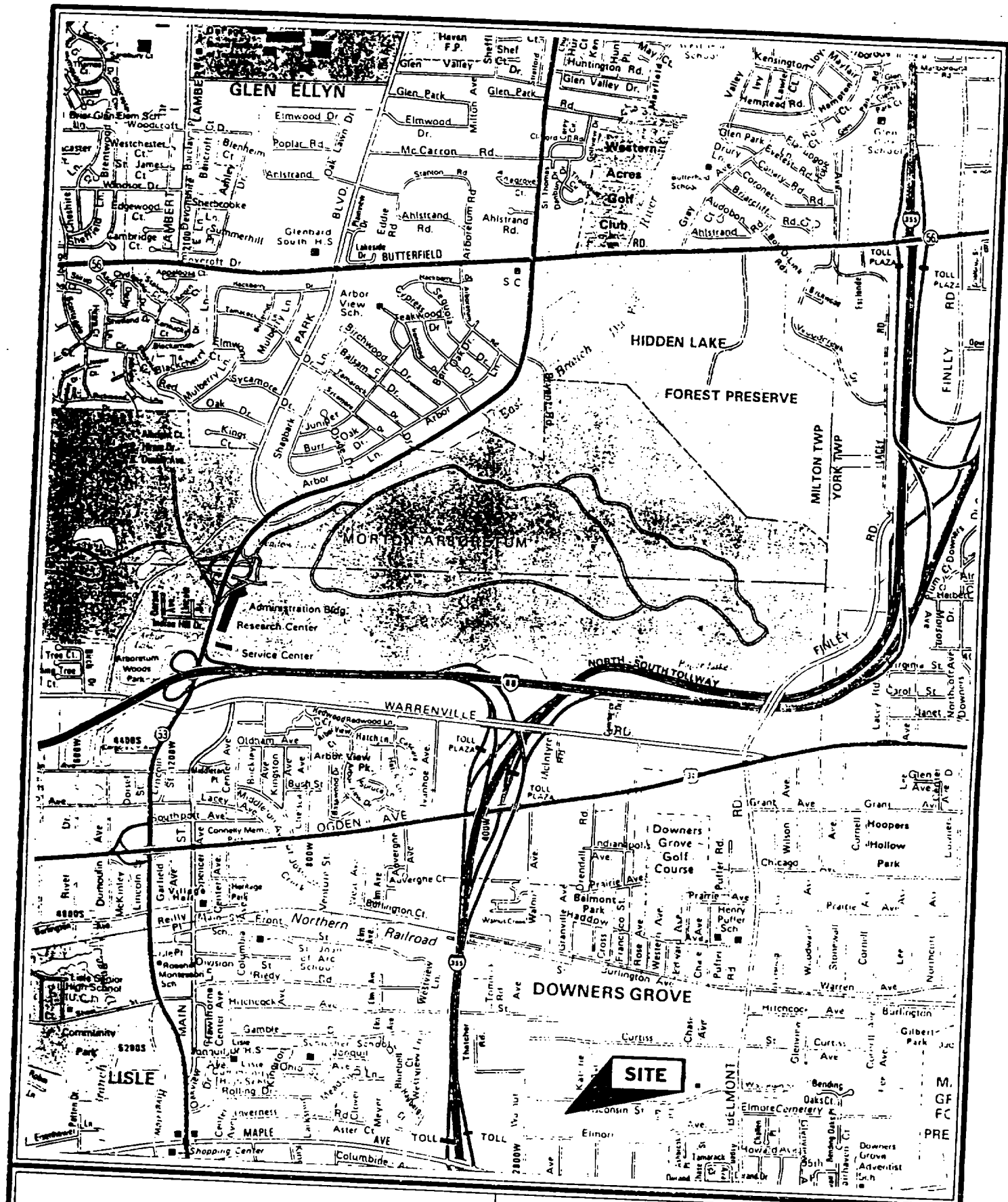
Figure 2:	Site Map
Figure 3:	Soil Boring Locations
Figure 4:	Tier 1 SRO Exceedances
Figure 5:	Site Base Map

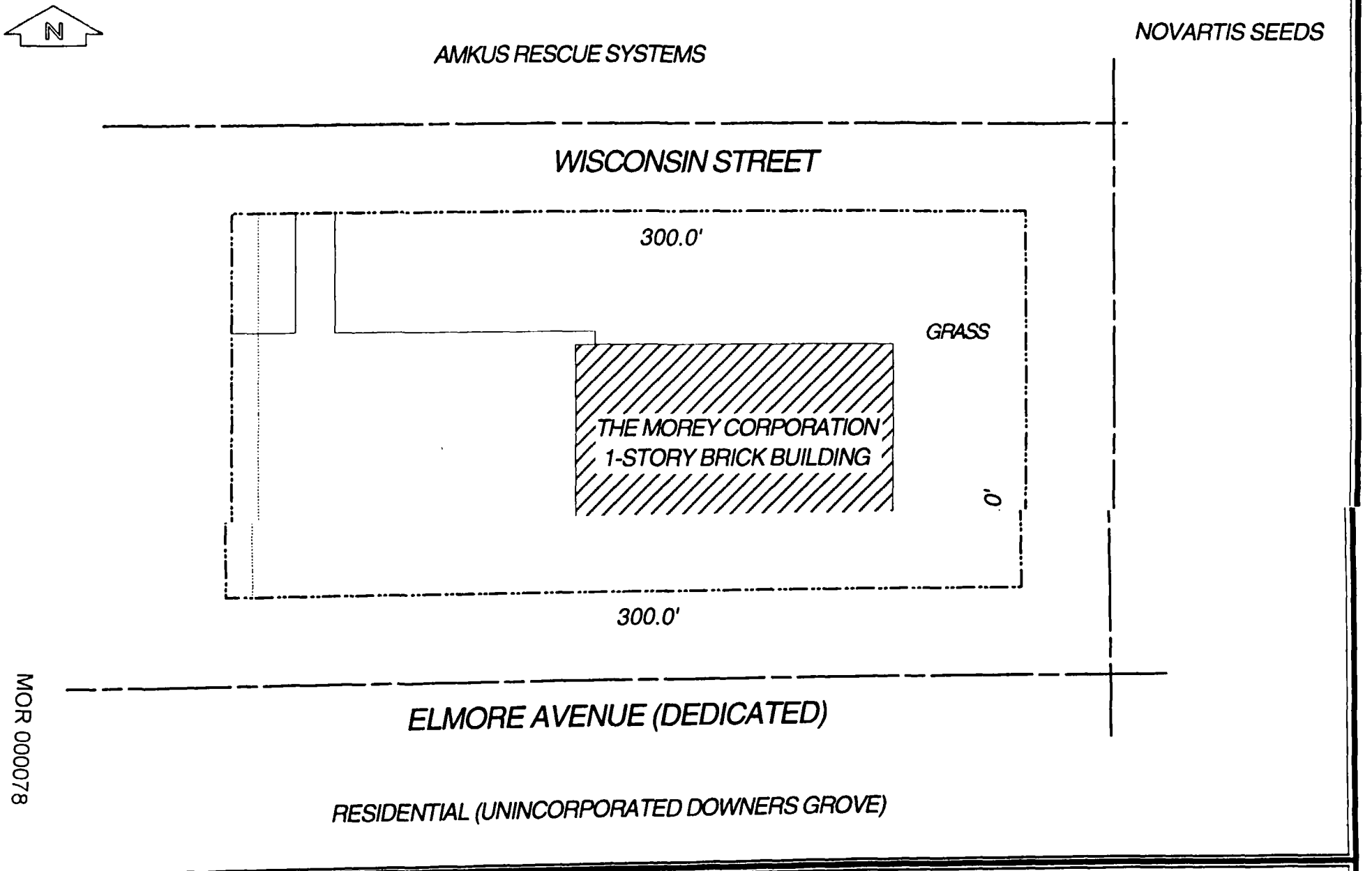


PIONEER ENVIRONMENTAL, INC.

FIGURE 1
Area Map

MOR 000077

DATE: 1999



MOR 000078

PIONEER ENVIRONMENTAL, INC.

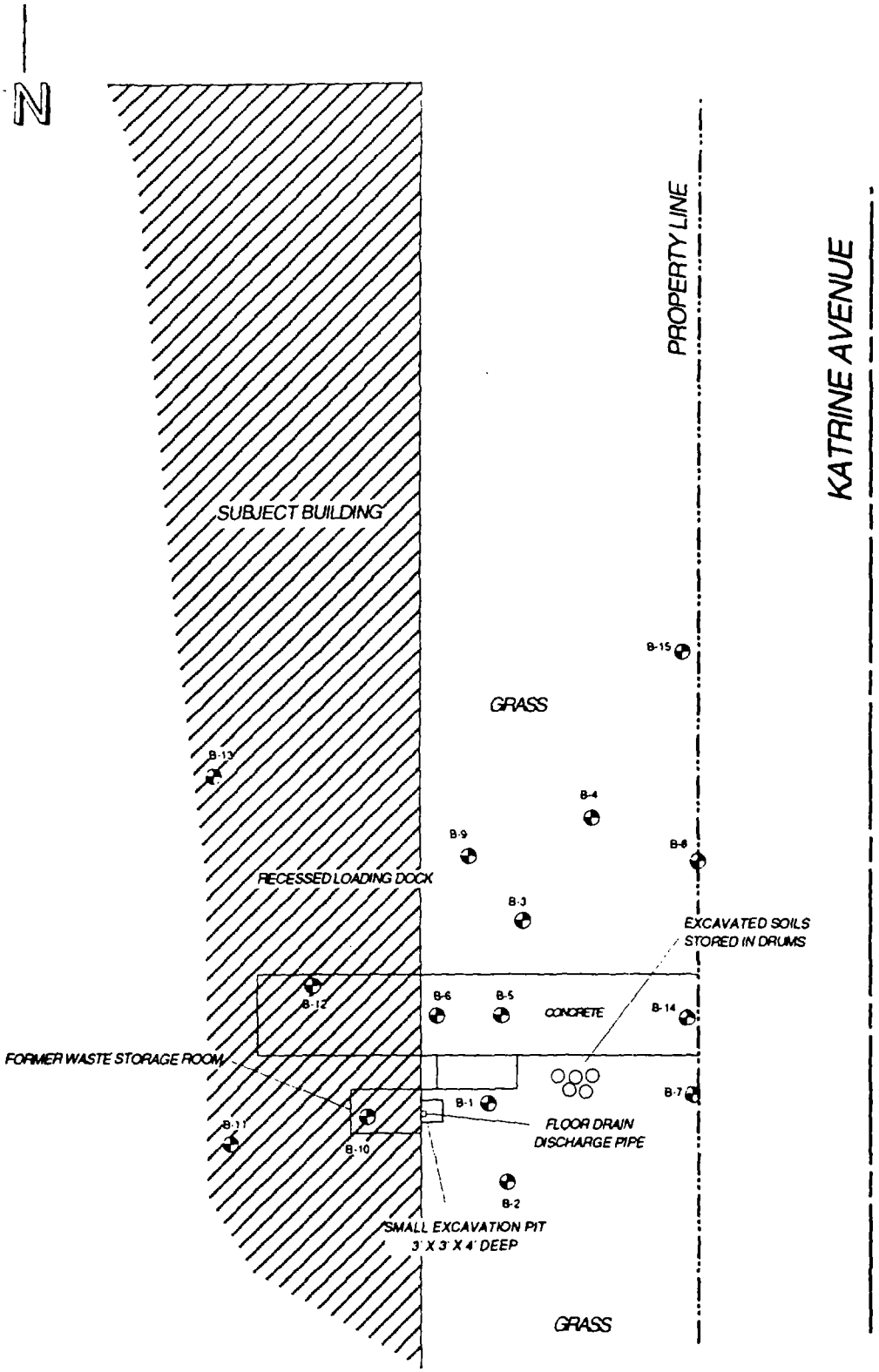
Legend:

GAS SERVICE LINE

Scale: 1" = 50'	Date: August, 2000
Drawn by: T. Brecheisen	Checked by: W. Smith
Job No.: 00618	

Figure 2

Remediation Site
The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

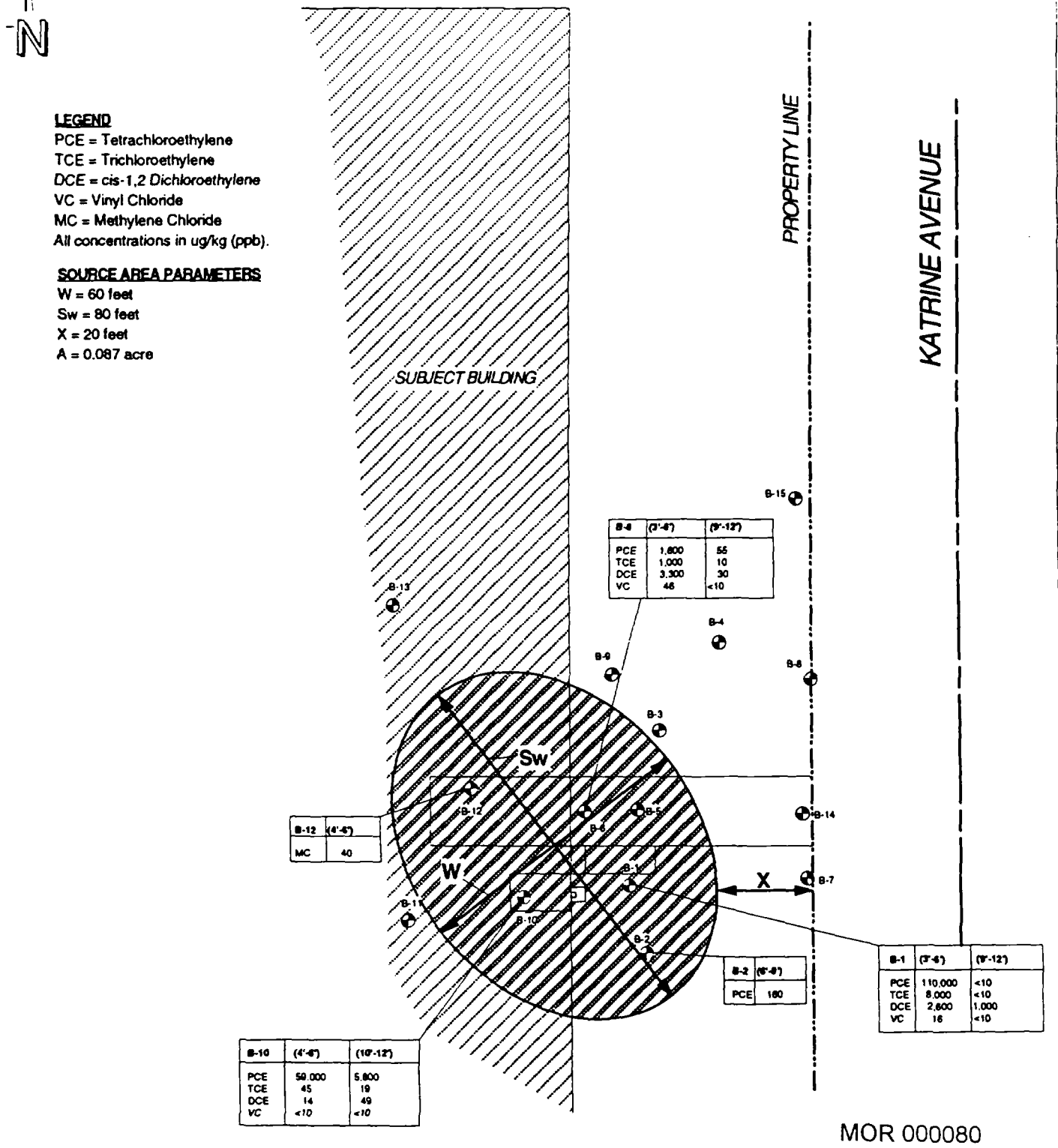


MOR 000079

PIONEER ENVIRONMENTAL, INC.

Scale: 1" = 30'	Date: October, 2000
Drawn by T. Brechersen	Checked by: W. Smith
Soil Boring Location	Job No. 00618

Figure 3
Soil Boring Locations
The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois



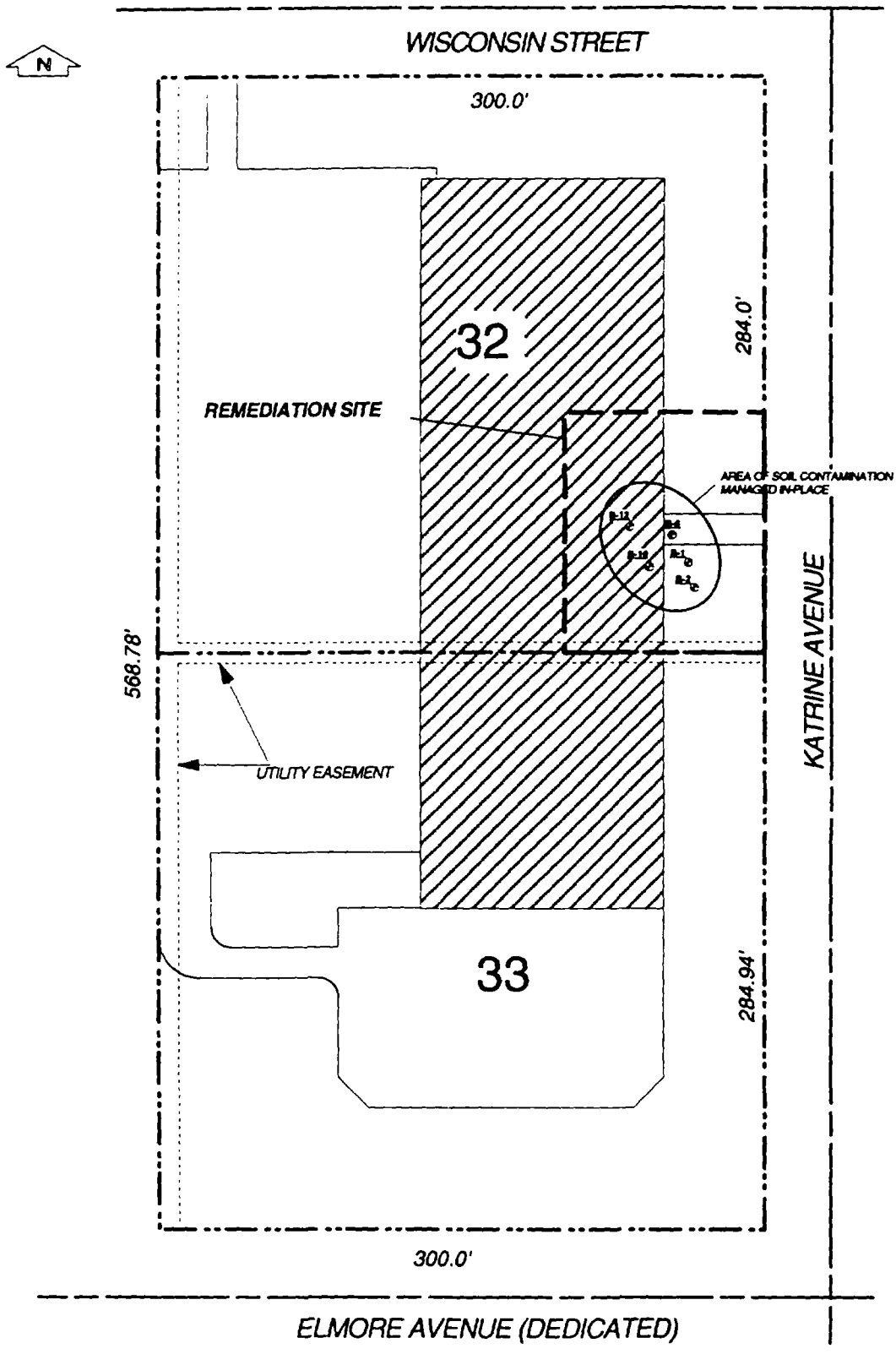
MOR 000080

PIONEER ENVIRONMENTAL, INC.

Scale: 1' = 30'	Date: October, 2000
Drawn by: T. Brechelsen	Checked by: W. Smith
Soil Boring Location	Job No. 00518

Figure 4
Tier 1 SRO Exceedances
The Morey Corporation
Downers Grove, Illinois

SITE BASE MAP
0430305029 - COOK COUNTY
DOWNERS GROVE / 2659 WISCONSIN STREET
SITE REMEDIATION PROGRAM



MOR 000081

PIONEER ENVIRONMENTAL, INC.

Legend:
© Soil Boring Location exceeding Tier 1 SROs (Industrial/Commercial)

Scale:	Date:
1" = 80'	August, 2000
Drawn by:	Checked by:
T. Brecheisen	W. Smith
Job No.: 00618	

Figure 5
Site Base Map
The Morey Corporation
Downers Grove, Illinois

Tables

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Table 1: Soil Analytical Results: VOCs

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Soil Sample Analytical Results: Illinois VOCs
The Morey Corporation
2659 Wisconsin Street / Downers Grove, Illinois

								Tier 1 Soil Remediation Objectives (Tier 1 SROs) Industrial/Commercial Property Use[a]						
								Route Specific Values				Soil Component of Groundwater Ingestion		Soil Saturation
								Industrial - Commercial		Construction Worker		Exposure Route		Limit
ANALYTE	B-1 (3'-6')	B-1 (9'-12')	B-2 (6'-9')	B-3 (3'-6')	B-5 (6'-9')	B-6 (3'-6')	B-6 (9'-12')	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	C_s
2-Butanone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
Methyl isobutyl ketone	<10.0	<10.0	<10.0	<10.0	20	<10.0	<10.0	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
1,1-Dichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	1,700,000	200,000,000	130,000	23,000	110,000	1,700,000
1,1-Dichloroethene	<10.0	<10.0	<10.0	<10.0	<10.0	18	<10.0	18,000,000	1,500,000	1,800,000	1,500,000	60.0	300	1,500,000
1,2-Dibromo-3-chloropropane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4,000	17,000	89,000	110	2.0	2.0	1,400,000
1,2-Dibromoethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	70.0	320	1,500	450	0.4	4.0	2,800,000
1,2-Dichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	63,000	700	1,400,000	990	20.0	100	1,800,000
1,2-Dichloropropane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	84,000	23,000	1,800,000	500	30.0	150	1,100,000
1,3-Dichloropropene (total)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	33,000	230	610,000	330	4.0	20.0	1,400,000
1,1,1-Trichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	1,200,000	--	1,200,000	2,000	9,600	1,200,000
1,1,2-Trichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	8,200,000	1,800,000	8,200,000	1,800,000	20.0	300	1,800,000
1,1,2,2-Tetrachloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	100,000,000	200,000,000	100,000,000	16,000	16,000	100,000,000
Benzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000	1,500	4,300,000	2,100	30.0	170	870,000
Bromodichloromethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	92,000	3,000,000	2,000,000	3,000,000	600	600	3,000,000
Bromoform	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	720,000	100,000	16,000,000	140,000	800	800	1,900,000
Bromomethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	2,900,000	15,000	1,000,000	3,900	200	1,200	3,200,000
Butanol	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	10,000,000	200,000,000	10,000,000	17,000	17,000	10,000,000
Carbon Disulfide	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	720,000	20,000,000	9,000	32,000.0	160,000	720,000
Carbon Tetrachloride	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	44,000	640	410,000	900	70.0	330	1,100,000
Chlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	41,000,000	210,000	4,100,000	1,300	1,000	6,500	680,000
Chlorodibromomethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	41,000,000	1,300,000	41,000,000	1,300,000	400	400	1,300,000
Chloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
Chloroform	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	940,000	540	2,000,000	760	600	2,900	2,900,000
Chloromethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
cis 1,2-Dichloroethene	2,600	1,000	<10.0	<10.0	<10.0	3,300	30	20,000,000	1,200,000	20,000,000	1,200,000	400	1,100	1,200,000
Ethylbenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	400,000	20,000,000	58,000	13,000	19,000	400,000
Methylene Chloride	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	760,000	24,000	12,000,000	34,000	20.0	200	2,400,000
Styrene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	410,000,000	1,500,000	41,000,000	430,000	4,000	18,000	1,500,000
Tetrachloroethene	110,000	<10.0	160	<10.0	<10.0	1,600	55	110,000	20,000	2,400,000	28,000	60.0	300	240,000
Toluene	<10.0	<10.0	<10.0	<10.0	<10.0	14	<10.0	410,000,000	650,000	410,000,000	42,000	12,000	29,000	650,000
trans 1,2-Dichloroethene	35	22	<10.0	<10.0	<10.0	91	<10.0	41,000,000	3,100,000	41,000,000	3,100,000	700	3,400	3,100,000
Trichloroethene	8,000	<10.0	<10.0	<10.0	<10.0	1,000	10	520,000	8,900	1,200,000	12,000	60.0	300	1,300,000
Vinyl Acetate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	1,000,000,000	1,600,000	200,000,000	10,000	170,000.0	170,000.0	2,700,000
Vinyl Chloride	16	<10.0	<10.0	<10.0	<10.0	46	<10.0	3,000	60.0	65,000	80.0	10.0	70.0	1,200,000
Xylenes (total)	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	<30.0	1,000,000,000	410,000	410,000,000	410,000	150,000	150,000	410,000

Notes:

Results listed in µg/kg (parts per billion-ppb)
EPA test method SW846, 8260/5035
"<" indicates not detected at stated detection limits
"--" indicates value not available
Shaded/Bolded cell indicates concentration detected above most stringent Tier 1 SRO
[a] Pursuant to 35 IAC 742 - Tiered Approach to Corrective Action Objectives

TABLE NO. 1 (page 2 of 2)
Soil Sample Analytical Results: Illinois VOCs
The Morey Corporation
2659 Wisconsin Street / Downers Grove, Illinois

ANALYTE	B-7 (3'-6')	B-10 (4'-6')	B-10 (10'-12')	B-11 (4'-6')	B-12 (4'-6')	B-13 (6'-8')	B-14 (6'-9')	Tier 1 Soil Remediation Objectives (Tier 1 SROs) Industrial/Commercial Property Use* — Route Specific Values — Industrial - Commercial — Ingestion	Industrial - Commercial — Inhalation	Construction Worker — Ingestion	Construction Worker — Inhalation	Soil Component of Groundwater Ingestion Exposure Route — Class I	Soil Component of Groundwater Ingestion Exposure Route — Class II	Soil Saturation Limit C_s
2-Butanone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
2-Hexanone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
1,1-Dichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	1,700,000	200,000,000	130,000	23,000	110,000	1,700,000
1,1-Dichloroethene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	18,000,000	1,500,000	1,800,000	1,500,000	60.0	300	1,500,000
1,2-Dibromo-3-chloropropane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	4,000	17,000	89,000	110	2.0	2.0	1,400,000
1,2-Dibromoethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	70.0	320	1,500	450	0.4	4.0	2,800,000
1,2-Dichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	63,000	700	1,400,000	990	20.0	100	1,800,000
1,2-Dichloropropane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	84,000	23,000	1,800,000	500	30.0	150	1,100,000
1,3-Dichloropropene (total)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	33,000	230	610,000	330	4.0	20.0	1,400,000
1,1,1-Trichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	1,200,000	--	1,200,000	2,000	9,600	1,200,000
1,1,2-Trichloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	8,200,000	1,800,000	8,200,000	1,800,000	20.0	300	1,800,000
1,1,2,2-Tetrachloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	100,000,000	200,000,000	100,000,000	16,000	16,000	100,000,000
Benzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000	1,500	4,300,000	2,100	30.0	170	870,000
Bromodichloromethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	92,000	3,000,000	2,000,000	3,000,000	600	600	3,000,000
Bromoform	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	720,000	100,000	16,000,000	140,000	800	800	1,900,000
Bromomethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	2,900,000	15,000	1,000,000	3,900	200	1,200	3,200,000
Butanol	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	10,000,000	200,000,000	10,000,000	17,000	17,000	10,000,000
Carbon Disulfide	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	720,000	20,000,000	9,000	32,000.0	160,000	720,000
Carbon Tetrachloride	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	44,000	640	410,000	900	70.0	330	1,100,000
Chlorobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	41,000,000	210,000	4,100,000	1,300	1,000	6,500	680,000
Chlorodibromomethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	41,000,000	1,300,000	41,000,000	1,300,000	400	400	1,300,000
Chloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
Chloroform	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	940,000	540	2,000,000	760	600	2,900	2,900,000
Chloromethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	--	--	--	--
cis 1,2-Dichloroethene	<10.0	14	49	<10.0	<10.0	<10.0	<10.0	20,000,000	1,200,000	20,000,000	1,200,000	400	1,100	1,200,000
Ethylbenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	200,000,000	400,000	20,000,000	58,000	13,000	19,000	400,000
Methylene Chloride	<10.0	<10.0	<10.0	<10.0	40	<10.0	<10.0	760,000	24,000	12,000,000	34,000	20.0	200	2,400,000
Styrene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	410,000,000	1,500,000	41,000,000	430,000	4,000	18,000	1,500,000
Tetrachloroethene	<10.0	59,000	5,800	<10.0	<10.0	<10.0	<10.0	110,000	20,000	2,400,000	28,000	60.0	300	240,000
Toluene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	410,000,000	650,000	410,000,000	42,000	12,000	29,000	650,000
trans 1,2-Dichloroethene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	41,000,000	3,100,000	41,000,000	3,100,000	700	3,400	3,100,000
Trichloroethene	<10.0	45	19	<10.0	<10.0	<10.0	<10.0	520,000	8,900	1,200,000	12,000	60.0	300	1,300,000
Vinyl Acetate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	1,000,000,000	1,600,000	200,000,000	10,000	170,000.0	170,000.0	2,700,000
Vinyl Chloride	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	3,000	60.0	65,000	80.0	10.0	70.0	1,200,000
Xylenes (total)	<30.0	<30.0	15	<30.0	<30.0	<30.0	<30.0	1,000,000,000	410,000	410,000,000	410,000	150,000	150,000	410,000

Notes:

Results listed in µg/kg (parts per billion-ppb)

EPA test method SW846, 8260/5035

"<" indicates not detected at stated detection limits

"--" indicates value not available

Shaded/Bolded cell indicates concentration detected above most stringent Tier 1 SRO

(1) Pursuant to 35 IAC 742 - Tiered Approach to Corrective Action Objectives

Appendix A

APPENDIX A

SRP Enrollment Forms

Property Identification Number

Legal Property Description

Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

FOR ILLINOIS EPA USE:
Log No. _____

$500 Advance Partial Payment Included
DRM-2 SRP Form Included
DRM-3 Request for Assessment Included
DRM-4 Tax Credit Budget Plan Included

Site Remediation Program Application and Services Agreement (DRM- 1) Form

I. Site Identification:

Site Name: The Morey Corporation
Street Address: 2659 Wisconsin Street
City: Downers Grove ZIP Code: 60515
County: Cook Approximate Size of Site (Acres): 3.9
Illinois Inventory I. D. Number: 0430305029 U.S. EPA I.D. Number : ILD025415266
Site Base Map Attached ☑ Illinois EPA Permit(s): NA
LUST/IEMA Incident Number(s), if applicable: NA

II. Remediation Applicant ("RA"):

RA's Name: Dana Morey Title: Co-Owner
Company: MC Holdings, Inc.
Street Address: 100 Morey Drive
City: Woodridge State: IL ZIP Code: 60517
Phone: 630.754.2124 FEIN or SSN: 36-4077561

I hereby certify that I am authorized to sign this application and services agreement. I certify that the proposed project meets the eligibility criteria set forth in Section 58.1(a)(2) of the Environmental Protection Act (415 ILCS 5/58.1(a)(2)) and regulations promulgated thereunder and that this submittal and all attachments were prepared at my direction. In consideration for the Illinois EPA's agreement to provide (subject to applicable law, available resources, and receipt of the advance partial payment) review and evaluation services for activities carried out pursuant to Title 17 of the Illinois Environmental Protection Act (415 ILCS 5/58-58.12), I agree to:

(1) Conform with the procedures of Title 17 of the Illinois Environmental Protection Act (415 ILCS 5/58 - 58.12) and implementing regulations;
(2) Allow for or otherwise arrange site visits or other site evaluations by the Illinois EPA when requested;
(3) To pay any reasonable costs incurred and documented by the Illinois EPA in providing such services; and
(4) Make an advance partial payment to the Illinois EPA for such anticipated services provided in Section V of this application.

As the Remediation Applicant, I understand that I may terminate this services agreement at any time, by notifying the Illinois EPA in writing that services previously requested under the services agreement are no longer wanted. Within 180 days after receipt of the notice, the Illinois EPA shall provide me with a final invoice for services provided until the date of receipt of such notification.

To the best of my knowledge and belief, this request and all attachments are true, accurate and complete. I hereby certify that I have the authority to enter into this agreement.

RA's Signature: _____ Date: 10-31-00

IL 532 2546
LPC 565 Feb-2000

III. Project Objectives:

A. Release Letter Requested.
Please complete one of the subsections by checking applicable boxes and including other information (if necessary, additional information may be attached to this application form):

☐ Comprehensive No Further Remediation ("NFR") Letter

☑ Focused NFR Letter

Identify the focused contaminants of concern by checking the applicable box(es):

☑ Volatiles ☐ BTEX ☐ PCBs ☐ Metals
☐ Semivolatiles ☐ PNAs ☐ Pesticides
Other (identify): _____

☐ 4(y) Letter

Identify the focused contaminants of concern by checking the applicable box(es):

☐ Volatiles ☐ BTEX ☐ PCBs ☐ Metals
☐ Semivolatiles ☐ PNAs ☐ Pesticides
Other (identify): _____

Identify the media of concern by checking applicable boxes:

☐ Soil ☐ Sediments Other: _____

Identify the actions (e.g., drum removal, spill response, etc.):

B. Identify any support services being sought from the Illinois EPA in addition to the review and evaluation services (if necessary, additional information may be attached to this application form):

☑ No additional support services are being sought
☐ Assistance with community relations
☐ Environmental Remediation Tax Credit Budget Review (Attach DRM-4 application)
☐ Sample collection and analyses
Other (identify): _____

C. Anticipated Schedule

SRP Document	Projected Date of Receipt by Illinois EPA
Site Investigation Report	**11-1-2000**
Remediation Objectives Report	**11-1-2000**
Remedial Action Plan	
Remedial Action Completion report	**11-1-2000**

D. Identify the current and post-remediation uses of the remediation site (if necessary, additional information may be attached to this application form):

Current Use: **Vacant**

Post-Remediation Use: **Industrial/Commercial**

IV. Written Permission from the Property Owner (check one of the applicable boxes and provide additional information):

☑ RA is the property owner of the remediation site identified in Section I of this application.

☐ RA is **not** the property owner of the remediation site identified in Section I of this application.

Property Owner's Name: _____

Title: _____

Company: _____

Street Address: _____

City: _____ State: _____ ZIP Code: _____ Phone: _____

I hereby certify that the Remediation Applicant has my permission to enroll the site identified in Section I of this application into the Illinois EPA Site Remediation Program. I certify that the Remediation Applicant and designated representatives have permission to enter upon the indicated premises for the purpose of conducting remedial investigations or activities.

Owner's Signature: _____ Date: _____

For multiple property owners, attach additional sheets containing all the information above along with a signed, dated certification for each.

V. Advance Partial Payment:

The Remediation Applicant shall select one of the following advance partial payment plans:

☑ Plan 1: A $500 advance partial payment is included with this application. Please make the check payable to: "Treasurer, State of Illinois". Please include "For Deposit in the Hazardous Waste Fund" and the Remediation Applicant's FEIN or SSN on the check; or

☐ Plan 2: Request that the Illinois EPA determine the appropriate partial payment (i.e., approximately one-half of the total anticipated costs of the Illinois EPA, not to exceed $5,000). A completed DRM-3 form ("Request for Assessment of Advance Partial Payment for Anticipated Services") must accompany this application so that the Illinois EPA may determine the appropriate advance partial payment specific to the services requested.

NOTE: Illinois EPA cannot refund payments without a legislative appropriation. Payment under Plan 1 accelerates the review process but increases the risk of forfeiting the payment if the applicant is ineligible. Payment under Plan 2 may result in a larger advance partial payment when a final determination is made on the application, but it reduces the risk of forfeiture.

L If this application contains plans and reports for review and evaluation by the Illinois EPA, a completed Form DRM-2 must also accompany this submittal.

The Illinois EPA is authorized to require this information under Section 415 ILCS 5/58-58.12 of the Environmental Protection Act and regulations promulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your application being rejected. This form has been approved by the Forms Management Center. All information submitted as part of this Application is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

Illinois Environmental Protection Agency
Bureau of Land
Remedial Project Management Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

FOR ILLINOIS EPA USE:
LOG NO. _____

Site Remediation Program Form (DRM-2)
(To Be Submitted with all Plans and Reports)

I. Site Identification:

Site Name: The Morey Corporation
Street Address: 2659 Wisconsin Street
City: Downers Grove Illinois Inventory I. D. Number: 0430305029
IEMA Incident Number: NA

II. Remediation Applicant:

Applicant's Name: Dana Morey Company: MC Holdings, Inc.
Street Address: 100 Morey Drive
City: Woodridge State: IL ZIP Code: 60517 Phone: 630.754.2124

I hereby request that the Illinois EPA review and evaluate the attached project documents in accordance with the terms and conditions of the Environmental Protection Act (415 ILCS 5), implementing regulations, and the review and evaluation services agreement.

Remediation Applicant's Signature: Dana Morey Date: 10-31-06

III. Contact Person:

Contact's Name: Tom Brecheisen Company: Pioneer Environmental, Inc.
Street Address: 1000 N. Halsted #202
City: Chicago State: IL ZIP Code: 60622 Phone: 312.587.1021

IV. Review & Evaluation Licensed Professional Engineer ("RELPE"), if applicable:

RELPE's Name: _____ Company: _____
Street Address: _____
City: _____ State: _____ ZIP Code: _____ Phone: _____

Registration Number: _____ License Expiration Date: _____

All information submitted is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines. The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations promulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your plan(s) or report(s) being rejected. This form has been approved by the Forms Management Center.

IL 532 2547
LPC 566 Feb-2000

V. Project Documents Being Submitted:

Document Title: FSI / RAC Report Date of Preparation of Plan or Report: 11-1-00

Prepared by: Pioneer Environmental, Inc. Prepared for: MC Holdings, Inc.

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☑ Site Investigation Report - Focused
- ☑ Remediation Objectives Report-Tier 1or 2
- ☑ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☑ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☑ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review
- Other: _____

Document Title: _____ Date of Preparation of Plan or Report: _____

Prepared by: _____ Prepared for: _____

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report-Tier 1or 2
- ☐ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review
- Other: _____

Document Title: _____ Date of Preparation of Plan or Report: _____

Prepared by: _____ Prepared for: _____

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report-Tier 1or 2
- ☐ Remediation Objectives Report-Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Contaminant Fate & Transport Modeling
- ☐ Environmental Remediation Tax Credit - Budget Plan Review
- Other: _____

VI. Professional Engineer's Seal or Stamp:

I attest that all site investigations or remedial activities that are the subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices, and the information presented is accurate and complete.

Engineer Name: Mike Ciserella

Company: Pioneer Phone: 312.587.1021

Registration Number: 062-048884

Signature: _____ License Expiration Date: 11-30-2002

Professional Engineer's Seal or Stamp:

STATE OF ILLINOIS
MICHAEL
P.
CISERELLA
NO. 062-048884
REGISTERED
PROFESSIONAL ENGINEER

Subject Property Legal Description; PIN: 02-12-303-008

Lots 32 and 33 in Ellsworth Park unit number 5, being a subdivision in the southwest 1/4 of Section 12, Township 38 North, Range 10 East of the third principal meridian, according to the plat thereof recorded January 10, 1962 as document number R62-993 in DuPage County, Illinois.

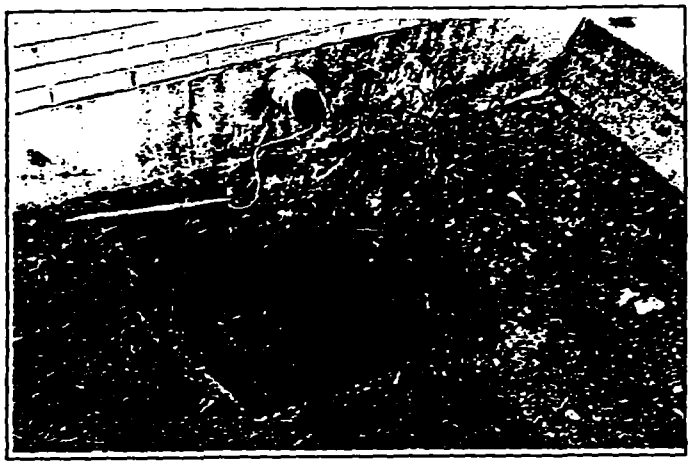
Remediation Site Legal Description

Beginning at the southeast property corner of Lot 32, extending north along eastern property line for 120 feet, then due west 100 feet, then south 120 feet to the southern property line and then east 100 feet to the point of beginning.

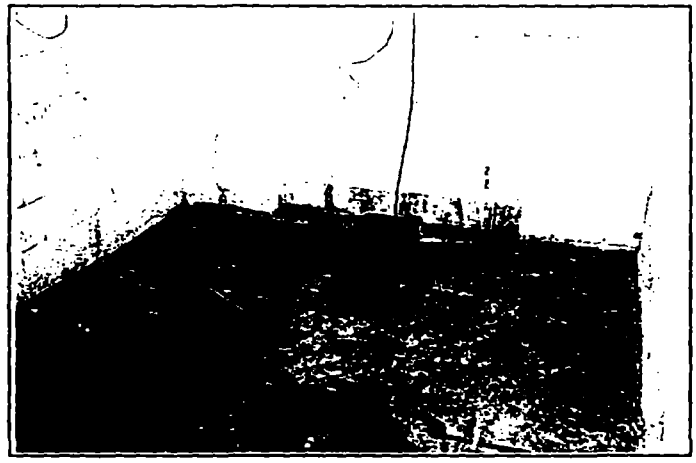
Appendix B

APPENDIX B

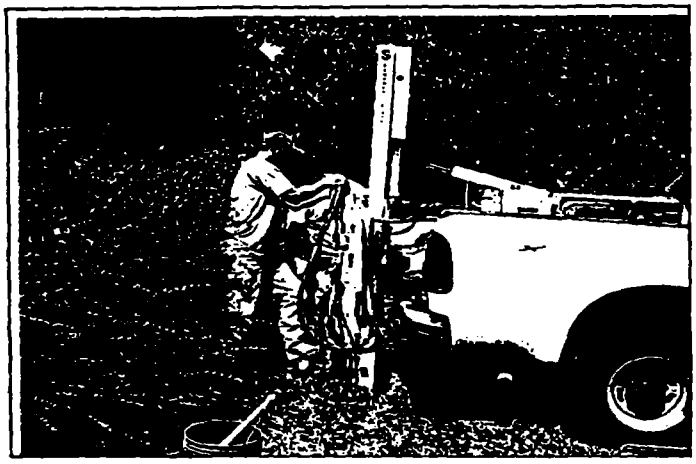
Photographic Log



View of floor drain outlet



View of floor drain from interior of former waste storage room



Advancement of boring B-9

View of warehouse interior

MOR 000096

PIONEER ENVIRONMENTAL, INC.	The Morey Corporation 2659 Wisconsin Avenue Downers Grove, IL	PHOTOGRAPHIC LOG Project Number: 00618 October 2000

Advancement of boring B-13

Advancement of boring B-14

MOR 000097

PIONEER ENVIRONMENTAL, INC.	The Morey Corporation 2659 Wisconsin Avenue Downers Grove, IL	PHOTOGRAPHIC LOG Project Number: 00618 October, 2000

Appendix C

APPENDIX C

Pioneer Standard Protocol

Soil Boring Logs

Monitoring Well Completion Reports

PROTOCOL FOR SUBSURFACE SOIL SAMPLING

Subsurface samples are collected by employing various soil boring techniques based on certain site specific conditions. Soil borings are performed using a Hollow or Solid Stem (site specific) auger with split-spoon sampling techniques, a hydraulic percussive split-spoon sampler, a percussive Macro-Core® barrel sampler, and/or a stainless steel hand auger. The soil sampling activities are conducted in accordance with American Society of Testing and Materials (ASTM) standards (ASTM:D 1586). Soil samples are collected with a stainless steel hand auger, a split-spoon sampler, and/or a Macro-Core® sampler at 2-3 foot intervals depending on the specific method used. In the split-spoon sampling procedures, a split-barrel sampler having either a 2-inch or 1-3/16 inch outside diameter, an inside diameter of 1-3/8 or 7/8 inches, and a length of 2.5 or 3 feet is driven into the soil to collect a representative and undisturbed sample. In the Macro-Core® barrel sampling technique, a stainless steel barrel having a 2-inch outside diameter, an inside diameter of 1-1/2 inches, and a length of 2 or 3 feet is fitted with a PVC liner and is driven into the soil to collect a representative and undisturbed sample.

The drilling is directed by a Pioneer Environmental Field Project Geologist/Engineer, who logs geologic materials encountered during drilling, field screens auger cuttings and soil samples, observes the drilling activities, and supervises sample collection. Each sample is examined in the field for odor and visual evidence of hydrocarbon or other organic contamination. The field observations are noted in the soil boring logs that are included in the Appendices.

A representative portion of each sample is placed into an unused, air-tight plastic bag which is sealed and dedicated to that discrete sample. The sample is allowed to achieve a constant temperature and the headspace above each sample is screened for volatile organic compounds (VOCs) using either a Photovac MP-1000 handheld air monitor / photoionization detector (PID) or a Photovac IS 3000 handheld air monitor / flame ionization detector (FID), depending on the nature of the targeted contaminants. The PID/FID are devices that are sensitive to a variety of VOCs. The headspace is screened by inserting the PID/FID probe into the space above the soil and recording the maximum reading of the instrument. The results of the headspace screening are also listed on the soil boring logs.

When soil samples will be laboratory tested for VOCs, one of two field sampling methods are used as required by US EPA's SW-846 Method 5035. 1) A representative portion of the sample collected in the field is placed in an EnCore™ sampler, or equivalent, immediately after collection, with the appropriate quantity and volume of the containers determined by the scope of work and field conditions. The EnCore™ samplers, or equivalent, are delivered to the laboratory within 48 hours of sample collection. 2) An appropriate weight of a representative portion of the sample collected in the field is placed in laboratory-provided glassware, immediately after collection, and then the appropriate preservative is added, either sodium bisulfate-for samples with estimated VOC concentrations less than 200 ppb; or methanol-for samples with estimated VOC concentrations greater than 200 ppb.

Any soil samples chosen for analysis are packed in appropriate containers, properly labeled, and shipped in a cooler on ice via a delivery service overnight to an independent laboratory under standard chain-of-custody procedures. Samples are selected based on the scope of work, field observations (i.e. visual/odor observations, elevated PID readings, etc.), other site specific conditions, and the judgment of the Pioneer Field Project Geologist/Engineer.

Drill cuttings and liquids generated are left at the borehole. All boreholes are decommissioned in accordance with applicable Illinois Department of Public Health guidelines. When required, these spoils are contained in 55 gallon Type 17H drums. Decontamination procedures for the drilling equipment consists of steam cleaning the augers after each boring using a biodegradable detergent and high-pressure steam rinse. The split-spoon samplers are decontaminated between each sample interval by washing in a solution of Alconox and water, and triple rinsing with clean heated water.

Any deviations to or modifications of this standard protocol will be described on a site by site basis.

PROTOCOL
GROUNDWATER MONITORING WELL INSTALLATION & SAMPLING

Groundwater monitoring wells are typically installed using hollow stem auger borings. When spatial constraints dictate, wells may be installed using manual hand-augering techniques, or other acceptable practices. Soil sampling is conducted during well installation, according to Pioneer's Subsurface Soil Sampling Protocol. The drilling and well installation are directed by Pioneer's Field Project Geologist/Engineer, who logs geologic materials encountered during drilling, field screens auger cuttings and soil samples, observes the drilling activities, and supervises installation of groundwater monitoring wells. All drilling equipment and tools are properly decontaminated (i.e. pressure washing, steam cleaning, etc.) prior to mobilization onto the site, between boreholes, and upon completion of the drilling program.

Wells are constructed of 2 inch I.D. schedule 40 flush-joint PVC riser and screen unless noted otherwise in the report. The well materials are decontaminated prior to installation. When the depth of the well allows, the annular space surrounding the screen is backfilled with silica sand filter pack to a height not less than 1 foot above the top of the well screen, and a minimum of one foot of bentonite pellets or granular bentonite is placed above this backfill, to provide a low permeability seal. The remaining annulus is sealed with a cement/bentonite grout to the ground surface. Well screens are positioned to monitor selected areas of the water column. In high traffic areas, a flush-mount protective casing with a locking well cap is generally installed at the surface and secured with concrete. In low traffic areas, a "stickup" locking protective casing is typically installed.

After installation, wells are developed using either a new disposable high-density polyethylene (HDPE) bailer for each well, or a stainless steel submersible pump, by purging approximately 5-10 well volumes of water from each well, until the well water is visually clear of suspended sediments, or until further yield cannot be achieved. Wells are allowed to stabilize prior to sampling, to ensure the collected sample is representative of groundwater at the location. If a stainless steel pump is used during well development, it is decontaminated between wells using a tri-sodium phosphate (TSP) wash and triple water rinse.

Prior to sample collection, the wells are purged by removing a maximum of 3-5 well volumes of water or until further yield cannot be achieved in order to remove all static water from the wells. Purging is accomplished using either a disposable HDPE bailer which is dedicated to the individual well or a stainless steel submersible pump. Sample collection is accomplished using a new disposable HDPE bailer for each well. Groundwater samples are collected, placed in appropriately sized laboratory provided glassware and labeled, identifying sample number, location and date, and sampling personnel. The proper sample preservatives are added to the sampling jars as required. Standard chain-of-custody procedures are followed regarding shipment and receipt of samples.

Quality Assurance/Quality Control (QA/QC) procedures for field sampling techniques are performed on a site-by-site basis per scope of work considerations and contract obligations.

In accordance with Pioneer's Site Safety Plan, a photoionization detector (PID) is used to monitor ambient air concentrations at the sampling locations. Personal protective equipment is utilized by site personnel during performance of sampling activities, as specified in the Site Safety Plan as necessary.

Any deviations to or modifications of this standard protocol will be described on a site-by-site basis.

PIONEER
ENVIRONMENTAL, INC.

Boring Log

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Boring No.: B-1
Date Begin: 8/28/00
Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	2.4		0	ML		Brown CLAYEY SILT with trace gravel and sand Loose, Moist	No Odor No Visual
100%	47.8		3			Brown to gray SILTY CLAY with trace gravel and sand Firm to soft, Moist	
100%	7.0		6	CL			
100%	2.0		9				
			12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe Macro-Core

Drill Rig: SIMCO Earthprobe 200
Driller: Predrag Vrhovac
Geologist: Tom Brecheisen
LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-2

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.8		0	ML		Brown CLAYEY SILT with trace gravel and sand Loose, Moist	
			3				
100%	0.7			CL		Brown SILTY CLAY with some clayey silt and some gravel and sand Loose, Moist	No Odor No Visual
			6				
100%	0.8						
			9				
100%	0.3			CL		Brown to gray SILTY CLAY with some sand and gravel Firm, Moist	
			12				
						Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

Page 1

PIONEER ENVIRONMENTAL, INC.

Boring Log

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Boring No.: B-3
Date Begin: 8/28/00
Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.7		3	CL		Brown SILTY CLAY with some clayey silt and some gravel and sand Firm, Loose, Moist	
100%	0.6		6	CL		Brown CLAYEY SILT with some silty clay and some gravel and sand Stiff, Loose, Moist	No Odor No Visual
100%	0.5		9	CL		Gray SILTY CLAY with trace sand and gravel Stiff, Moist	
100%	0.4		12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200
Driller: Predrag Vrhovac
Geologist: Tom Brecheisen
LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-4

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.7			CL		Brown SILTY CLAY with some clayey silt and some gravel and sand Firm, Loose, Moist	
			3				
100%	0.6			CL		Brown CLAYEY SILT with some silty clay and some gravel and sand Stiff, Loose, Moist	No Odor No Visual
			6				
100%	0.5						
			9				
100%	0.8			CL		Gray SILTY CLAY with trace sand and gravel Stiff, Moist	
			12				
						Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-5

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	3.0		3	CL		Brown SILTY CLAY Firm, Moist	
100%	0.8		6				No Odor No Visual
100%	0.9		9	CL		Gray SILTY CLAY with trace gravel and sand Firm, Moist	
100%	1.4		12	CL		Gray SILTY CLAY with trace sand and gravel Soft, Moist	
			15			Boring terminated at 12 feet	
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig:	SIMCO Earthprobe 200
Driller:	Predrag Vrhovac
Geologist:	Tom Brecheisen
LUST Incident No:	NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618 Page 1

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-6

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	16.6		0	CL		Brown SILTY CLAY with trace gravel and sand Firm, Moist	No Odor No Visual
100%	23.9		3	CL		Brown to gray SILTY CLAY with trace gravel and sand Firm to stiff, Moist	
100%	3.9		6	CL		Gray SILTY CLAY Firm, Moist	
100%	2.0		9	CL		Gray SILTY CLAY Soft, Moist	
			12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

Page 1

PIONEER ENVIRONMENTAL, INC.

Boring Log

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Boring No.: B-7
Date Begin: 8/28/00
Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.7			ML		Brown CLAYEY SILT with some gravel and sand Loose, Moist	
			3				
100%	0.2			CL		Brown SILTY CLAY with trace gravel and sand Stiff, Moist	
			6				No Odor No Visual
100%	0.1			CL		Gray SILTY CLAY Firm, Moist	
			9				
100%	0.1						
			12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200
Driller: Predrag Vrhovac
Geologist: Tom Brecheisen
LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-8

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.0			ML		Brown CLAYEY SILT with some gravel and sand Loose, Moist	No Odor No Visual
			3				
100%	0.2			ML		Brown CLAYEY SILT with some gravel and sand Stiff, Moist	
			6				
100%	0.0			CL		Brown SILTY CLAY with some gravel and sand Firm to stiff, Moist	
			9				
100%	0.0			CL		Gray SILTY CLAY Stiff, Moist	
			12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

Page 1

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-9

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/28/00

Date End: 8/28/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.0			ML		Brown CLAYEY SILT with some silty clay and some gravel and sand Loose, Stiff, Moist	No Odor No Visual
100%	0.0		3				
100%	0.0		6				
100%	0.0		9	CL		Gray SILTY CLAY with some gravel and sand Soft, Moist	
			12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-10

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/29/00

Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	3.9			CL		Brown SILTY CLAY with some clayey silt and some gravel and sand Loose, Stiff, Moist	No Odor No Visual
100%	12.3		3	CL		Brown SILTY CLAY with some gravel and sand Firm, Moist	
100%	27.9		6				
75%	6.7			CL		Dark brown SILTY CLAY mottled gray Firm to stiff, Moist	
100%	5.0		9				
100%	8.4		12			Boring terminated at 12 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Hand Auger

Drill Rig: NA

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

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PIONEER ENVIRONMENTAL, INC.

Boring Log

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Boring No.: B-11
Date Begin: 8/29/00
Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
75%	0.8			CL		Brown SILTY CLAY with some gravel and sand Firm, Moist	
100%	0.9		3	CL		Brown SILTY CLAY with some gravel and sand Stiff, Moist	No Odor No Visual
100%	1.2		6				
100%	0.7			CL		Brown SILTY CLAYwith trace gravel and sand Firm to stiff, Moist	
			9			Boring terminated at 8 feet	
			12				
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Hand Auger

Drill Rig: NA
Driller: Predrag Vrhovac
Geologist: Tom Brecheisen
LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

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PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-12

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/29/00

Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
33%	0.7			ML		Brown SILTY SAND with some gravel, coarse sand and silty clay Firm, Moist	No Odor No Visual
50%	1.3		3	CL		Dark brown SILTY CLAY mottled gray Firm, Moist	
50%	2.0			CL		Gray SILTY CLAY Firm, Moist	
50%	2.2		6				
			9			Boring terminated at 8 feet	
			12				
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Hand Auger

Drill Rig: NA

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling: ~2' Water Depth After Drilling: NA

Project Number: 00618

Page 1

PIONEER ENVIRONMENTAL, INC.

Boring Log

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Boring No.: B-13
Date Begin: 8/29/00
Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.0			ML		Brown CLAYEY SILT with some gravel and sand and silty clay Loose, Stiff, Moist	
100%	0.3		3			Brown SILTY CLAY Firm to stiff, Moist	No Odor No Visual
100%	0.9			CL			
50%	0.5		6				
			9			Boring terminated at 8 feet	
			12				
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Hand Auger

Drill Rig: NA
Driller: Predrag Vrhovac
Geologist: Tom Brecheisen
LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-14

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/29/00

Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
50%	0.2		3	CL		Brown SILTY CLAY with trace gravel and sand Firm, Moist	
100%	0.0		6				No Odor No Visual
100%	0.8		9	CL		Gray SILTY CLAY Firm, Moist	
			12			Boring terminated at 9 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe Macro-Core

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

PIONEER ENVIRONMENTAL, INC.

Boring Log

Boring No.: B-15

Site: The Morey Corporation
2659 Wisconsin Street
Downers Grove, Illinois

Date Begin: 8/29/00

Date End: 8/29/00

Sample Recovery	FID (ppm)	Sample	Depth Feet	Soil Class	Lithology	Description	Notes
100%	0.5		3	ML		Brown CLAYEY SILT with some silty clay Stiff, Loose, Moist	No Odor No Visual
100%	0.7		6	CL		Brown SILTY CLAY with some clayey silt Loose, Firm, Moist	
100%	0.0		9	CL		Brown SILTY CLAY mottled gray with some clayey silt Stiff, Loose, Moist	
			12			Boring terminated at 9 feet	
			15				
			18				

Completion Notes:
Hatched interval denotes sample submitted for laboratory analysis
Sampling method: Geoprobe MacroCore

Drill Rig: SIMCO Earthprobe 200

Driller: Predrag Vrhovac

Geologist: Tom Brecheisen

LUST Incident No: NA

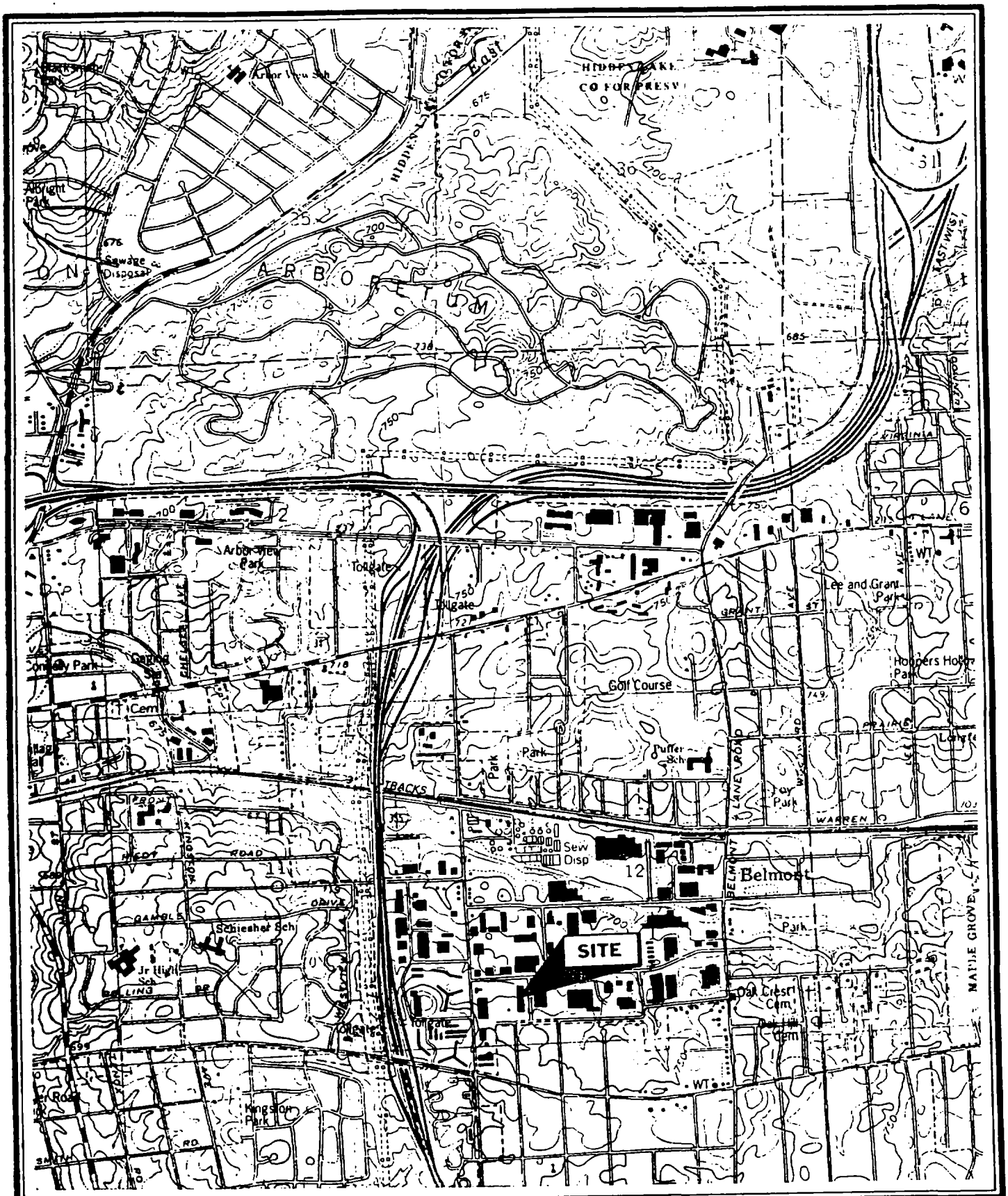
Water Depth While Drilling:NA Water Depth After Drilling: NA

Project Number: 00618

Appendix D

APPENDIX D

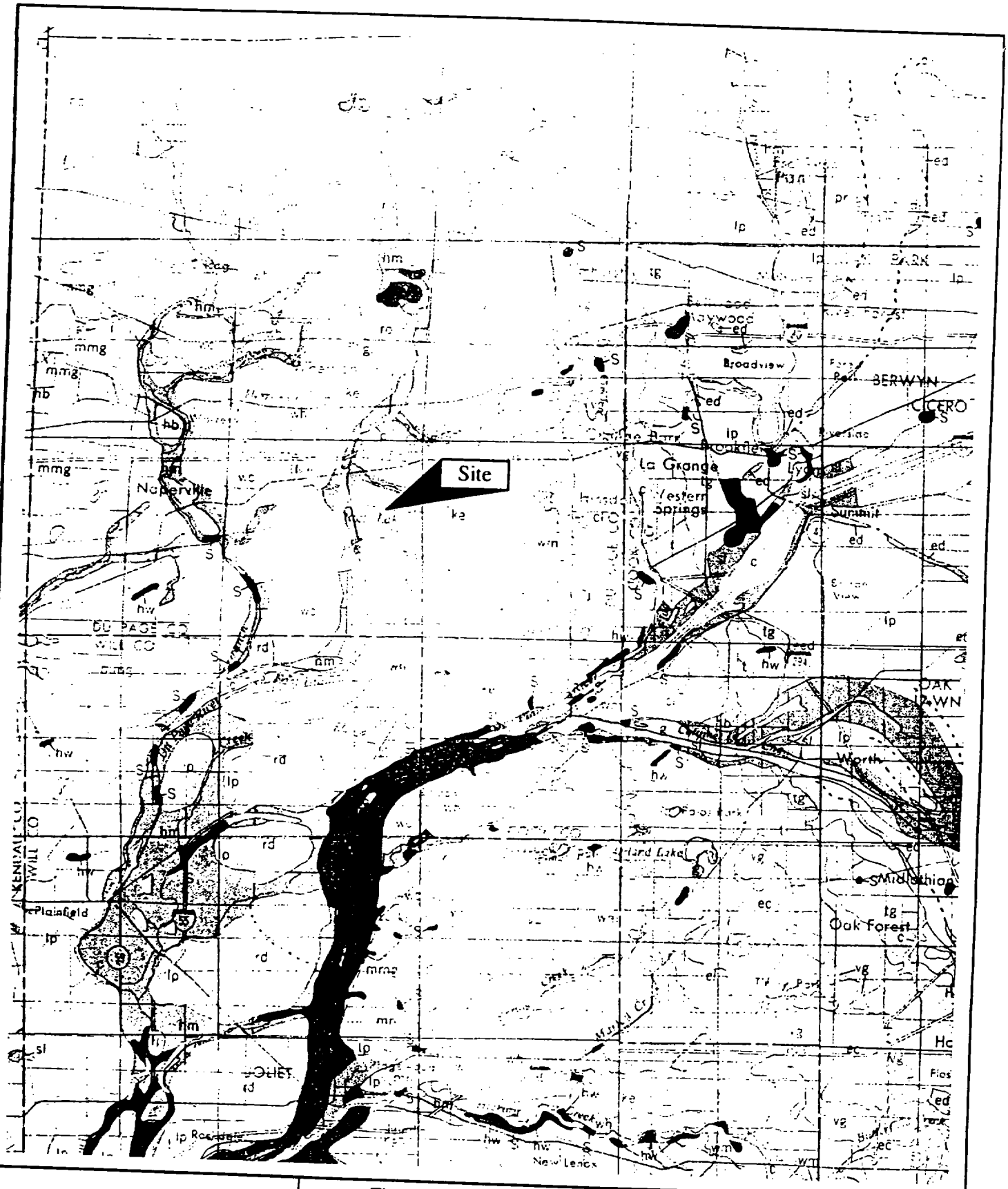
USGS / ISGS Maps



PIONEER
ENVIRONMENTAL, INC.

USGS TOPOGRAPHIC MAP
WHEATON, IL QUADRANGLE
SUBJECT SITE: SECTION 12, T 38N, R 10E

SCALE: 1:24,000 | DATE: 1993



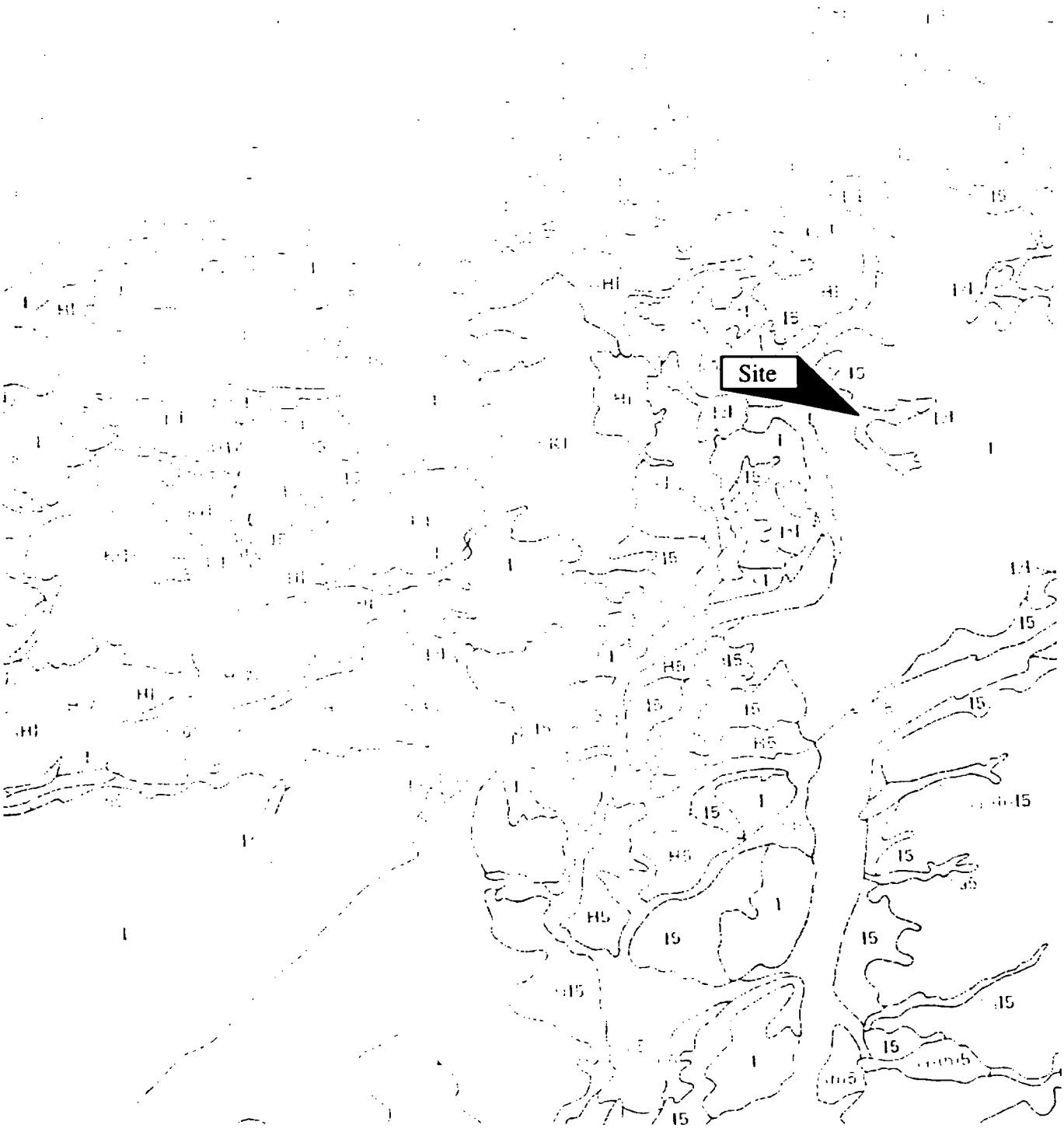
PIONEER
ENVIRONMENTAL, INC.

The Morey Corporation
2659 Wisconsin Avenue
Downer's Grove, IL
T38N, R10E, SEC.12

ISGS MAP
Surficial Geology of the Chicago Region
Scale 1:250,000
1970

KEY: ke = Keeneyville Moraine
DESCRIPTION: Wadsworth Member of Wedron Formation. Mostly gray clayey & silty clayey till: low pebble, cobble, & boulder content with local silt lenses

Project Number:00618



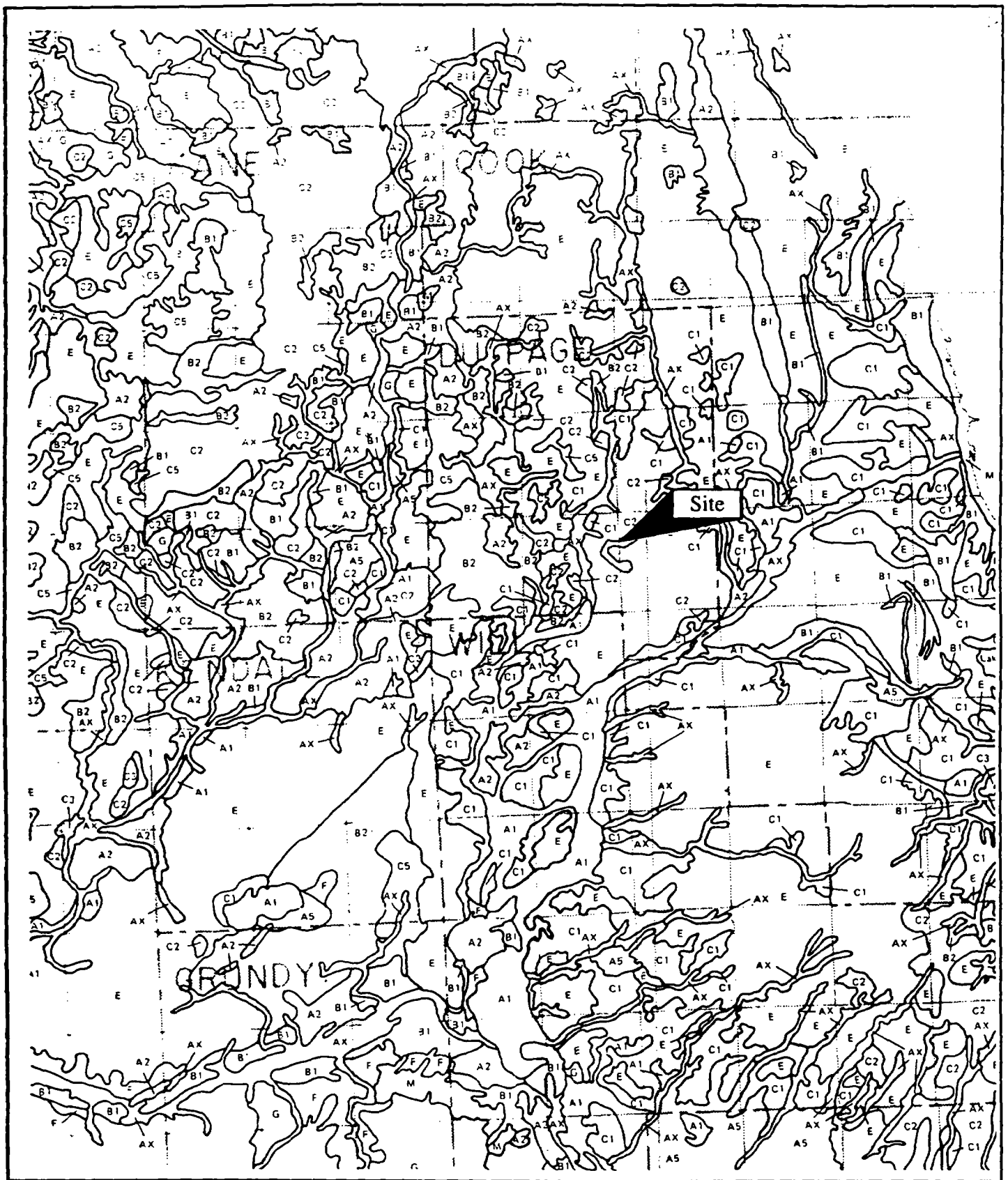
PIONEER
ENVIRONMENTAL, INC.

The Morey Corporation
2659Wisconsin Avenue
Downers Grove, Illinois
T38N, R10E, Sec 12

DESCRIPTION: Wedron Formation: silty and clayey diamictons >6m (19.7') in thickness with sand and gravel deposits between 6 and 15 feet

ISGS MAP
Stack-Unit Map of Northern Illinois
Scale: 1:250,000
1987

Project Number: 00618



PIONEER ENVIRONMENTAL, INC.

The Morey Corporation
2659 Wisconsin Avenue
Downers Grove, IL
T38N, R10E, SEC. 12

ISGS Circular 532 Map
Potential for Contamination of Shallow Aquifers
Scale: 1:500,000
1984

C2: Sand and gravel within 20-50 feet of surface underlain by impermeable till
E: Uniform, relatively impermeable silty or clayey till; > least 50' thick; no evidence of interbedded sand

Project Number: 00618

Appendix E

APPENDIX E

Laboratory Analytical Results

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692A						**Sample Type** Soil			
Sample ID B-1 (3'-6')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	82.6	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/2/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/2/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/2/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/2/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/2/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/2/00	8260B	CJR	1
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/2/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/2/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/2/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/2/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/2/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/2/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/2/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/2/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/2/00	8260B	CJR	1
cis-1,2-Dichloroethene	2600	ug/kg	9.3	31	1	9/2/00	8260B	CJR	1
trans-1,2-Dichloroethene	35	ug/kg	8.8	29	1	9/2/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/2/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/2/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/2/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/2/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/2/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/2/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/2/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/2/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/2/00	8260B	CJR	3.7
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/2/00	8260B	CJR	1
Tetrachloroethene	110000	ug/kg	330	1100	50	9/5/00	8260B	CJR	1
Toluene	11 "J"	ug/kg	7	23	1	9/2/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/2/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/2/00	8260B	CJR	1

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692A						**Sample Type** Soil			
Sample ID B-1 (3'-6')						**Sample Date** 8/28/00			
Trichloroethene	8000	ug/kg	7.7	26	1	9/2/00	8260B	CJR	1
Vinyl Chloride	16 "J"	ug/kg	10	34	1	9/2/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/2/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/2/00	8260B	CJR	1
Lab Code 5030692B						**Sample Type** Soil			
Sample ID B-1 (9'-12')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	87.9	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	1000	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	22 "J"	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1

U.S. Analytical Lab

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1000 NORTH HALSTED
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Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692B						**Sample Type** Soil			
Sample ID B-1 (9'-12')						**Sample Date** 8/28/00			
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
Lab Code 5030692C						**Sample Type** Soil			
Sample ID B-2 (6-9')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	85.3	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1

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Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692C						**Sample Type** Soil			
Sample ID B-2 (6-9')						**Sample Date** 8/28/00			
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	160	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
Lab Code 5030692D						**Sample Type** Soil			
Sample ID B-3 (3-6')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	87.4	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1

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1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692D						**Sample Type** Soil			
Sample ID B-3 (3-6')						**Sample Date** 8/28/00			
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9 3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
Lab Code 5030692F						**Sample Type** Soil			
Sample ID B-5 (6-9')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	84.1	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1

U.S. Analytical Lab

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PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692F						**Sample Type** Soil			
Sample ID B-5 (6-9')						**Sample Date** 8/28/00			
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	20 "J"	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1

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1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692G						**Sample Type** Soil			
Sample ID B-6 (3-6')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	84.5	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	18 "J"	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	3300	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	91	ug/kg	8 8	29	1	9/5/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8 8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	1600	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	14 "J"	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1

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Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692G						**Sample Type** Soil			
Sample ID B-6 (3-6')						**Sample Date** 8/28/00			
Trichloroethene	1000	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	46	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
Lab Code 5030692H						**Sample Type** Soil			
Sample ID B-6 (9-12')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	88.7	%			1	9/12/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/12/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/12/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	4
Bromomethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/12/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/12/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/12/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/12/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/12/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,2-Dichloroethene	30 "J"	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/12/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/12/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/12/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	3
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/12/00	8260B	CJR	1

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692H						**Sample Type** Soil			
Sample ID B-6 (9-12')						**Sample Date** 8/28/00			
Methylene chloride	< 10	ug/kg	9	30	1	9/12/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	3 7
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/12/00	8260B	CJR	1
Tetrachloroethene	55	ug/kg	6.6	22	1	9/12/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/12/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
Trichloroethene	10 "J"	ug/kg	7.7	26	1	9/12/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/12/00	8260B	CJR	1
Lab Code 5030692I						**Sample Type** Soil			
Sample ID B-7 (3-6')						**Sample Date** 8/28/00			
Inorganic									
General									
Solids Percent	85.5	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1

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Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692I						**Sample Type** Soil			
Sample ID B-7 (3-6')						**Sample Date** 8/28/00			
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/5/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
Lab Code 5030692J						**Sample Type** Soil			
Sample ID B-7 (3-6')						**Sample Date** 8/28/00			
Inorganic									
General									
Total Organic Carbon	4650	mg/kg	182	607		9/6/00	9060	REL	1 61
Physicals									
Soil PH	7.2	su			1	9/13/00	9045	CAH	1
Lab Code 5030692M						**Sample Type** Soil			
Sample ID B-10 (4-6')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	86.3	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	2

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Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692M						**Sample Type** Soil			
Sample ID B-10 (4-6')						**Sample Date** 8/29/00			
Benzene	< 10	ug/kg	6.8	23	1	9/5/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/5/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/5/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/5/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/5/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	3 7
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/5/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/5/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,2-Dichloroethene	14 "J"	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/5/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/5/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7 6	25	1	9/5/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/5/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/5/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/5/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/5/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/5/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/5/00	8260B	CJR	1
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/5/00	8260B	CJR	1
Tetrachloroethene	59000	ug/kg	330	1100	1	9/6/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/5/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
Trichloroethene	45	ug/kg	7.7	26	1	9/5/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/5/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/5/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/5/00	8260B	CJR	1

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TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692N						**Sample Type** Soil			
Sample ID B-10 (10-12')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	86.8	%			1	9/12/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/12/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/12/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	4
Bromomethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/12/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/12/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/12/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/12/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/12/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,2-Dichloroethene	49	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/12/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/12/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/12/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	3
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/12/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/12/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	3 7
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/12/00	8260B	CJR	1
Tetrachloroethene	5800	ug/kg	6.6	22	1	9/12/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/12/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1

MOR 000136

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PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
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Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692N						**Sample Type** Soil			
Sample ID B-10 (10-12')						**Sample Date** 8/29/00			
Trichloroethene	19 "J"	ug/kg	7.7	26	1	9/12/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
o-Xylene	15 "J"	ug/kg	7	23	1	9/12/00	8260B	CJR	1
Lab Code 5030692O						**Sample Type** Soil			
Sample ID B-11 (4-6')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	85.0	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/6/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/6/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/6/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/6/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/6/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/6/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/6/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/6/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/6/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/6/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/6/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/6/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/6/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/6/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/6/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/6/00	8260B	CJR	4
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/6/00	8260B	CJR	1

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Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692O						**Sample Type** Soil			
Sample ID B-11 (4-6')						**Sample Date** 8/29/00			
Methylene chloride	< 10	ug/kg	9	30	1	9/6/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/6/00	8260B	CJR	4
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/6/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/6/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/6/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/6/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/6/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/6/00	8260B	CJR	1
Lab Code 5030692P						**Sample Type** Soil			
Sample ID B-12 (4-6')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	87.9	%			1	8/30/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/6/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/6/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/6/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/6/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/6/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/6/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/6/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/6/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/6/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/6/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/6/00	8260B	CJR	1

MOR 000138

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692P						**Sample Type** Soil			
Sample ID B-12 (4-6')						**Sample Date** 8/29/00			
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/6/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/6/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/6/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/6/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/6/00	8260B	CJR	4
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/6/00	8260B	CJR	1
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/6/00	8260B	CJR	1
Methylene chloride	40	ug/kg	9	30	1	9/6/00	8260B	CJR	1 4 1
Styrene	< 10	ug/kg	3.8	13	1	9/6/00	8260B	CJR	4
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/6/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/6/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/6/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/6/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/6/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/6/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/6/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/6/00	8260B	CJR	1
Lab Code 5030692Q						**Sample Type** Soil			
Sample ID B-13 (6-8')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	84.7	%			1	9/12/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Benzene	< 10	ug/kg	6.8	23	1	9/12/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/12/00	8260B	CJR	1
Bromoform	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	4
Bromomethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/12/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/12/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
Chloroform	< 10	ug/kg	4.1	14	1	9/12/00	8260B	CJR	1

MOR 000139

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692Q						**Sample Type** Soil			
Sample ID B-13 (6-8')						**Sample Date** 8/29/00			
Chloromethane	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/12/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/12/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/12/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/12/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/12/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/12/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/12/00	8260B	CJR	1
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/12/00	8260B	CJR	3
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/12/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/12/00	8260B	CJR	1
Styrene	< 10	ug/kg	3.8	13	1	9/12/00	8260B	CJR	3 7
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/12/00	8260B	CJR	1
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/12/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/12/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/12/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/12/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/12/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/12/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/12/00	8260B	CJR	1
Lab Code 5030692T						**Sample Type** Soil			
Sample ID B-14 (6-9')						**Sample Date** 8/29/00			
Inorganic									
General									
Solids Percent	85.0	%			1	9/19/00	5021	SAD	1
Organic									
VOC's									
Acetone	< 10	ug/kg	10	34	1	9/19/00	8260B	CJR	2 4
Benzene	< 10	ug/kg	6.8	23	1	9/19/00	8260B	CJR	1
Bromodichloromethane	< 10	ug/kg	5.8	19	1	9/19/00	8260B	CJR	1

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP
Invoice # E30933

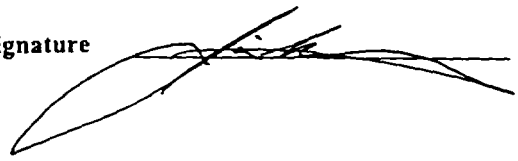
Report Date *29-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030933A						**Sample Type** Soil			
Sample ID B-14 (3-6')						**Sample Date** 8/29/00			
Inorganic									
General									
Total Organic Carbon	10800	mg/kg	462	1540		9/28/00	9060	REL	1 61

LOD Limit of Detection "J" Flag: Analyte detected between LOD and LOQ LOQ Limit of Quantitation

Code	*Comment*
1	All laboratory QC requirements were met for this sample.
61	Analysis performed by sub contract lab.

Authorized Signature



MOR 000141

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5030692T						**Sample Type** Soil			
Sample ID B-14 (6-9')						**Sample Date** 8/29/00			
Bromoform	< 10	ug/kg	10	34	1	9/19/00	8260B	CJR	1
Bromomethane	< 10	ug/kg	10	35	1	9/19/00	8260B	CJR	3 4 7
Carbon Disulfide	< 10	ug/kg	5.7	19	1	9/19/00	8260B	CJR	3 4 7
Carbon Tetrachloride	< 10	ug/kg	10	33	1	9/19/00	8260B	CJR	1
Chlorobenzene	< 10	ug/kg	5.6	19	1	9/19/00	8260B	CJR	1
Chloroethane	< 10	ug/kg	10	34	1	9/19/00	8260B	CJR	3 4 7
Chloroform	< 10	ug/kg	4.1	14	1	9/19/00	8260B	CJR	1
Chloromethane	< 10	ug/kg	10	35	1	9/19/00	8260B	CJR	1
Dibromochloromethane	< 10	ug/kg	9.1	30	1	9/19/00	8260B	CJR	1
1,2-Dichloroethane	< 10	ug/kg	3.8	13	1	9/19/00	8260B	CJR	1
1,1-Dichloroethane	< 10	ug/kg	8.3	28	1	9/19/00	8260B	CJR	1
1,1-Dichloroethene	< 10	ug/kg	8.7	29	1	9/19/00	8260B	CJR	1
cis-1,2-Dichloroethene	< 10	ug/kg	9.3	31	1	9/19/00	8260B	CJR	1
trans-1,2-Dichloroethene	< 10	ug/kg	8.8	29	1	9/19/00	8260B	CJR	1
1,2-Dichloropropane	< 10	ug/kg	8.8	29	1	9/19/00	8260B	CJR	1
trans-1,3-Dichloropropene	< 10	ug/kg	8.7	29	1	9/19/00	8260B	CJR	1
cis-1,3-Dichloropropene	< 10	ug/kg	7.6	25	1	9/19/00	8260B	CJR	1
Ethylbenzene	< 10	ug/kg	4.4	15	1	9/19/00	8260B	CJR	1
2-Hexanone	< 10	ug/kg	8.2	27	1	9/19/00	8260B	CJR	3 4 7
Methyl ethyl ketone	< 10	ug/kg	10	35	1	9/19/00	8260B	CJR	2 3 4
Methyl isobutyl ketone	< 10	ug/kg	8.6	29	1	9/19/00	8260B	CJR	1
Methylene chloride	< 10	ug/kg	9	30	1	9/19/00	8260B	CJR	4
Styrene	< 10	ug/kg	3.8	13	1	9/19/00	8260B	CJR	3 4 7
1,1,2,2-Tetrachloroethane	< 10	ug/kg	5.2	17	1	9/19/00	8260B	CJR	4
Tetrachloroethene	< 10	ug/kg	6.6	22	1	9/19/00	8260B	CJR	1
Toluene	< 10	ug/kg	7	23	1	9/19/00	8260B	CJR	1
1,1,1-Trichloroethane	< 10	ug/kg	10	33	1	9/19/00	8260B	CJR	1
1,1,2-Trichloroethane	< 10	ug/kg	9.3	31	1	9/19/00	8260B	CJR	1
Trichloroethene	< 10	ug/kg	7.7	26	1	9/19/00	8260B	CJR	1
Vinyl Chloride	< 10	ug/kg	10	34	1	9/19/00	8260B	CJR	1
m&p-Xylene	< 20	ug/kg	9.3	31	1	9/19/00	8260B	CJR	1
o-Xylene	< 10	ug/kg	7	23	1	9/19/00	8260B	CJR	1

MOR 000142

U.S. Analytical Lab

TOM BRECHEISEN
PIONEER ENVIRONMENTAL
1000 NORTH HALSTED
CHICAGO IL 60622

Project # 00618
Project Name MOREY CORP / 2659 WISCON
Invoice # E30692

Report Date *21-Sep-00*

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code

LOD Limit of Detection "J" Flag: Analyte detected between LOD and LOQ LOQ Limit of Quantitation

Code	*Comment*
1	All laboratory QC requirements were met for this sample.
2	The duplicate RPD failed to meet acceptable QC limits.
3	The spike recovery failed to meet acceptable QC limits.
4	The check standard failed to meet acceptable QC limits.
7	The LCS spike recovery failed to meet acceptable QC limits.
41	Result confirmed by repeat analysis.
61	Analysis performed by sub contract lab.

Authorized Signature

MOR 000143

CHAIN OF CUSTODY RECORD

U.S. Analytical Lab
1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Rev. Date: 12-17-98

Chain # 20990

Page 1 of ____

Lab I.D. # 5030692

Account No. : Quote No.:

Project #: 00618

Sampler: (signature) Thomas A Brecheisen

Sample Integrity - To be completed by receiving lab.
Method of Shipment: UPS Temp. of Temp. Blank: 4 °C On Ice: X
Cooler seal intact upon receipt: X Yes ___ No Labcoded By: ____

Project (Name / Location): Morey Corporation / 2659 Wisconsin

Reports To: Tom Brecheisen Invoice To: Tom Brecheisen

Company: Pioneer Environmental, Inc. Company

Address: 1111 N. Halsted #202 Address

City State Zip: Chicago, IL 60622 City State Zip

Phone: (312) 587-1021 Phone

Sample Handling Request
___ Rush Analysis Date Required ____
X Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis	PID/ FID
5030692 A	B-1 (3'-6')	8-28-00		1 40mL; 1 4oz	S							X						
B	B-1 (9'-12')	8-28-00		1 40mL; 1 4oz	S							X						
C	B-2 (6'-9')	8-28-00		1 40mL; 1 4oz	S							X						
D	B-3 (3'-6')	8-28-00		1 40mL; 1 4oz	S							X						
E	B-4 (3'-6')	8-28-00		1 40mL; 1 4oz	S							X						
F	B-5 (6'-9')	8-28-00		1 40mL; 1 4oz	S							X						
G	B-6 (3'-6')	8-28-00		1 40mL; 1 4oz	S							X						
H	B-6 (9'-12')	8-28-00		1 40mL; 1 4oz	S							X						
I	B-7 (3'-6')	8-28-00		1 40mL; 1 4oz	S							X						

MOR 000144

Department Use Only
Split Samples: Offered? ___ Yes ___ No
Accepted? ___ Yes ___ No
Accepted By: ____

Department Use Optional for Soil Samples
Unused portion of sample returned

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.
Run samples B-6(9-12'), B-10(10-12') + B-13(6-8') cancel acetone per Charity 9/18/00 jm
HOLD: B-6(9-12'); B-4(3-6') Charity 9/18/00 jm
Run sample B-4(6-9') per Tom Brecheisen 9/18/00 jm

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Thomas A Brecheisen	17:10	8-28-00			

CHAIN OF CUSTODY RECORD

Analytical Lab Robert E. Lee

1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Rev. Date: 12-17-98

Chain # 21381

Page ___ of ___

Lab I.D.

Account No.: Quote No.:

Project #:

Sampler: (signature)

Sample Integrity: To be completed by receiving lab
Method of Shipment: Temp. of Temp. Blank ___ On Ice
Cooler seal intact upon receipt: Yes No Labcoded By

Project (Name / Location):

Reports To: Julie A. McKay Invoice To: same

Company: U.S. Analytical Lab Company

Address: 1090 Kennedy Ave Address

City State Zip: Kimberly, WI 54136 City State Zip

Phone: 920-735-8295 Phone

Sample Handling Request
___ Rush Analysis
Date Required ___
X Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Total Organic Carbon	Other Analysis				PID/FID
	5030692J	8/28/00		1 4oz jar	Soil												X					

Department Use Only
Split Samples: Offered? Yes No
Accepted? Yes No
Accepted By:

Department Use Optional for Soil Samples
Disposition of unused portion of sample
Lab Should:
___ Dispose ___ Retain for ___ days
___ Return ___ Other

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.
Run B-6(9-12'), B-10(10-12') + B-13(6-8') cancelled otherwise [illegible] Chase 9/15/00 [illegible]
Run Sample B-11(6-9') per [illegible] 9/19/00 [illegible]

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Julie A. McKay	1530	8/30/00	K. Everson	1530	8/30/00
K. Everson	1610	8/30/00			

Received in Laboratory By: [illegible] Time: [illegible]

MOR 000145

CHAIN OF CUSTODY RECORD

Analytical Lab
1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Rev. Date: 12-17-98

Chain # 20994

Page 3 of 3

Lab I.D. # 5030692

Account No.: Quote No.:

Project #: 00618

Sampler: (signature) Thomas A Brecheisen

Sample Integrity: To be completed by receiving lab
Method of Shipment: UPS Temp. of Temp. Blank: ___ °C On Ice: X
Cooler seal intact upon receipt: X Yes ___ No Labcoded By: ___

Project (Name / Location): The Morey Corporation / 2659 Wisconsin St.

Reports To: Tom Brecheisen Invoice To:

Company Pioneer Company

Address 1070 N. Halsted #202 Address

City State Zip Chicago, IL 60622 City State Zip

Phone (312) 587-1021 Phone

Sample Handling Request
___ Rush Analysis Date Required ___
X Normal Turn Around

Analysis Requested

Lab I.D.	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis	PID/FID
5030692M	B-10 (4'-6')	8-29-00		1 40ml; 1 4 oz.	S							X						
N	B-10 (10'-12')	8-29-00		1 40ml; 1 4 oz.	S							X						
O	B-11 (4'-6')	8-29-00		1 40ml; 1 4 oz.	S							X						
D	B-12 (4'-6')	8-29-00		1 40ml; 1 4 oz.	S							X						
Q	B-13 (6'-8')	8-29-00		1 40ml; 1 4 oz.	S							X						
R	B-14 (3'-6')	8-29-00		1 40ml; 1 4 oz.	S							X						
S	B-15 (3'-6')	8-29-00		1 40ml; 1 4 oz.	S							X						
T	B-14 (6'-9')	8-29-00		1 40ml; 1 4 oz.	S							X						

Department Use Only
Split Samples: Offered? ___ Yes ___ No
Accepted? ___ Yes ___ No
Accepted By: ___

Comments/ Special Instructions Run Sample B-14 (6-9') per Tom Brecheisen 9/19/00 JAM
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.
HOLD: B-10 (10'-12'); B-13 (6'-8'); B-14 (3'-6'); B-14 (6'-9') per Chas Ily 9/12/00 JAM
B-15 (3'-6') Run samples B-6 (9-12'), B-10 (10-12') + B-13 (6-8') cancel all others

Department Use Optional for Soil Samples
Disposition of unused portion of sample
Lab Should:
___ Dispose ___ Retain for ___ days
___ Return ___ Other

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date

Received in Laboratory By: [signature] Time: 9:30 Date: 8/20/00

MOR 000146

CHAIN OF CUSTODY RECORD

U.S. Analytical Lab
1090 Kennedy Ave. • Kimberly, WI 54136
(920) 735-8295 • FAX 920-739-1738 • 800-490-4902
LAB@USOIL.COM

Rev. Date: 12-17-98

Chain # No 21631

Page ____ of ____

Lab I.D. # 5030933

Account No. : Quote No.:

Project #: 00618

Sampler: (signature)

Sample Integrity - To be completed by receiving lab.
Method of Shipment : In house Temp. pt Temp. Blank. ____ °C On Ice: ____
Cooler seal intact upon receipt: ____ Yes ____ No Labcoded By: ____

Project (Name / Location):

Reports To: Tom Brechbiel Invoice To:

Company: Pioneer Environmental Company

Address Address

City State Zip City State Zip

Phone Phone

Sample Handling Request

___ Rush Analysis
Date Required ____

X Normal Turn Around

Analysis Requested

Lab I.D	Sample I.D.	Collection Date	Collection Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	Other Analysis: TOC						PID/ FID
5030933A	B-14(3-6)	8/29/00		1-4oz jar	soil	none											X						

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Department Use Only

Split Samples: Offered ? ____ Yes ____ No
Accepted? ____ Yes ____ No
Accepted By: ____

Department Use Optional for Soil Samples

Disposition of unused portion of sample:
Lab Should:
Dispose Retain for ____ days
Return Other

Comments/ Special Instructions
*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.

Run TOC per Tom B. 9/26/00 Jam
Previously labcoded 5030692R

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date

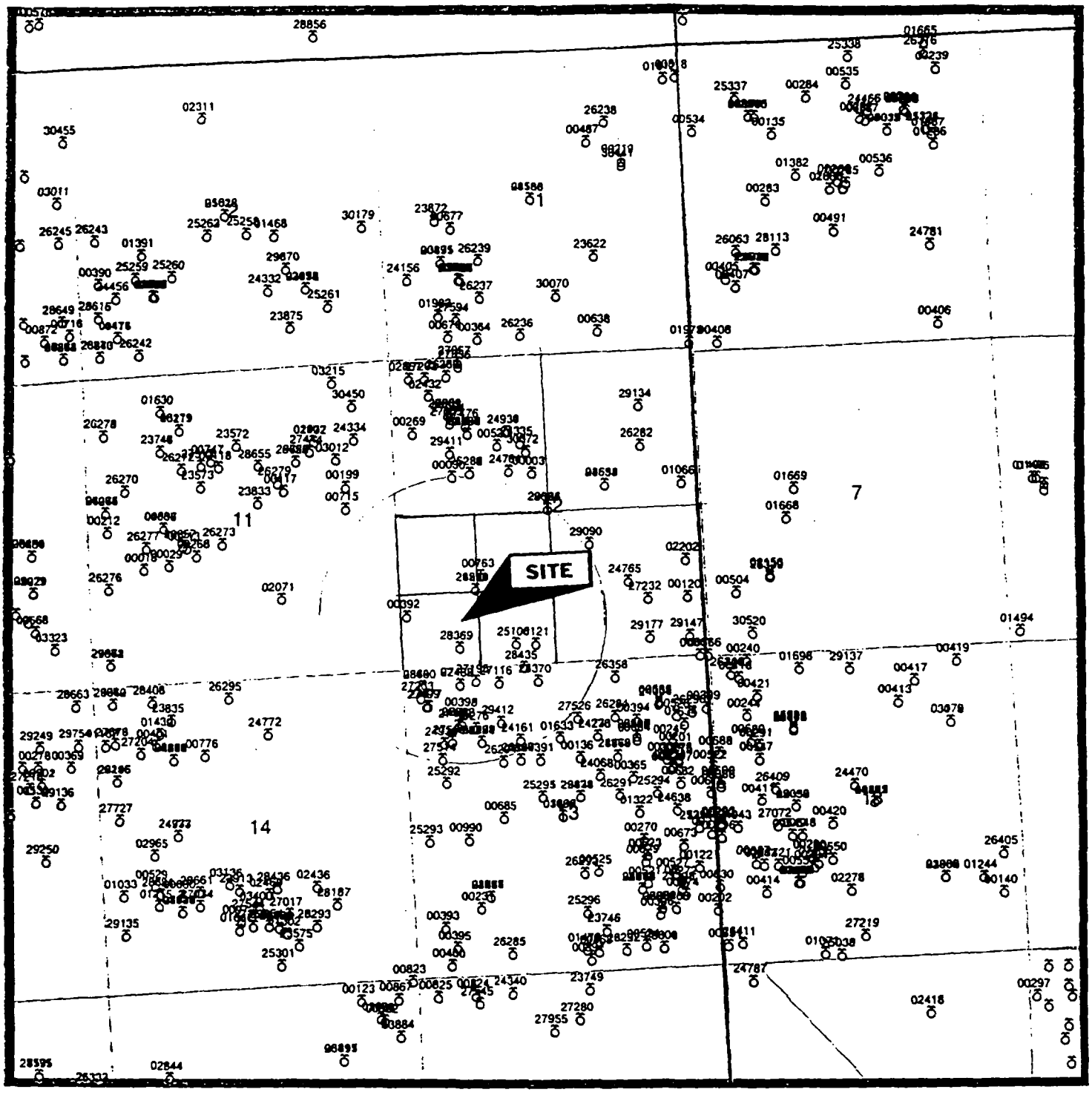
Received in Laboratory By: In house Time: 9:25 8/30/00

Appendix F

APPENDIX F

ISGS Well Search Results

Map Area: 38N-10E-22 m3 to 39N-11E-32 m3



Explanation

Oil	Gas Injection	Junked
Oil & Gas	Gas Storage	Temporarily Abandoned
Gas	Salt Water Disposal	Observation
D&A - Oil Show	Water Injection	Other Injection
D&A - Gas Show	Water Supply	Confidential
D&A - Oil & Gas Show	Permit	Other Well Type
D&A	Water	Status Unknown

/ through any symbol indicates well is currently plugged

N

0 2421 4842 ft

Illinois State Geological Survey

QuEStoR: Custom Map

Date: 27-SEP-00 Scale: 1:29052

Displayed data is based upon information supplied to the Illinois State Geological Survey (ISGS) and are not field verified. The ISGS does not guarantee the validity, accuracy or completeness of these data.

Non Oil and Gas - Wells

120430012000 Randa Wm J 12-38N-10E
DuPage Andrejewski R
Status: WATER NE SE SE Elev: 715GL
permit: 0 permit date: comp. date: 01/01/57
Lambert X: 3398140 Lambert Y: 3190644 td: 126
producing formation: td formation:
latitude: 41.789736 longitude: 88.033706

120432865800 Fykes, Charles N. 12-38N-10E
DuPage Bakosh, Michael 1
Status: WATER SE SW NE Elev: 0
permit: 013317 permit date: 07/26/89 comp. date: 08/09/89
Lambert X: 3396728 Lambert Y: 3192556 td: 200
producing formation: td formation:
latitude: 41.795070 longitude: 88.038770
Water from limestone at depth 102 to 200 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A53 15#	0	102

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
gravel	70	100
limestone	100	200

120432914700 Weirich, William Theodore 12-38N-10E
DuPage Barbour, Christopher
Status: WATER SE SE SE Elev: 0
permit: 91-1503 permit date: 08/06/91 comp. date: 11/05/91
Lambert X: 3398174 Lambert Y: 3189986 td: 200
producing formation: td formation:
latitude: 41.787923 longitude: 88.033597
Water from rock at depth 120 to 200 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	PVC 200 PSI	0	90

Size hole below casing: 4.75 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 110 ft. when pumping at 0 gpm for 3 hours.

Formations Passed Through	Thickness	Bottom
top soil	1	1
clay	49	50
sand & gravel	35	85
rock	115	200

120430220200 K & K Well Drilling 12-38N-10E
DuPage Bozynski
Status: WATER SE NE SE Elev: 0
permit: 0 permit date: comp. date: 09/01/71
Lambert X: 3398102 Lambert Y: 3191301 td: 150
producing formation: td formation:
latitude: 41.791551 longitude: 88.033784

120432941100 Fykes, Charles N. 12-38N-10E
DuPage Broder & Fordhan (Brickey)
Status: WATER NE SW NW Elev: 0
permit: 92-1752 permit date: 02/05/93 comp. date: 02/05/93

Lambert X: 3394077 Lambert Y: 3193098 td: 145
producing formation: td formation:
latitude: 41.796681 longitude: 88.048500
Water from limestone at depth 98 to 145 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	98

Size hole below casing: 5 in.
Static level 60 ft. below casing top which is 1 ft. above grnd level.
Pumping level 90 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	25	25
sand & clay	5	30
clay	35	65
gravel	30	95
limestone	50	145

120432836900 Fykes, Charles N. 12-38N-10E
DuPage Carlsen, Penny 1
Status: WATER SE SW SW Elev: 0
permit: 008104 permit date: 11/30/88 comp. date: 04/11/89
Lambert X: 3394230 Lambert Y: 3189793 td: 205
producing formation: td formation:
latitude: 41.787566 longitude: 88.048131
Water from limestone at depth 110 to 205 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A53 15#	0	110

Size hole below casing: 5 in.
Static level 40 ft. below casing top which is 1 ft. above grnd level.
Pumping level 80 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	2	2
clay	20	22
boulders	88	110
lime	95	205

120432786100 Fykes, Charles N. 12-38N-10E
DuPage Carter, Robert 1
Status: WATER SE NW NW Elev: 0
permit: 133393 permit date: 07/13/87 comp. date: 07/24/87
Lambert X: 3394046 Lambert Y: 3193759 td: 185
producing formation: td formation:
latitude: 41.798504 longitude: 88.048576
Water from limestone at depth 106 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	106

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 28 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	4	4
clay	14	18
blue clay	59	77
gravel & sand	25	102
broken lime	4	106
limestone	79	185

120432635700 Fykes, Charles N. 12-38N-10E
DuPage Dalu, Chirs 1
Status: WATER NE NW NW Elev: 0
permit: 115062 permit date: 09/28/84 comp. date: 10/01/84
Lambert X: 3394015 Lambert Y: 3194420 td: 175

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producing formation: td formation:
latitude: 41.800327 longitude: 88.048651
Water from limestone at depth 115 to 175 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	117

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	35	35
gravel	80	115
limestone	60	175

120430076300 Neely Cliff L 12-38N-10E
DuPage Downers Grove 10
Status: WATER 1540 SL 1440 WL Elev: 715GL
permit: 0 permit date: comp. date: 10/01/60
Lambert X: 3394627 Lambert Y: 3191021 td: 280
producing formation: td formation:
latitude: 41.790933 longitude: 88.046597

120430003000 Miller, J. P. Art. Well 12-38N-10E
DuPage Downers Grove San 10
Status: WATER 3250 SL 1000 WL Elev: 695GL
permit: 0 permit date: comp. date: 01/01/56
Lambert X: 3394110 Lambert Y: 3192706 td: 150
producing formation: td formation:
latitude: 41.795599 longitude: 88.048402

120432705600 Fykes, Charles 12-38N-10E
DuPage Erickson, Don 1
Status: WATER 155 NL 1180 WL Elev: 728GL
permit: 118234 permit date: 06/07/85 comp. date: 06/11/85
Lambert X: 3394204 Lambert Y: 3194604 td: 185
producing formation: td formation:
latitude: 41.800826 longitude: 88.047944
Water from limestone at depth 110 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	112

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
gravel & sand	80	110
limestone	75	185

120432705700 Fykes, Charles 12-38N-10E
DuPage Erickson, Don 1
Status: WATER 110 NL 1200 WL Elev: 729GL
permit: 118235 permit date: 06/07/85 comp. date: 06/12/85
Lambert X: 3394222 Lambert Y: 3194650 td: 140
producing formation: td formation:
latitude: 41.800952 longitude: 88.047875
Water from limestone at depth 135 to 145 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	114

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 10 gpm for 1 hours.

MOR 000153

Formations Passed Through	Thickness	Bottom
clay	25	25
gravel & sand	85	110
limestone	2	112
gravel	6	118
limestone	2	120
gravel	5	125
limestone	10	135
gravel & limestone	10	145

120432628000 Fykes, Charles N. 12-38N-10E
DuPage Erickson, Don 1
Status: WATER NE NW NW Elev: 0
permit: 88726 permit date: 08/15/79 comp. date: 09/04/79
Lambert X: 3394015 Lambert Y: 3194420 td: 175
producing formation: td formation:
latitude: 41.800327 longitude: 88.048651
Water from limestone at depth 105 to 175 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	109

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 90 ft. when pumping at 12 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
gravel	75	105
limestone	70	175

120430052000 Beyreis, Kenneth 12-38N-10E
DuPage Fielder Helen 10
Status: WATER 1560 NL 1810 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394897 Lambert Y: 3193229 td: 85
producing formation: td formation:
latitude: 41.797006 longitude: 88.045473

120432906600 Senffner, Alan James 12-38N-10E
DuPage Five Star General Contr., Inc.
Status: WATER Elev: 0
permit: 90-0308 permit date: 01/30/90 comp. date: 04/26/90
Lambert X: 3395762 Lambert Y: 3192182 td: 145
producing formation: td formation:
latitude: 41.794082 longitude: 88.042349
Water from limestone at depth 0 to 145 ft.
Screen: Diam. 5 in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	75

Size hole below casing: in.
Static level 0 ft. below casing top which is 1 ft. above grnd level.
Pumping level 40 ft. when pumping at 0 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	75	75
limestone	70	145

120432865900 Senffner, Alan James 12-38N-10E
DuPage Five Star General Contractors
Status: WATER SE NW NW Elev: 0
permit: 017277 permit date: 03/26/90 comp. date: 04/26/90
Lambert X: 3394046 Lambert Y: 3193759 td: 145
producing formation: td formation:
latitude: 41.798504 longitude: 88.048576
Water from limestone at depth 145 to 0 ft.
Screen: Diam. in. Length: 0 ft. Slot:

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Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	75

Size hole below casing: in.
Static level 0 ft. below casing top which is 1 ft. above grnd level.
Pumping level 40 ft. when pumping at 0 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	75	75
limestone	70	145

120432723200 Fykes, Charles 12-38N-10E
DuPage Gabdert, Robert 1
Status: WATER NW SE SE Elev: 0
permit: 121174 permit date: 10/25/85 comp. date: 10/25/85
Lambert X: 3397483 Lambert Y: 3190612 td: 205
producing formation: td formation:
latitude: 41.789679 longitude: 88.036105
Water from limestone at depth 95 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	100

Size hole below casing: 5 in.
Static level 103 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	35	35
gravel	15	50
clay	15	65
gravel	30	95
limestone	110	205

120430286700 Lockport Well & Pump 12-38N-10E
DuPage Gallagher Thomas 1
Status: WATER NW NW NW Elev: 0
permit: 0 permit date: comp. date: 06/01/72
Lambert X: 3393361 Lambert Y: 3194392 td: 160
producing formation: td formation:
latitude: 41.800279 longitude: 88.051061

120432433500 Sission, Edward H. 12-38N-10E
DuPage Geralds Paul
Status: WATER 220 NL 240 WL NE SE NW Elev: 0
permit: 0 permit date: comp. date: 12/01/75
Lambert X: 3395292 Lambert Y: 3193263 td: 150
producing formation: td formation:
latitude: 41.797082 longitude: 88.044016

120432747600 Knierim, Phillip E. 12-38N-10E
DuPage Heritage Homes
Status: WATER 1175 NL 1270 WL Elev: 717GL
permit: 126455 permit date: 08/29/86 comp. date: 12/04/86
Lambert X: 3394340 Lambert Y: 3193590 td: 140
producing formation: td formation:
latitude: 41.798025 longitude: 88.047503
Water from rock at depth 100 to 140 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15 LB	0	100

Size hole below casing: 4.75 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 95 ft. when pumping at 12 gpm for 3 hours.

Formations Passed Through	Thickness	Bottom
clay	88	88
sand gravel	12	100

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rock		40	140

120432476400 K & K Well Drilling 12-38N-10E
DuPage Hinkle & Wes
Status: WATER SE NW Elev: 0
permit: 0 permit date: comp. date: 10/01/76
Lambert X: 3395073 Lambert Y: 3192812 td: 120
producing formation: td formation:
latitude: 41.795849 longitude: 88.044849

120432720200 Fykes, Charles 12-38N-10E
DuPage Hogen, Gertrude 1
Status: WATER 350 NL 600 WL Elev: 736GL
permit: 120751 permit date: 10/07/85 comp. date: 10/08/85
Lambert X: 3393634 Lambert Y: 3194385 td: 185
producing formation: td formation:
latitude: 41.800247 longitude: 88.050056
Water from limestone at depth 112 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	115

Size hole below casing: 5 in.
Static level 65 ft. below casing top which is 1 ft. above grnd level.
Pumping level 95 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	2	2
clay	58	60
sand	15	75
clay	30	105
gravel	7	112
limestone	73	185

120430163100 Dist Highway Office 12-38N-10E
DuPage Hwy C B & Q Rr 55
Status: ENG SE SW NE Elev: 711GL
permit: 0 permit date: comp. date: 06/01/47
Lambert X: 3396726 Lambert Y: 3192556 td: 55
producing formation: td formation:
latitude: 41.795070 longitude: 88.038777

120432476500 K & K Well Drilling 12-38N-10E
DuPage James Constr
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/76
Lambert X: 3397134 Lambert Y: 3190925 td: 160
producing formation: td formation:
latitude: 41.790557 longitude: 88.037371

120432628100 Rob, Ronald Gene 12-38N-10E
DuPage Johnson, Louise
Status: WATER SW Elev: 0
permit: 103033 permit date: 04/08/82 comp. date: 04/20/82
Lambert X: 3394513 Lambert Y: 3190800 td: 190
producing formation: td formation:
latitude: 41.790329 longitude: 88.047030
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK STEEL 14.98	0	110

Size hole below casing: 5 in.
Static level 0 ft. below casing top which is 0 ft. above grnd level.
Pumping level 0 ft. when pumping at 0 gpm for 0 hours.

Formations Passed Through	Thickness	Bottom

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clay & gravel	110	110
limestone	80	190

120432463600 K & K Well Drilling 12-38N-10E
DuPage Jones Bill
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 07/01/76
Lambert X: 3394388 Lambert Y: 3193443 td: 90
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432510500 K & K Well Drilling 12-38N-10E
DuPage Jones Bill
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 05/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 100
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432510400 K & K Well Drilling 12-38N-10E
DuPage Jones Bill
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 05/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 100
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432476600 K & K Well Drilling 12-38N-10E
DuPage Jones Bill
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 10/01/76
Lambert X: 3394388 Lambert Y: 3193443 td: 100
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432502800 K & K Well Drilling 12-38N-10E
DuPage Jones Bill
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 04/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 100
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432909000 Fykes, Charles N. 12-38N-10E
DuPage Kleczka, Gary 1
Status: WATER NW SE Elev: 0
permit: 91-406 permit date: 03/19/91 comp. date: 06/17/91
Lambert X: 3396450 Lambert Y: 3191553 td: 185
producing formation: td formation:
latitude: 41.792318 longitude: 88.039853
Water from limestone at depth 102 to 185 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	102

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 90 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	50	50
gravel	52	102
limestone	83	185

120432859900 Rob, Ronald Gene 12-38N-10E
DuPage Kolar, Jim
Status: WATER SW Elev: 0
permit: 110338 permit date: 11/09/83 comp. date: 12/06/83
Lambert X: 3394513 Lambert Y: 3190800 td: 175
producing formation: td formation:
latitude: 41.790329 longitude: 88.047030
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK STEEL	0	102

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
surface & clay	80	80
sand & gravel	22	102
limestone	73	175

120432362400 Dupage Pump 12-38N-10E
DuPage Kyzyzowski Greg
Status: WATER Elev: 0
permit: 0 permit date: comp. date: 02/01/74
Lambert X: 3395760 Lambert Y: 3192182 td: 205
producing formation: td formation:
latitude: 41.794082 longitude: 88.042356

120432493000 K & K Well Drilling 12-38N-10E
DuPage Lamb J K
Status: WATER E2 NW Elev: 0
permit: 0 permit date: comp. date: 02/01/77
Lambert X: 3395042 Lambert Y: 3193472 td: 110
producing formation: td formation:
latitude: 41.797669 longitude: 88.044924

120432493100 K & K Well Drilling 12-38N-10E
DuPage Lamb J K
Status: WATER E2 NW Elev: 0
permit: 0 permit date: comp. date: 01/01/77
Lambert X: 3395042 Lambert Y: 3193472 td: 100
producing formation: td formation:
latitude: 41.797669 longitude: 88.044924

120432510600 Dupage Pump 12-38N-10E
DuPage M & S Constr
Status: WATER S2 SE SW Elev: 0
permit: 0 permit date: comp. date: 06/01/77
Lambert X: 3395214 Lambert Y: 3189841 td: 160
producing formation: td formation:
latitude: 41.787655 longitude: 88.044505

120432628200 Fykes, Charles N. 12-38N-10E
DuPage McCann, Susan 1
Status: WATER NW SE NE Elev: 0
permit: 38503 permit date: 06/13/75 comp. date: 07/02/75
Lambert X: 3397350 Lambert Y: 3193244 td: 185
producing formation: td formation:
latitude: 41.796939 longitude: 88.036438
Water from limestone at depth 126 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	126

Size hole below casing: 5 in.

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Static level 90 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 12 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	40	40
gravel	30	70
shale	20	90
broken limestone	36	126
limestone	59	185

120430332400 K & K Well Drilling 12-38N-10E
DuPage McCarroll
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 08/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 140
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432706500 Knierim, Phillip E. 12-38N-10E
DuPage Myers, Steve
Status: WATER 1130 NL 1010 WL Elev: 720GL
permit: 118362 permit date: 06/14/85 comp. date: 07/01/85
Lambert X: 3394079 Lambert Y: 3193624 td: 140
producing formation: td formation:
latitude: 41.798131 longitude: 88.048462
Water from rock at depth 103 to 140 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15 LB	0	103

Size hole below casing: 4.75 in.
Static level 60 ft. below casing top which is 1 ft. above grnd level.
Pumping level 70 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
clay	95	95
sand gravel	8	103
rock	37	140

120432706400 Knierim, Phillip E. 12-38N-10E
DuPage Myers, Steve
Status: WATER 1075 NL 1030 WL Elev: 721GL
permit: 118363 permit date: 06/14/85 comp. date: 07/01/85
Lambert X: 3394096 Lambert Y: 3193680 td: 140
producing formation: td formation:
latitude: 41.798284 longitude: 88.048396
Water from rock at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15 LB	0	103

Size hole below casing: 4.75 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 90 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
clay	98	98
sand gravel	5	103
rock	37	140

120432917700 Knierim, Phil 12-38N-10E
DuPage Pacanowski, Theodore S.
Status: WATER SW SE SE Elev: 0
permit: H920150 permit date: 06/03/92 comp. date: 06/05/92
Lambert X: 3397517 Lambert Y: 3189954 td: 240
producing formation: td formation:
latitude: 41.787864 longitude: 88.036018
Water from rock at depth 140 to 240 ft.
Screen: Diam. in. Length: 0 ft. Slot:

MOR 000159

Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK	0	0

Size hole below casing: in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 0 gpm for 3 hours.

Formations Passed Through	Thickness	Bottom
deepened from	140	140
rock	100	240

120430220300 K & K Well Drilling 12-38N-10E
DuPage Panos Geo
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 09/01/71
Lambert X: 3394388 Lambert Y: 3193443 td: 140
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432528200 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 09/01/77
Lambert X: 3394419 Lambert Y: 3192782 td: 115
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120432528300 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 09/01/77
Lambert X: 3394419 Lambert Y: 3192782 td: 110
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120432528700 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 03/01/78
Lambert X: 3394419 Lambert Y: 3192782 td: 120
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120432528600 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 10/01/77
Lambert X: 3394419 Lambert Y: 3192782 td: 115
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120432510900 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 07/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 120
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432510800 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 07/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 120

MOR 000160

producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432510700 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 05/01/77
Lambert X: 3394388 Lambert Y: 3193443 td: 115
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120432528500 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 10/01/77
Lambert X: 3394419 Lambert Y: 3192782 td: 115
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120432528400 K & K Well Drilling 12-38N-10E
DuPage Parrish Const
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 10/01/77
Lambert X: 3394419 Lambert Y: 3192782 td: 115
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120430323700 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 07/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 110
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430343300 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 10/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 130
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430348900 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 06/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 120
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430332600 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 08/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 120
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430323800 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0

permit: 0 permit date: comp. date: 07/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 110
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430332500 K & K Well Drilling 12-38N-10E
DuPage Parrish Constr
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 08/01/73
Lambert X: 3394388 Lambert Y: 3193443 td: 120
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430026900 Randa Wm J 12-38N-10E
DuPage Prucha
Status: WATER 1275 NL 375 WL Elev: 720GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3393451 Lambert Y: 3193453 td: 133
producing formation: td formation:
latitude: 41.797687 longitude: 88.050785

120430012100 Randa Wm J 12-38N-10E
DuPage Reddinger
Status: WATER SE SE SW Elev: 730GL
permit: 0 permit date: comp. date: 01/01/57
Lambert X: 3395542 Lambert Y: 3189857 td: 138
producing formation: td formation:
latitude: 41.787685 longitude: 88.043297

120432528800 K & K Well Drilling 12-38N-10E
DuPage Salansky
Status: WATER S2 NW Elev: 0
permit: 0 permit date: comp. date: 08/01/78
Lambert X: 3394419 Lambert Y: 3192782 td: 120
producing formation: td formation:
latitude: 41.795795 longitude: 88.047259

120430000300 Miller, J. P. Art. Well 12-38N-10E
DuPage Shafer Bearing 1
Status: WATER 2059 NL 2870 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/55
Lambert X: 3395487 Lambert Y: 3192755 td: 250
producing formation: td formation:
latitude: 41.795674 longitude: 88.043328

120430243200 K & K Well Drilling 12-38N-10E
DuPage Sieg Joseph
Status: WATER NW NW Elev: 0
permit: 0 permit date: comp. date: 04/01/72
Lambert X: 3393703 Lambert Y: 3194076 td: 150
producing formation: td formation:
latitude: 41.799393 longitude: 88.049820

120432433600 K & K Well Drilling 12-38N-10E
DuPage Steinbauer John
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 11/01/75
Lambert X: 3394511 Lambert Y: 3190800 td: 160
producing formation: td formation:
latitude: 41.790329 longitude: 88.047037

120432528900 K & K Well Drilling 12-38N-10E

DuPage Thatcher Guy
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 10/01/78
Lambert X: 3394388 Lambert Y: 3193443 td: 140
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120433007200 Dietzman, Gerald E. 12-38N-10E
DuPage Trison Builders, Inc.
Status: WATER NE SE NW Elev: 0
permit: H960351 permit date: 11/12/96 comp. date: 04/04/97
Lambert X: 3395386 Lambert Y: 3193156 td: 120
producing formation: td formation:
latitude: 41.796783 longitude: 88.043676
Water from gray rock at depth 95 to 120 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	PVC ASTM F480 SDR 21	0	85

Size hole below casing: in.
Static level 60 ft. below casing top which is 1 ft. above grnd level.
Pumping level 80 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
topsoil	3	3
brown clay	65	68
medium gravel	14	82
gray rock	38	120

120432950100 Knierim, Phil 12-38N-10E
DuPage Trison Builders, Inc.
Status: WATER SE NW NW Elev: 0
permit: 94-0176 permit date: 12/23/93 comp. date: 04/23/94
Lambert X: 3394046 Lambert Y: 3193759 td: 160
producing formation: td formation:
latitude: 41.798504 longitude: 88.048576
Water from rock at depth 107 to 160 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	PVC 200 PSI	0	105

Size hole below casing: 4.75 in.
Static level 60 ft. below casing top which is 1 ft. above grnd level.
Pumping level 70 ft. when pumping at 0 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
clay	91	91
sand & gravel	10	101
rock	59	160

120430039200 Neely, George 12-38N-10E
DuPage Tucker J 33
Status: WATER 900 SL 100 WL Elev: 693GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3393319 Lambert Y: 3190316 td: 85
producing formation: td formation:
latitude: 41.789048 longitude: 88.051455

120432913400 Fordonski, Keith 12-38N-10E
DuPage Tucker, T.J.
Status: WATER SW NE NE Elev: 0
permit: 89-1416 permit date: 06/12/89 comp. date: 06/22/91
Lambert X: 3397317 Lambert Y: 3193902 td: 150
producing formation: td formation:
latitude: 41.798754 longitude: 88.036521
Water from limestone at depth 83 to 150 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

MOR 000163

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK STEEL	0	85

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 0 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
soil	15	15
gravel	20	35
clay	48	83
limestone	67	150

120430106600 K & K Well Drilling 12-38N-10E
DuPage Vaughn Seed Co
Status: WATER SE SE NE Elev: 0
permit: 0 permit date: comp. date: 03/01/68
Lambert X: 3398036 Lambert Y: 3192615 td: 250
producing formation: td formation:
latitude: 41.795175 longitude: 88.033949

120432529000 K & K Well Drilling 12-38N-10E
DuPage Woodland Realty
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 12/01/78
Lambert X: 3394388 Lambert Y: 3193443 td: 140
producing formation: td formation:
latitude: 41.797618 longitude: 88.047335

120430036700 Neely, George 13-38N-10E
DuPage Hoffman W C
Status: WATER 20 NL 180 EL NE Elev: 740GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398341 Lambert Y: 3189645 td: 172
producing formation: td formation:
latitude: 41.786901 longitude: 88.033166

120430036600 Neely, George 13-38N-10E
DuPage Hoffman W C
Status: WATER 20 NL 25 EL NE Elev: 740GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398495 Lambert Y: 3189653 td: 168
producing formation: td formation:
latitude: 41.786894 longitude: 88.032596

120432843500 Knierim, Phillip E. 13-38N-10E
DuPage Moroney, Mark
Status: WATER 75 NL 2100 WL Elev: 742GL
permit: 111378 permit date: 03/01/84 comp. date: 08/16/84
Lambert X: 3395358 Lambert Y: 3189442 td: 160
producing formation: td formation:
latitude: 41.786549 longitude: 88.043999
Water from rock at depth 110 to 160 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK #15	0	110

Size hole below casing: 4.75 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
top soil	4	4
clay	81	85
sand gravel	25	110
rock	50	160

MOR 000164

Non Oil and Gas - Wells

120432768400 Wellendorf, Rodney 13-38N-10E
DuPage Airhart Construction
Status: WATER NW Elev: 0
permit: 129371 permit date: 02/09/87 comp. date: 02/24/87
Lambert X: 3394629 Lambert Y: 3188153 td: 200
producing formation: td formation:
latitude: 41.783029 longitude: 88.046759
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK STEEL	0	131

Size hole below casing: 5 in.
Static level 85 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
shale	105	105
sand & shale	26	131
limestone	69	200

120432837000 Lode, Lawrence James 13-38N-10E
DuPage Andermann, Daniel
Status: WATER NE NE NW Elev: 0
permit: 008034 permit date: 11/28/88 comp. date: 12/09/88
Lambert X: 3395574 Lambert Y: 3189196 td: 215
producing formation: td formation:
latitude: 41.785862 longitude: 88.043218
Water from rock at depth 100 to 215 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	GALVANIZED A120	0	100

Size hole below casing: 4.75 in.
Static level 0 ft. below casing top which is 0 ft. above grnd level.
Pumping level 0 ft. when pumping at 0 gpm for 0 hours.

Formations Passed Through	Thickness	Bottom
black dirt	4	4
yellowish clay	12	16
bluish clay	15	31
sandy gravel	24	55
blue clay	31	86
bouldery gravel	6	92
porous gravel	8	100
rock	115	215

120430013600 Randa Wm J 13-38N-10E
DuPage Andrzejewski Bros
Status: WATER NW SW NE Elev: 750GL
permit: 0 permit date: comp. date: 01/01/58
Lambert X: 3396282 Lambert Y: 3187901 td: 163
producing formation: td formation:
latitude: 41.782406 longitude: 88.040589

120432837100 Liberg, Patrick A. 13-38N-10E
DuPage Angderson, Charlston
Status: WATER NW SE SE Elev: 0
permit: 007539 permit date: 11/09/88 comp. date: 06/07/89
Lambert X: 3397689 Lambert Y: 3185311 td: 175
producing formation: td formation:
latitude: 41.775061 longitude: 88.035661
Water from limestone at depth 130 to 175 ft.
Screen: Diam. in. Length: 0 ft. Slot:

MOR 000165

Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15#/FT	0	130

Size hole below casing: 5 in.
Static level 130 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 0 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
clay	130	130
sand & gravel	5	135
rock	40	175

120430247700 K & K Well Drilling 13-38N-10E
DuPage Balducci
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 04/01/72
Lambert X: 3394737 Lambert Y: 3185501 td: 160
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120432786200 Fykes, Charles N. 13-38N-10E
DuPage Bales, Steve 1
Status: WATER SE NW NW Elev: 0
permit: 133510 permit date: 07/15/87 comp. date: 07/27/87
Lambert X: 3394287 Lambert Y: 3188468 td: 205
producing formation: td formation:
latitude: 41.783912 longitude: 88.047999
Water from limestone at depth 100 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	100

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 140 ft. when pumping at 30 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	4	4
clay	23	27
gravel	15	42
blue clay	45	87
gravel	13	100
limestone	105	205

120430163300 Austin, Harry 13-38N-10E
DuPage Baula Otto H
Status: WATER N2 Elev: 0
permit: 0 permit date: comp. date:
Lambert X: 3395941 Lambert Y: 3188217 td: 141
producing formation: td formation:
latitude: 41.783338 longitude: 88.041773

120430298200 K & K Well Drilling 13-38N-10E
DuPage Benet Realty
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 09/01/72
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430301300 K & K Well Drilling 13-38N-10E
DuPage Benet Realty
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/72
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

MOR 000166

120430027300 Perrine William 13-38N-10E
DuPage Birkland
Status: WATER 875 SL 600 EL NE Elev: 750GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397982 Lambert Y: 3187862 td: 170
producing formation: td formation:
latitude: 41.782071 longitude: 88.034537

120432502900 Lockport Well & Pump 13-38N-10E
DuPage Bonnsteel Rich 1
Status: WATER NW SE SE Elev: 0
permit: 0 permit date: comp. date: 12/01/76
Lambert X: 3397689 Lambert Y: 3185311 td: 185
producing formation: td formation:
latitude: 41.777772 longitude: 88.035720

120430163400 Austin, Harry 13-38N-10E
DuPage Boughton Wm
Status: WATER 4125 SL 500 EL Elev: 750GL
permit: 0 permit date: comp. date: 01/01/46
Lambert X: 3398062 Lambert Y: 3188456 td: 141
producing formation: td formation:
latitude: 41.783708 longitude: 88.034230

120432823200 Senffner, Alan James 13-38N-10E
DuPage Brazys, Matthew
Status: WATER SE SW SE Elev: 0
permit: 004038 permit date: 07/25/88 comp. date: 08/12/88
Lambert X: 3397061 Lambert Y: 3184616 td: 190
producing formation: td formation:
latitude: 41.773174 longitude: 88.038014
Water from limestone at depth 0 to 0 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	120

Size hole below casing: 5 in.
Static level 0 ft. below casing top which is 1 ft. above grnd level.
Pumping level 90 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	120	120
limestone	70	190

120430039500 Perrine William 13-38N-10E
DuPage Brewer John E
Status: WATER 475 SL 725 WL Elev: 750GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394191 Lambert Y: 3184622 td: 175
producing formation: td formation:
latitude: 41.773319 longitude: 88.048498

120432628300 Weirich, William Theodore 13-38N-10E
DuPage Brewer, Scott 1
Status: WATER NW SE SE Elev: 0
permit: 105300 permit date: 10/18/82 comp. date: 10/29/82
Lambert X: 3397689 Lambert Y: 3185311 td: 171
producing formation: td formation:
latitude: 41.775061 longitude: 88.035661
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)

Size hole below casing: 0 in.

MOR 000167

Static level 0 ft. below casing top which is 0 ft. above grnd level.
Pumping level 0 ft. when pumping at 0 gpm for 0 hours.

Formations Passed Through	Thickness	Bottom
drift	128	128
yellow limestone	43	171

120430052200 Beyreis, Kenneth 13-38N-10E
DuPage Briarcliff Corp 13
Status: WATER 1960 NL 50 EL Elev: 745GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398537 Lambert Y: 3187715 td: 125
producing formation: td formation:
latitude: 41.784890 longitude: 88.041511

120430036500 Neely, George 13-38N-10E
DuPage Briarcliff Corp 17
Status: WATER 595 SL 1245 WL NE Elev: 751GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397212 Lambert Y: 3187545 td: 180
producing formation: td formation:
latitude: 41.773690 longitude: 88.046789

120430039400 Neely, George 13-38N-10E
DuPage Briarcliff Corp 24
Status: WATER 1075 NL 1275 EL Elev: 750GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397284 Lambert Y: 3188538 td: 165
producing formation: td formation:
latitude: 41.782397 longitude: 88.037053

120430039600 Neely, George 13-38N-10E
DuPage Briarcliff Corp 32
Status: WATER 900 SL 1050 EL Elev: 760GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397624 Lambert Y: 3185210 td: 170
producing formation: td formation:
latitude: 41.774786 longitude: 88.035932

120430052300 Neely, George 13-38N-10E
DuPage Briarcliff Corp 51
Status: WATER 1900 SL 1200 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397440 Lambert Y: 3186201 td: 170
producing formation: td formation:
latitude: 41.777526 longitude: 88.036583

120430039300 Neely, George 13-38N-10E
DuPage Briarcliff Corp 9
Status: WATER 825 SL 525 WL Elev: 738GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3393976 Lambert Y: 3184962 td: 150
producing formation: td formation:
latitude: 41.774267 longitude: 88.049214

120430027500 Neely, George 13-38N-10E
DuPage Briarcliff Corp
Status: WATER 825 SL 600 EL NE Elev: 750GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397984 Lambert Y: 3187812 td: 166
producing formation: td formation:
latitude: 41.781934 longitude: 88.034533

MOR 000168

120430052100 Perrine William 13-38N-10E
DuPage Briarcliff Corp
Status: WATER 1440 SL 1230 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397426 Lambert Y: 3185741 td: 170
producing formation: td formation:
latitude: 41.776256 longitude: 88.036648

120430024500 Perrine William 13-38N-10E
DuPage Briarcliff Corp
Status: WATER 1180 SL 710 EL NE Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397862 Lambert Y: 3188161 td: 165
producing formation: td formation:
latitude: 41.782909 longitude: 88.034972

120430086800 Neely, George 13-38N-10E
DuPage Bunting Edward
Status: WATER 300 SL 150 EL SW SW SE Elev: 0
permit: 0 permit date: comp. date: 09/01/67
Lambert X: 3396590 Lambert Y: 3184561 td: 140
producing formation: td formation:
latitude: 41.773043 longitude: 88.039751

120430039700 Neely, George 13-38N-10E
DuPage Casper Bldrs 25
Status: WATER 175 SL 375 WL SE Elev: 720GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3396463 Lambert Y: 3184430 td: 150
producing formation: td formation:
latitude: 41.772457 longitude: 88.050019

120432711600 Knierim, Phillip E. 13-38N-10E
DuPage Chiapetta, Joe
Status: WATER NW NE NW Elev: 0
permit: 119470 permit date: 08/09/85 comp. date: 08/29/85
Lambert X: 3394917 Lambert Y: 3189163 td: 180
producing formation: td formation:
latitude: 41.785800 longitude: 88.045639
Water from rock at depth 80 to 180 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15 LB	0	120

Size hole below casing: 4.38 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 160 ft. when pumping at 20 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
soil	2	2
clay	78	80
sand-gravel	40	120
rock	60	180

120432628400 Fykes, Charles N. 13-38N-10E
DuPage Clark, Howard Construction 1
Status: WATER SE NW NE Elev: 0
permit: 97239 permit date: 11/07/80 comp. date: 11/19/80
Lambert X: 3396913 Lambert Y: 3188597 td: 165
producing formation: td formation:
latitude: 41.784151 longitude: 88.038323
Water from limestone at depth 105 to 165 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	109

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 15 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	55	55
gravel	50	105
limestone	60	165

120430020000 Vidas Mike 13-38N-10E
DuPage Clover Constr
Status: WATER 900 SL 800 EL NE Elev: 760GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397782 Lambert Y: 3187877 td: 175
producing formation: td formation:
latitude: 41.782135 longitude: 88.035276

120432628500 Senffner, Alan James 13-38N-10E
DuPage Crawley Construction
Status: WATER SW SE SW Elev: 0
permit: 102155 permit date: 11/18/81 comp. date: 11/18/81
Lambert X: 3395104 Lambert Y: 3184522 td: 175
producing formation: td formation:
latitude: 41.773001 longitude: 88.045224
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	97

Size hole below casing: 5 in.
Static level 0 ft. below casing top which is 8 ft. above grnd level.
Pumping level 85 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	97	97
limestone	78	175

120432628600 Senffner, Alan James 13-38N-10E
DuPage Creagan, Steve
Status: WATER NE Elev: 0
permit: 102389 permit date: 12/11/81 comp. date: 12/10/81
Lambert X: 3397253 Lambert Y: 3188281 td: 190
producing formation: td formation:
latitude: 41.783266 longitude: 88.037090
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	99

Size hole below casing: 5 in.
Static level 0 ft. below casing top which is 8 ft. above grnd level.
Pumping level 130 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	99	99
limestone	91	190

120430292800 K & K Well Drilling 13-38N-10E
DuPage D & L Constr
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 08/01/72
Lambert X: 3397253 Lambert Y: 3188281 td: 180
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

120430020200 Randa Wm J 13-38N-10E
DuPage Dahl John
Status: WATER 900 SL 60 EL SE Elev: 748GL

MOR 000170

permit: 0 permit date: comp. date: 01/01/58
Lambert X: 3398612 Lambert Y: 3185257 td: 165
producing formation: td formation:
latitude: 41.774871 longitude: 88.032292

120430147800 K & K Well Drilling 13-38N-10E
DuPage Dak Brook-Stade
Status: WATER SW SW SE Elev: 0
permit: 0 permit date: comp. date: 02/01/71
Lambert X: 3396409 Lambert Y: 3184585 td: 125
producing formation: td formation:
latitude: 41.774032 longitude: 88.040407

120432628700 Senffner, Alan James 13-38N-10E
DuPage Dickerson, Ken
Status: WATER NW Elev: 0
permit: 104324 permit date: 07/29/82 comp. date: 07/22/82
Lambert X: 3394629 Lambert Y: 3188153 td: 190
producing formation: td formation:
latitude: 41.783029 longitude: 88.046759
Water from limestone at depth 0 to 0 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	STEEL 14.98	0	97

Size hole below casing: 5 in.
Static level 0 ft. below casing top which is 8 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
drift	97	97
limestone	93	190

120432529100 Fykes Charles & Pump 13-38N-10E
DuPage Domzalski Victor 1
Status: WATER SE SE NW Elev: 0
permit: 0 permit date: comp. date: 09/01/78
Lambert X: 3395652 Lambert Y: 3187206 td: 165
producing formation: td formation:
latitude: 41.780541 longitude: 88.042938

120432374600 Lockport Well & Pump 13-38N-10E
DuPage Ericksen D H 1
Status: WATER SW SE Elev: 0
permit: 0 permit date: comp. date: 03/01/74
Lambert X: 3396722 Lambert Y: 3184932 td: 160
producing formation: td formation:
latitude: 41.775884 longitude: 88.039241

120430027100 Randa Wm J 13-38N-10E
DuPage Fagulec J
Status: WATER 425 NL 100 EL SE Elev: 770GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398526 Lambert Y: 3186588 td: 167
producing formation: td formation:
latitude: 41.785717 longitude: 88.032827

120432415900 K & K Well Drilling 13-38N-10E
DuPage Freese Herb
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 05/01/75
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

MOR 000171

120432529200 Fykes Charles & Pump 13-38N-10E
DuPage George'S Lumber 1
Status: WATER SW NW Elev: 0
permit: 0 permit date: comp. date: 05/01/78
Lambert X: 3394000 Lambert Y: 3187458 td: 185
producing formation: td formation:
latitude: 41.781463 longitude: 88.048847

120430248200 Lockport Well & Pump 13-38N-10E
DuPage Grodolph Paul 1
Status: WATER NE NW NW Elev: 0
permit: 0 permit date: comp. date: 05/01/72
Lambert X: 3394259 Lambert Y: 3189131 td: 185
producing formation: td formation:
latitude: 41.786184 longitude: 88.047616

120432747700 Fykes, Charles 13-38N-10E
DuPage Grows, Robert 1
Status: WATER 670 NL 420 WL Elev: 768GL
permit: 126384 permit date: 08/27/86 comp. date: 08/27/86
Lambert X: 3393707 Lambert Y: 3188766 td: 205
producing formation: td formation:
latitude: 41.784759 longitude: 88.050117
Water from limestone at depth 120 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	120

Size hole below casing: 5 in.
Static level 120 ft. below casing top which is 1 ft. above grnd level.
Pumping level 160 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	80	80
gravel	40	120
limestone	85	205

120432866000 Fykes, Charles N. 13-38N-10E
DuPage Gurtler, Dave 1
Status: WATER NW NW NW Elev: 0
permit: 013950 permit date: 08/17/89 comp. date: 09/20/89
Lambert X: 3393602 Lambert Y: 3189098 td: 205
producing formation: td formation:
latitude: 41.785678 longitude: 88.050485
Water from limestone at depth 120 to 205 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A53 15#	0	120

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
gravel	10	40
clay	60	100
gravel	20	120
limestone	85	205

120432628800 Ward, Delbert G. 13-38N-10E
DuPage Healy, Bill
Status: WATER NW Elev: 0
permit: 106111 permit date: 01/27/83 comp. date: 02/03/83
Lambert X: 3394629 Lambert Y: 3188153 td: 160
producing formation: td formation:
latitude: 41.783029 longitude: 88.046759

MOR 000172

Water from rock at depth 0 to 160 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	#15 BLACK	0	108

Size hole below casing: 4.75 in.
Static level 85 ft. below casing top which is 1 ft. above grnd level.
Pumping level 105 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
clay	60	60
sand & gravel	5	65
clay	30	95
sand gravel	13	108
rock	52	160

120432463700 K & K Well Drilling 13-38N-10E
DuPage Hemza Joe
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 07/01/76
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430068500 Randa Wm J 13-38N-10E
DuPage Herkel Donald 59
Status: WATER 2650 NL 1600 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394970 Lambert Y: 3186848 td: 137
producing formation: td formation:
latitude: 41.779417 longitude: 88.045580

120430039900 Neely, George 13-38N-10E
DuPage Hijo Industries 28
Status: WATER 950 NL 100 EL Elev: 740GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398453 Lambert Y: 3188720 td: 150
producing formation: td formation:
latitude: 41.782104 longitude: 88.041387

120432628900 Ward, Delbert G. 13-38N-10E
DuPage Hodina, George
Status: WATER NW Elev: 0
permit: 106852 permit date: 04/20/83 comp. date: 04/27/83
Lambert X: 3394629 Lambert Y: 3188153 td: 160
producing formation: td formation:
latitude: 41.783029 longitude: 88.046759
Water from rock at depth 0 to 160 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	#15 BLACK	0	90

Size hole below casing: 4.5 in.
Static level 30 ft. below casing top which is 1 ft. above grnd level.
Pumping level 50 ft. when pumping at 10 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
clay	87	87
sand gravel	3	90
rock	70	160

120430067400 Neely, George 13-38N-10E
DuPage Hoffman W C 17
Status: WATER 1200 SL 600 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398063 Lambert Y: 3185531 td: 175
producing formation: td formation:

MOR 000173

latitude: 41.775651 longitude: 88.034308

120430067300 Perrine William 13-38N-10E
DuPage Hoffman W C
Status: WATER 2050 SL 600 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398034 Lambert Y: 3186380 td: 175
producing formation: td formation:
latitude: 41.777990 longitude: 88.034390

120430052400 Neely, George 13-38N-10E
DuPage Holbrook Warren 41
Status: WATER 350 SL 1280 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397411 Lambert Y: 3184650 td: 155
producing formation: td formation:
latitude: 41.773252 longitude: 88.036723

120432406800 Dupage Pump 13-38N-10E
DuPage Horgan Geo J
Status: WATER SW NE Elev: 0
permit: 0 permit date: comp. date: 04/01/75
Lambert X: 3396622 Lambert Y: 3187586 td: 200
producing formation: td formation:
latitude: 41.781479 longitude: 88.039397

120432960400 Knierim, Phil 13-38N-10E
DuPage Ivco Builders Inc.
Status: WATER SW SE SE Elev: 0
permit: permit date: 03/10/94 comp. date: 08/29/94
Lambert X: 3397713 Lambert Y: 3184647 td: 200
producing formation: td formation:
latitude: 41.773230 longitude: 88.035612
Water from rock at depth 130 to 200 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	PVC 200 PSI	0	112

Size hole below casing: 4.75 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 110 ft. when pumping at 0 gpm for 3 hours.

Formations Passed Through	Thickness	Bottom
top soil	3	3
clay	62	65
sand & gravel	7	72
clay	11	83
sand & gravel	25	108
rock	92	200

120430284300 K & K Well Drilling 13-38N-10E
DuPage James Const
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 05/01/72
Lambert X: 3394737 Lambert Y: 3185501 td: 160
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120432493200 K & K Well Drilling 13-38N-10E
DuPage Janoski Bruno
Status: WATER W2 NW Elev: 0
permit: 0 permit date: comp. date: 01/01/77
Lambert X: 3393973 Lambert Y: 3188121 td: 160
producing formation: td formation:
latitude: 41.783357 longitude: 88.048821

MOR 000174

120432529300 13-38N-10E
DuPage Jelinek Lester
Status: WATER NW NW SW Elev: 0
permit: 0 permit date: comp. date: 12/01/77
Lambert X: 3393715 Lambert Y: 3186448 td: 180
producing formation: td formation:
latitude: 41.784926 longitude: 88.049768

120432629000 Fykes, Charles N. 13-38N-10E
DuPage Jenschke, James 1
Status: WATER SE NE NE Elev: 0
permit: 95420 permit date: 08/08/80 comp. date: 08/21/80
Lambert X: 3398226 Lambert Y: 3188661 td: 185
producing formation: td formation:
latitude: 41.784270 longitude: 88.033485
Water from limestone at depth 134 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	136

Size hole below casing: 5 in.
Static level 115 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 12 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	8	8
gravel	17	25
clay	12	37
sand/gravel	8	45
clay	35	80
gravel	25	105
lime/shale	29	134
limestone	51	185

120430027400 Perrine William 13-38N-10E
DuPage Johnson
Status: WATER 750 SL 725 EL NE Elev: 755GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397862 Lambert Y: 3187731 td: 165
producing formation: td formation:
latitude: 41.781724 longitude: 88.034983

120432917800 Knierim, Phil 13-38N-10E
DuPage Johnson, Bruce 1
Status: WATER SW SW NE Elev: 0
permit: H920088 permit date: 04/05/92 comp. date: 06/22/92
Lambert X: 3396307 Lambert Y: 3187238 td: 205
producing formation: td formation:
latitude: 41.780433 longitude: 88.040635
Water from limestone at depth 132 to 205 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	132

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 0 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
gravel	20	20
clay	95	115
gravel	8	123
limestone	82	205

120432749900 Fykes, Charles 13-38N-10E
DuPage Johnson, Ken 1

Status: WATER 650 NL 375 WL Elev: 768GL
permit: 126736 permit date: 09/12/86 comp. date: 09/15/86
Lambert X: 3393662 Lambert Y: 3188783 td: 205
producing formation: td formation:
latitude: 41.784808 longitude: 88.050282
Water from limestone at depth 170 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	123

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 160 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	5	5
clay	20	25
gravel	24	49
blue clay	18	67
sand	8	75
gravel	24	99
blue clay	12	111
gravel	11	122
limestone	40	162
no record	8	170
limestone	35	205

120430243300 K & K Well Drilling 13-38N-10E
DuPage Jones Bill
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 03/01/72
Lambert X: 3397351 Lambert Y: 3185627 td: 138
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430343400 K & K Well Drilling 13-38N-10E
DuPage Jorgenson Ralph
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/73
Lambert X: 3397351 Lambert Y: 3185627 td: 145
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430343500 K & K Well Drilling 13-38N-10E
DuPage Jorgenson Ralph
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/73
Lambert X: 3397351 Lambert Y: 3185627 td: 140
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430343600 K & K Well Drilling 13-38N-10E
DuPage Jorgenson Ralph
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/73
Lambert X: 3397351 Lambert Y: 3185627 td: 140
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430349000 K & K Well Drilling 13-38N-10E
DuPage Kibdle Ella
Status: WATER NW NW NW Elev: 0
permit: 0 permit date: comp. date: 11/01/73
Lambert X: 3393602 Lambert Y: 3189098 td: 180
producing formation: td formation:
latitude: 41.786207 longitude: 88.049943

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120430036800 AI-Well Drilling 13-38N-10E
DuPage King Donald 8
Status: WATER 990 SL 760 EL SE Elev: 760GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397911 Lambert Y: 3185314 td: 180
producing formation: td formation:
latitude: 41.775057 longitude: 88.034873

120430292700 K & K Well Drilling 13-38N-10E
DuPage Kooling R
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 08/01/72
Lambert X: 3394737 Lambert Y: 3185501 td: 160
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120430349100 K & K Well Drilling 13-38N-10E
DuPage Kost
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 11/01/73
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432387900 Dupage Pump 13-38N-10E
DuPage Kremer Jack
Status: WATER NE SW NE Elev: 0
permit: 0 permit date: comp. date: 09/01/74
Lambert X: 3396938 Lambert Y: 3187934 td: 190
producing formation: td formation:
latitude: 41.782405 longitude: 88.038232

120432423500 K & K Well Drilling 13-38N-10E
DuPage Kremer John
Status: WATER W2 NE Elev: 0
permit: 0 permit date: comp. date: 09/01/75
Lambert X: 3396597 Lambert Y: 3188249 td: 150
producing formation: td formation:
latitude: 41.783329 longitude: 88.039423

120432476700 K & K Well Drilling 13-38N-10E
DuPage Kulius Earl
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 09/01/76
Lambert X: 3394737 Lambert Y: 3185501 td: 140
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120432388000 Dupage Pump 13-38N-10E
DuPage Kwitschaw Algird
Status: WATER N2 SE NW Elev: 0
permit: 0 permit date: comp. date: 09/01/74
Lambert X: 3395298 Lambert Y: 3187853 td: 180
producing formation: td formation:
latitude: 41.782407 longitude: 88.044120

120430349200 Dupage Pump 13-38N-10E
DuPage Laursen John
Status: WATER Elev: 0
permit: 0 permit date: comp. date: 11/01/73
Lambert X: 3395993 Lambert Y: 3186891 td: 175

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producing formation: td formation:
latitude: 41.779491 longitude: 88.041811

120432752600 Liberg, Paul Evan 13-38N-10E
DuPage Lezeren, Marion
Status: WATER 1000 NL 2300 EL Elev: 760GL
permit: 127299 permit date: 10/02/86 comp. date: 10/01/86
Lambert X: 3396258 Lambert Y: 3188562 td: 180
producing formation: td formation:
latitude: 41.784084 longitude: 88.040737
Water from limestone at depth 128 to 180 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15 LB/FT	0	128

Size hole below casing: 5 in.
Static level 120 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 20 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
stoney clay	110	110
broken gravel	18	128
rock	52	180

120430027600 Neely, George 13-38N-10E
DuPage Loser Ralph
Status: WATER 1075 NL 1225 WL Elev: 762GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394528 Lambert Y: 3188401 td: 165
producing formation: td formation:
latitude: 41.782507 longitude: 88.046258

120432383400 Dupage Pump 13-38N-10E
DuPage M & S Constr
Status: WATER SW SW NE Elev: 0
permit: 0 permit date: comp. date: 07/01/74
Lambert X: 3396307 Lambert Y: 3187238 td: 190
producing formation: td formation:
latitude: 41.780551 longitude: 88.040569

120432416000 Dupage Pump 13-38N-10E
DuPage M & S Constr
Status: WATER N2 SE NW Elev: 0
permit: 0 permit date: comp. date: 07/01/75
Lambert X: 3395298 Lambert Y: 3187853 td: 175
producing formation: td formation:
latitude: 41.782407 longitude: 88.044120

120430339700 Dupage Pump 13-38N-10E
DuPage M & S Constr
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 09/01/73
Lambert X: 3397253 Lambert Y: 3188281 td: 180
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

120430323400 Dupage Pump 13-38N-10E
DuPage M & S Constr
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 06/01/73
Lambert X: 3397253 Lambert Y: 3188281 td: 175
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

MOR 000178

120432476800 Dupage Pump 13-38N-10E
DuPage M & S Constr
Status: WATER NE SW NE Elev: 0
permit: 0 permit date: comp. date: 10/01/76
Lambert X: 3396938 Lambert Y: 3187934 td: 190
producing formation: td formation:
latitude: 41.782405 longitude: 88.038232

120430067500 Neely, George 13-38N-10E
DuPage Maly Jerome 20
Status: WATER 2375 NL 75 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398527 Lambert Y: 3187299 td: 175
producing formation: td formation:
latitude: 41.786033 longitude: 88.041395

120432433700 K & K Well Drilling 13-38N-10E
DuPage Masek Frank
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 12/01/75
Lambert X: 3394737 Lambert Y: 3185501 td: 160
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120432629100 Knierim, Phil 13-38N-10E
DuPage Masek, George
Status: WATER SE SW NE Elev: 0
permit: 94356 permit date: 06/12/80 comp. date: 06/13/80
Lambert X: 3396962 Lambert Y: 3187270 td: 140
producing formation: td formation:
latitude: 41.780492 longitude: 88.038221
Water from limestone at depth 130 to 140 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK 15#	0	130

Size hole below casing: 4.75 in.
Static level 105 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 20 gpm for 4 hours.

Formations Passed Through	Thickness	Bottom
top soil	5	5
clay	120	125
sand & gravel	14	139
limestone	1	140

120430039800 Beyreis, Kenneth 13-38N-10E
DuPage McCabe 1
Status: WATER 825 NL 1025 WL Elev: 760GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394318 Lambert Y: 3188641 td: 122
producing formation: td formation:
latitude: 41.781810 longitude: 88.045536

120432739100 Fykes, Charles 13-38N-10E
DuPage Meilbeck, Dave 1
Status: WATER NE SE NW Elev: 0
permit: 124630 permit date: 06/19/86 comp. date: 07/18/86
Lambert X: 3395626 Lambert Y: 3187869 td: 185
producing formation: td formation:
latitude: 41.782202 longitude: 88.043105
Water from limestone at depth 99 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	105

MOR 000179

Size hole below casing: 5 in.
Static level 90 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 12 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	24	24
gravel	11	35
clay	15	50
sand	5	55
gravel	23	78
sand	9	87
sand & gravel	12	99
limestone	86	185

120432433800 Sission, Edward H. 13-38N-10E
DuPage Mentelle James
Status: WATER 160 NL 260 EL SW NE NE Elev: 0
permit: 0 permit date: comp. date: 11/01/75
Lambert X: 3397632 Lambert Y: 3188805 td: 175
producing formation: td formation:
latitude: 41.784713 longitude: 88.035718

120430052500 Beyreis, Kenneth 13-38N-10E
DuPage Mitchel Tomas 9
Status: WATER 1680 SL 2050 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3396599 Lambert Y: 3185941 td: 126
producing formation: td formation:
latitude: 41.776846 longitude: 88.039684

120430012200 Randa Wm J 13-38N-10E
DuPage Molitor Donald
Status: WATER SE NE SE Elev: 750GL
permit: 0 permit date: comp. date: 01/01/58
Lambert X: 3398319 Lambert Y: 3186006 td: 163
producing formation: td formation:
latitude: 41.781441 longitude: 88.033476

120432843500 Knierim, Phillip E. 13-38N-10E
DuPage Moroney, Mark
Status: WATER 75 NL 2100 WL Elev: 742GL
permit: 111378 permit date: 03/01/84 comp. date: 08/16/84
Lambert X: 3395358 Lambert Y: 3189442 td: 160
producing formation: td formation:
latitude: 41.786549 longitude: 88.043999
Water from rock at depth 110 to 160 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	BLACK #15	0	110

Size hole below casing: 4.75 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 2 hours.

Formations Passed Through	Thickness	Bottom
top soil	4	4
clay	81	85
sand gravel	25	110
rock	50	160

120430052600 Neely, George 13-38N-10E
DuPage Munson 2
Status: WATER 1030 NL 600 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3397956 Lambert Y: 3188616 td: 165
producing formation: td formation:
latitude: 41.782303 longitude: 88.039541

MOR 000180

120432493300 K & K Well Drilling 13-38N-10E
DuPage Myers Steve
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 03/01/77
Lambert X: 3397351 Lambert Y: 3185627 td: 130
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432503000 K & K Well Drilling 13-38N-10E
DuPage Myers Steve
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 04/01/77
Lambert X: 3397351 Lambert Y: 3185627 td: 114
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432720300 Fykes, Charles 13-38N-10E
DuPage Myers, William 1
Status: WATER 525 NL 300 WL Elev: 768GL
permit: 127909 permit date: 10/10/85 comp. date: 10/11/85
Lambert X: 3393581 Lambert Y: 3188904 td: 185
producing formation: td formation:
latitude: 41.785145 longitude: 88.050573
Water from limestone at depth 125 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	126

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	25	25
sand	5	30
clay	80	110
gravel	15	125
limestone	60	185

120432629200 Fykes, Charles N. 13-38N-10E
DuPage Oakbrook Builders 1
Status: WATER SE SW SE Elev: 0
permit: 84665 permit date: 04/16/79 comp. date: 04/20/79
Lambert X: 3397061 Lambert Y: 3184616 td: 165
producing formation: td formation:
latitude: 41.773174 longitude: 88.038014
Water from limestone at depth 110 to 165 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	110

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	60	60
gravel	50	110
limestone	55	165

120432731400 Fykes, Charles 13-38N-10E
DuPage Pagemark Construction Co. 1
Status: WATER NE NE SE Elev: 0
permit: 122631 permit date: 03/20/86 comp. date: 03/21/86
Lambert X: 3398296 Lambert Y: 3186670 td: 165
producing formation: td formation:

MOR 000181

latitude: 41.778779 longitude: 88.033345
Water from limestone at depth 133 to 165 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	134

Size hole below casing: 5 in.
Static level 70 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
clay & gravel	35	65
gravel	20	85
clay	30	115
gravel	18	133
limestone	32	165

120430132200 Bilsky, J. W. 13-38N-10E
DuPage Parklane
Status: WATER E2 Elev: 0
permit: 0 permit date: comp. date: 12/01/69
Lambert X: 3397302 Lambert Y: 3186954 td: 140
producing formation: td formation:
latitude: 41.786860 longitude: 88.037097

120432493400 K & K Well Drilling 13-38N-10E
DuPage Parklane Realty
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 03/01/77
Lambert X: 3397351 Lambert Y: 3185627 td: 100
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430243400 K & K Well Drilling 13-38N-10E
DuPage Parrish Const
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 03/01/72
Lambert X: 3397351 Lambert Y: 3185627 td: 130
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430243500 K & K Well Drilling 13-38N-10E
DuPage Parrish Const
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 03/01/72
Lambert X: 3397351 Lambert Y: 3185627 td: 120
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432374700 K & K Well Drilling 13-38N-10E
DuPage Parrish Constr
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 05/01/74
Lambert X: 3397351 Lambert Y: 3185627 td: 160
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432493500 K & K Well Drilling 13-38N-10E
DuPage Paul Donald
Status: WATER W2 NW Elev: 0
permit: 0 permit date: comp. date: 12/01/76
Lambert X: 3393973 Lambert Y: 3188121 td: 160
producing formation: td formation:
latitude: 41.783357 longitude: 88.048821

MOR 000182

120430163500 Austin, Harry 13-38N-10E
DuPage Pechous Edwin J
Status: WATER Elev: 0
permit: 0 permit date: comp. date:
Lambert X: 3395993 Lambert Y: 3186891 td: 170
producing formation: td formation:
latitude: 41.779491 longitude: 88.041811

120430201300 K & K Well Drilling 13-38N-10E
DuPage Perkins W
Status: WATER SE NW NW Elev: 0
permit: 0 permit date: comp. date: 03/01/71
Lambert X: 3394287 Lambert Y: 3188468 td: 170
producing formation: td formation:
latitude: 41.784296 longitude: 88.047634

120432463800 Dupage Pump 13-38N-10E
DuPage Randa Clara
Status: WATER E2 E2 Elev: 0
permit: 0 permit date: comp. date: 06/01/76
Lambert X: 3397957 Lambert Y: 3186986 td: 175
producing formation: td formation:
latitude: 41.786877 longitude: 88.034799

120432751400 Fykes, Charles 13-38N-10E
DuPage Reily, Mary 1
Status: WATER 1600 NL 600 WL Elev: 757GL
permit: 127038 permit date: 09/23/86 comp. date: 09/24/86
Lambert X: 3393927 Lambert Y: 3187846 td: 205
producing formation: td formation:
latitude: 41.782214 longitude: 88.049361
Water from limestone at depth 165 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	90

Size hole below casing: 5 in.
Static level 90 ft. below casing top which is 1 ft. above grnd level.
Pumping level 125 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	5	5
clay	15	20
blue clay	28	48
gravel	27	75
blue clay	9	84
broken limestone	5	89
limestone	71	160
no record	5	165
limestone	40	205

120430292900 K & K Well Drilling 13-38N-10E
DuPage Reuter Wilson
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 08/01/72
Lambert X: 3394629 Lambert Y: 3188153 td: 140
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120430296400 K & K Well Drilling 13-38N-10E
DuPage Reuter Wilson
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 09/01/72
Lambert X: 3394629 Lambert Y: 3188153 td: 140

MOR 000183

producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120432748800 Fykes, Charles 13-38N-10E
DuPage Richiusa, Sal 1
Status: WATER NE NW NW Elev: 0
permit: 126531 permit date: 09/04/86 comp. date: 09/04/86
Lambert X: 3394259 Lambert Y: 3189131 td: 205
producing formation: td formation:
latitude: 41.785740 longitude: 88.048063
Water from limestone at depth 167 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	130

Size hole below casing: 5 in.
Static level 65 ft. below casing top which is 1 ft. above grnd level.
Pumping level 120 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	3	3
clay	14	17
blue clay	15	32
gravel	7	39
blue clay	17	56
gravel	36	92
sand	10	102
limestone	58	160
limestone & clay	7	167
limestone	38	205

120430052700 Neely, George 13-38N-10E
DuPage Rietz Cons Co 52
Status: WATER 1560 SL 740 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397911 Lambert Y: 3185884 td: 170
producing formation: td formation:
latitude: 41.776628 longitude: 88.034857

120430027000 Neely, George 13-38N-10E
DuPage Rietz Cons Co
Status: WATER 475 NL 1250 EL SE Elev: 754GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397380 Lambert Y: 3186483 td: 165
producing formation: td formation:
latitude: 41.785550 longitude: 88.037055

120430052800 Neely, George 13-38N-10E
DuPage Rietz E M 43
Status: WATER 1950 NL 740 EL Elev: 754GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397848 Lambert Y: 3187691 td: 170
producing formation: td formation:
latitude: 41.784832 longitude: 88.038971

120430027700 Perrine William 13-38N-10E
DuPage Rietz Evelyn M
Status: WATER 700 SL 600 EL NE Elev: 750GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397988 Lambert Y: 3187687 td: 165
producing formation: td formation:
latitude: 41.781589 longitude: 88.034518

120432476900 Dupage Pump 13-38N-10E
DuPage Ritlewski Harry

MOR 000184

Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 09/01/76
Lambert X: 3394629 Lambert Y: 3188153 td: 160
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120432719500 Fykes, Charles 13-38N-10E
DuPage Robison, Dave 1
Status: WATER 260 NL 1235 WL Elev: 750GL
permit: 120617 permit date: 09/30/85 comp. date: 10/08/85
Lambert X: 3394503 Lambert Y: 3189215 td: 185
producing formation: td formation:
latitude: 41.785961 longitude: 88.047160
Water from limestone at depth 112 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	115

Size hole below casing: 5 in.
Static level 105 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	45	45
gravel	30	75
clay	15	90
gravel	22	112
limestone	73	185

120432529400 Fykes Charles & Pump 13-38N-10E
DuPage Rome Const 1
Status: WATER SW SE NE Elev: 0
permit: 0 permit date: comp. date: 06/01/77
Lambert X: 3397617 Lambert Y: 3187302 td: 165
producing formation: td formation:
latitude: 41.780568 longitude: 88.035829

120432529500 Fykes Charles & Pump 13-38N-10E
DuPage Salk Jack 1
Status: WATER SE SE NW Elev: 0
permit: 0 permit date: comp. date: 04/01/77
Lambert X: 3395652 Lambert Y: 3187206 td: 185
producing formation: td formation:
latitude: 41.780541 longitude: 88.042938

120432529600 Fykes Charles & Pump 13-38N-10E
DuPage Schaffstall Ed 1
Status: WATER NW SW SE Elev: 0
permit: 0 permit date: comp. date: 12/01/77
Lambert X: 3396383 Lambert Y: 3185248 td: 140
producing formation: td formation:
latitude: 41.777691 longitude: 88.040447

120432941200 Knierim, Phil 13-38N-10E
DuPage Secrist, David
Status: WATER SW NE NW Elev: 0
permit: 92-1533 permit date: 07/23/92 comp. date: 01/11/93
Lambert X: 3394943 Lambert Y: 3188500 td: 180
producing formation: td formation:
latitude: 41.783971 longitude: 88.045582
Water from lime at depth 90 to 180 ft.
Screen: Diam. in. Length: 0 ft. Slot:
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	PLASTIC PVC	0	121

Size hole below casing: 5 in.

MOR 000185

Static level 90 ft. below casing top which is 1 ft. above grnd level.
Pumping level 140 ft. when pumping at 0 gpm for 0 hours.

Formations Passed Through	Thickness	Bottom
top soil	2	2
clay	94	96
broken lime	24	120
lime	60	180

120432477000 K & K Well Drilling 13-38N-10E
DuPage Shanske Anna
Status: WATER W2 NE Elev: 0
permit: 0 permit date: comp. date: 11/01/76
Lambert X: 3396597 Lambert Y: 3188249 td: 160
producing formation: td formation:
latitude: 41.783329 longitude: 88.039423

120430233800 Lockport Well & Pump 13-38N-10E
DuPage Shewchuck Wm 1
Status: WATER NW SE SE Elev: 0
permit: 0 permit date: comp. date: 12/01/71
Lambert X: 3397689 Lambert Y: 3185311 td: 175
producing formation: td formation:
latitude: 41.777772 longitude: 88.035720

120432750000 Fykes, Charles 13-38N-10E
DuPage Spinney, Jack 1
Status: WATER 1300 NL 800 WL Elev: 760GL
permit: 126738 permit date: 09/12/86 comp. date: 09/12/86
Lambert X: 3394114 Lambert Y: 3188156 td: 205
producing formation: td formation:
latitude: 41.783060 longitude: 88.048655
Water from limestone at depth 99 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	100

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	30	30
clay & sand	22	52
gravel	24	76
sand	9	85
blue clay	9	94
broken limestone	5	99
limestone	106	205

120432800300 Fykes, Charles N. 13-38N-10E
DuPage Spinney, Jack 1
Status: WATER SE NW NW Elev: 0
permit: 136663 permit date: 10/26/87 comp. date: 11/05/87
Lambert X: 3394287 Lambert Y: 3188468 td: 205
producing formation: td formation:
latitude: 41.783912 longitude: 88.047999
Water from limestone at depth 103 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	103

Size hole below casing: 5 in.
Static level 100 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 12 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
top soil	3	3
clay	25	28

MOR 000186

blue clay	35	63
sand	8	71
blue clay	25	96
gravel	7	103
limestone	102	205

120430209000 K & K Well Drilling 13-38N-10E
DuPage Stade
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 07/01/71
Lambert X: 3397351 Lambert Y: 3185627 td: 140
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120430209100 K & K Well Drilling 13-38N-10E
DuPage Stade
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 07/01/71
Lambert X: 3397351 Lambert Y: 3185627 td: 140
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432529700 Fykes Charles & Pump 13-38N-10E
DuPage Stade H A 1
Status: WATER NE NE SE Elev: 0
permit: 0 permit date: comp. date: 08/01/77
Lambert X: 3398296 Lambert Y: 3186670 td: 145
producing formation: td formation:
latitude: 41.785068 longitude: 88.033593

120432629300 Fykes, Charles N. 13-38N-10E
DuPage Stade, H.A. Company 1
Status: WATER SW NW SE Elev: 0
permit: 58567 permit date: 04/04/77 comp. date: 09/10/77
Lambert X: 3396358 Lambert Y: 3185911 td: 165
producing formation: td formation:
latitude: 41.776774 longitude: 88.040525
Water from limestone at depth 130 to 165 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	130

Size hole below casing: 5 in.
Static level 110 ft. below casing top which is 1 ft. above grnd level.
Pumping level 125 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	80	80
gravel	25	105
clay	15	120
gravel	10	130
limestone	35	165

120430099000 K & K Well Drilling 13-38N-10E
DuPage Steinbasser Johann
Status: WATER NE NW SW Elev: 0
permit: 0 permit date: comp. date: 08/01/67
Lambert X: 3394369 Lambert Y: 3186480 td: 175
producing formation: td formation:
latitude: 41.784948 longitude: 88.047458

120430316900 K & K Well Drilling 13-38N-10E
DuPage Steinbauer John
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 04/01/73

MOR 000187

Lambert X: 3397253 Lambert Y: 3188281 td: 150
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

120432529800 K & K Well Drilling 13-38N-10E
DuPage Straub Christopher
Status: WATER E2 SE Elev: 0
permit: 0 permit date: comp. date: 08/01/78
Lambert X: 3398004 Lambert Y: 3185658 td: 140
producing formation: td formation:
latitude: 41.779610 longitude: 88.034590

120430227700 K & K Well Drilling 13-38N-10E
DuPage Strauser Thomas
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 10/01/71
Lambert X: 3394629 Lambert Y: 3188153 td: 150
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120432477100 K & K Well Drilling 13-38N-10E
DuPage Sula Al
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 11/01/76
Lambert X: 3394629 Lambert Y: 3188153 td: 140
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120430339800 Foyle Richard 13-38N-10E
DuPage Sula T
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 09/01/73
Lambert X: 3394629 Lambert Y: 3188153 td: 180
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120432529900 K & K Well Drilling 13-38N-10E
DuPage Tharp Robert
Status: WATER SE Elev: 0
permit: 0 permit date: comp. date: 10/01/78
Lambert X: 3397351 Lambert Y: 3185627 td: 180
producing formation: td formation:
latitude: 41.779573 longitude: 88.036941

120432416100 Foyle Richard 13-38N-10E
DuPage Thatcher Lee
Status: WATER E2 NW Elev: 0
permit: 0 permit date: comp. date: 01/01/75
Lambert X: 3395285 Lambert Y: 3188185 td: 170
producing formation: td formation:
latitude: 41.783345 longitude: 88.044122

120430023100 Neely, George 13-38N-10E
DuPage Thompson Leon 11
Status: WATER 1150 SL 1150 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394586 Lambert Y: 3185316 td: 160
producing formation: td formation:
latitude: 41.775215 longitude: 88.046889

120432493600 K & K Well Drilling 13-38N-10E
DuPage Toft Alex

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Status: WATER W2 NW Elev: 0
permit: 0 permit date: comp. date: 12/01/76
Lambert X: 3393973 Lambert Y: 3188121 td: 160
producing formation: td formation:
latitude: 41.783357 longitude: 88.048821

120430339900 K & K Well Drilling 13-38N-10E
DuPage Tri County Realty
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 10/01/73
Lambert X: 3397253 Lambert Y: 3188281 td: 160
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

120432629400 Fykes, Charles N. 13-38N-10E
DuPage Trowbridge, John 1
Status: WATER NW SE NW Elev: 0
permit: 109248 permit date: 09/08/83 comp. date: 09/15/83
Lambert X: 3394970 Lambert Y: 3187837 td: 205
producing formation: td formation:
latitude: 41.782143 longitude: 88.045522
Water from limestone at depth 125 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	125

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 100 ft. when pumping at 10 gpm for 1 hours.
Formations Passed Through

	Thickness	Bottom
top soil	2	2
clay	108	110
gravel	15	125
limestone	80	205

120430027200 Harper, Jack 13-38N-10E
DuPage Vance Cons Co 1
Status: WATER 1250 NL 600 EL SE Elev: 755GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398056 Lambert Y: 3185741 td: 160
producing formation: td formation:
latitude: 41.783431 longitude: 88.034585

120430068400 Randa Wm J 13-38N-10E
DuPage Venard Richard 87
Status: WATER 1425 NL 1300 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397271 Lambert Y: 3188187 td: 172
producing formation: td formation:
latitude: 41.783360 longitude: 88.036940

120430068300 Neely, George 13-38N-10E
DuPage Vojacek Valerian 5
Status: WATER 800 NL 900 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3397649 Lambert Y: 3188831 td: 180
producing formation: td formation:
latitude: 41.781655 longitude: 88.038450

120432530000 K & K Well Drilling 13-38N-10E
DuPage Vosoc Zoran
Status: WATER SW SE SE Elev: 0
permit: 0 permit date: comp. date: 11/01/78
Lambert X: 3397713 Lambert Y: 3184647 td: 160

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producing formation: td formation:
latitude: 41.774134 longitude: 88.035629

120430067900 Neely, George 13-38N-10E
DuPage Walz Wm 10
Status: WATER 1800 SL 1250 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3397393 Lambert Y: 3186099 td: 170
producing formation: td formation:
latitude: 41.777246 longitude: 88.036755

120430020100 Neely, George 13-38N-10E
DuPage Walz Wm
Status: WATER 1050 SL 600 EL NE Elev: 752GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3397976 Lambert Y: 3188037 td: 163
producing formation: td formation:
latitude: 41.782551 longitude: 88.034553

120432635800 Fykes, Charles N. 13-38N-10E
DuPage Warthen Pump Sales 1
Status: WATER NE NW NE Elev: 0
permit: 115018 permit date: 09/26/84 comp. date: 09/28/84
Lambert X: 3396888 Lambert Y: 3189260 td: 185
producing formation: td formation:
latitude: 41.785980 longitude: 88.038376
Water from limestone at depth 105 to 185 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15#	0	112

Size hole below casing: 5 in.
Static level 110 ft. below casing top which is 1 ft. above grnd level.
Pumping level 130 ft. when pumping at 10 gpm for 1 hours.

Formations Passed Through	Thickness	Bottom
clay	17	17
gravel	88	105
limestone	80	185

120430040000 Shoemaker, Leonard 13-38N-10E
DuPage Weiss Herman
Status: WATER 175 SL 600 WL Elev: 725GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3394079 Lambert Y: 3184317 td: 165
producing formation: td formation:
latitude: 41.772481 longitude: 88.048976

120430323500 K & K Well Drilling 13-38N-10E
DuPage Wilson A
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 05/01/73
Lambert X: 3394737 Lambert Y: 3185501 td: 140
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

120430142400 K & K Well Drilling 13-38N-10E
DuPage Wilson A M
Status: WATER SW Elev: 0
permit: 0 permit date: comp. date: 11/01/70
Lambert X: 3394737 Lambert Y: 3185501 td: 155
producing formation: td formation:
latitude: 41.779429 longitude: 88.046342

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120430286800 K & K Well Drilling 13-38N-10E
DuPage Wilson A M
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 06/01/72
Lambert X: 3394629 Lambert Y: 3188153 td: 140
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120432357400 K & K Well Drilling 13-38N-10E
DuPage Wilson A M
Status: WATER NW Elev: 0
permit: 0 permit date: comp. date: 11/01/73
Lambert X: 3394629 Lambert Y: 3188153 td: 150
producing formation: td formation:
latitude: 41.783351 longitude: 88.046472

120430068200 Neely, George 13-38N-10E
DuPage Woodland Bldrs 3
Status: WATER 2200 NL 600 EL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3397997 Lambert Y: 3187448 td: 170
producing formation: td formation:
latitude: 41.785527 longitude: 88.039472

120432391200 K & K Well Drilling 13-38N-10E
DuPage Wrenski Don
Status: WATER NE Elev: 0
permit: 0 permit date: comp. date: 12/01/74
Lambert X: 3397253 Lambert Y: 3188281 td: 180
producing formation: td formation:
latitude: 41.783323 longitude: 88.037074

120432710900 Fykes, Charles 13-38N-10E
DuPage Zeinm, Steve 1
Status: WATER 1020 NL 920 WL Elev: 764GL
permit: 119316 permit date: 07/30/85 comp. date: 08/27/85
Lambert X: 3394221 Lambert Y: 3188441 td: 205
producing formation: td formation:
latitude: 41.783840 longitude: 88.048244
Water from limestone at depth 120 to 205 ft.
Screen: Diam. 0 in. Length: 0 ft. Slot: 0
Casing and Liner Pipe -

Diam. (in.)	Kind and Weight	From(ft)	To(ft)
5	A-53 15 LB	0	120

Size hole below casing: 5 in.
Static level 80 ft. below casing top which is 1 ft. above grnd level.
Pumping level 140 ft. when pumping at 10 gpm for 1 hours.
Formations Passed Through

	Thickness	Bottom
clay	50	50
gravel	70	120
limestone	85	205

120430198000 Austin, Harry 13-38N-10E
DuPage Zimmertin E
Status: WATER Elev: 0
permit: 0 permit date: comp. date: 01/01/45
Lambert X: 3395993 Lambert Y: 3186891 td: 168
producing formation: td formation:
latitude: 41.779491 longitude: 88.041811

120430029200 Neely & Son 18-38N-11E
DuPage Hoffman
Status: WATER 300 NL 75 WL SW Elev: 770GL
permit: 0 permit date: comp. date: 01/01/59

Lambert X: 3398698 Lambert Y: 3186704 td: 195
producing formation: td formation:
latitude: 41.778855 longitude: 88.031863

120430029300 Neely & Son 18-38N-11E
DuPage Hoffman
Status: WATER 250 NL 75 WL SW Elev: 770GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398696 Lambert Y: 3186754 td: 195
producing formation: td formation:
latitude: 41.778993 longitude: 88.031868

120430068600 Neely & Son 18-38N-11E
DuPage Hoffman Bldrs 19
Status: WATER 2250 NL 75 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398674 Lambert Y: 3187393 td: 175
producing formation: td formation:
latitude: 41.780755 longitude: 88.031911

120430029600 AI-Well Drilling 18-38N-11E
DuPage Morris Robert
Status: WATER 500 NL 60 WL SW Elev: 780GL
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398690 Lambert Y: 3186504 td: 180
producing formation: td formation:
latitude: 41.778304 longitude: 88.031905

120430083000 Neely, George 18-38N-11E
DuPage R K Bldrs
Status: WATER N E SWc SW NW SW Elev: 0
permit: 0 permit date: comp. date: 07/01/67
Lambert X: 3398658 Lambert Y: 3185680 td: 160
producing formation: td formation:
latitude: 41.776035 longitude: 88.032071

120430055100 Beyreis, Kenneth 18-38N-11E
DuPage Schuimacher M F 5
Status: WATER 300 SL 100 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/59
Lambert X: 3398793 Lambert Y: 3184666 td: 123
producing formation: td formation:
latitude: 41.773234 longitude: 88.031635

120430068800 Perrine William 18-38N-11E
DuPage W & H Homes Inc
Status: WATER 1675 NL 75 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398654 Lambert Y: 3187967 td: 170
producing formation: td formation:
latitude: 41.782338 longitude: 88.031950

120430069000 Perrine William 18-38N-11E
DuPage Wick Edw
Status: WATER 2200 NL 100 WL Elev: 0
permit: 0 permit date: comp. date: 01/01/60
Lambert X: 3398697 Lambert Y: 3187444 td: 170
producing formation: td formation:
latitude: 41.780895 longitude: 88.031823

Appendix G

APPENDIX G

Local Groundwater Ordinance

Article V. Cross Connections/Backflow Prevention Requirements.

(Ord. No. 3805, Amended, 12/04/95; Ord. No. 3805, Amended, 12/04/95)

25-51. Cross-connection prohibited; backflow prevention device required.

No person shall establish or permit to be established or maintain or permit to be maintained any connection of a nonpublic water supply to the public water supply of the Village, excluding any water system interconnections the Village may establish. Backflow prevention devices shall be installed where required under this Article and in accordance with Illinois Environmental Protection Agency Regulations, specifically Ill. Admin. Code, Title 35, Section 653.803.(Ord. No. 2942, § 1; Ord. No. 3301, § 2.)(Ord. No. 3473, Amended, 06/15/92; Ord. No. 3555, Amended, 04/19/93; Ord. No. 3581, Amended, 08/02/93; Ord. No. 3805, Amended, 12/04/95)

25-52. Private water wells; permit required.

(a) It shall be unlawful for any person to dig, drill, redrill or extend, or cause to be dug, drilled, redrilled, or extended, any well, hole or other excavation in the ground for the purpose of extracting water therefrom, at any location within the corporate limits of the Village, except:

(1) Any well authorized and intended to be owned and operated by the Village as part of the Village's water system;

(2) Any well situated on a zoning lot (as such term is defined and used in the Comprehensive Zoning Ordinance of the village) on which a building has been or may be lawfully constructed and occupied; provided, that no portion of such zoning lot is located within two hundred and fifty feet (as measured by the most direct route along public right of way or existing utility easements) of a water main owned by the Village that is available to provide water service to such zoning lot;

(3) Any well situated outside a zoning lot; provided, that such well is not located within two hundred fifty feet (measured as provided in paragraph (2) of this section) of a water main owned by the village that is available to provide water service;

(4) Any well intended and used exclusively for irrigation and watering of crops or landscaping or in cooling towers used in conjunction with air conditioning systems; provided, that the well shall meet the following conditions:

(i) Such well shall not be drilled to a depth greater than two hundred feet; and

(ii) Such well shall not be connected in any way to any water system providing water for domestic use or human consumption, including but not limited to, the Village's water system. In order to assure that water from such well is not so connected, the Village may require that a periodic bacteriological sampling may be taken of the domestic water entering any building on the property served by such well. The charge for such sampling shall be automatically added to the water bill for Village water for such building, and shall constitute an expense to the owner thereof; and

(iii) Any such well with a column pipe up to four inches in size shall not be dug or drilled within fifty feet from any Village-owned well. Any such well with a column pipe greater than five inches in size shall not be dug or drilled within one thousand feet from any Village-owned well; and

(iv) Such well shall be no less than fifteen feet from any publicly or privately owned water main, and

(v) A backflow prevention device shall be installed on the water service pipe(s)/line(s) connecting any structure on the property to the public water supply.

(vi) Such wells shall not be subject to the water conservation regulations in Section 25-5 if the owner or occupant of the property on which the well is located obtains and displays a "private well" sign. A metal sign shall be placed

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in the front yard or a paper sign in the window of the property in a location clearly visible from the street. Such signs shall be obtained from the Village: metal property signs for a cost of twenty dollars; paper window signs at no charge. Except as otherwise provided in the preceding sentences, such wells shall be subject to the water conservation regulations in Section 25-5.

(vii) If well water is used in cooling towers in conjunction with air conditioning systems, all such water shall dispense through evaporation or other appropriate means and shall not be discharged into the sanitary or storm sewer systems, or otherwise discharged into the ground.

(b) It shall be unlawful for any person to dig, drill, redrill or extend, or cause to be dug, drilled, redrilled, or extended, any well, hole or other excavation in the ground for the purpose of extracting water therefrom, without (1) having first applied for and obtained a permit for such well from the Village, which permit shall not be issued unless the applicant provides satisfactory evidence to the effect that such well is permitted under the provisions of subsection (a) above; (2) establishing that permits therefor have also been issued by DuPage County, the Illinois Department of Mines and Minerals and any other governmental authority having jurisdiction thereof; and (3) certifying that such well will be in full compliance with all applicable health and safety requirements of DuPage County. Fees for the permit required in paragraph (a) hereof shall be as follows:

Work Performed	Fee	Bond
Plan review and on site inspection	$ 100.00	N/A
Electrical inspection	6.00	N/A
Parkway opening	20.00	$200.00

(Ord. No. 2942, § 1; Ord. No. 3301, § 3.)(Ord. No. 3805, Amended, 12/04/95)

25-53. Backflow preventers required for certain facilities.

(a) If the director of public works or his designee determines that an industrial or commercial facility is an actual or potential hazard to the public water supply system, the owner or occupant of the property shall install a backflow prevention device on the water service pipes/lines which connect the industrial or commercial facility to the public water supply system. The following types of facilities are presumed to pose an actual or potential hazard unless the director of public works or his designee, upon certification from a cross-connection control device inspector (CCCDI), determines that the building does not pose an actual or potential hazard to the public water supply: (1) hospitals, mortuaries, clinics, nursing homes; (2) laboratories; (3) sewage treatment plants, sewage pumping stations or stormwater pumping stations; (4) food or beverage processing plants; (5) chemical plants; (6) metal plating industries; (7) petroleum processing or storage plants; (8) radioactive material processing plants or nuclear reactors; (9) car washes; (10) pesticide, or herbicide or extermination plants and trucks; (11) farm service and fertilizer plants and trucks. The aforementioned listing is not exhaustive and the director of public works or his designee may determine that other facilities not listed above pose an actual or potential hazard to the public water supply system.

(b) Any property owner or occupant notified in writing of a determination that the facility poses an actual or potential hazard to the public water supply system shall within ninety days of receipt of the notice install the required backflow prevention device at his or her expense and provide the director of public works or his designee with a certificate of inspection from an approved cross-connection control device inspector (CCCDI). (Ord. No. 3301, § 4.) (Ord. No. 3805, Renumbered, 12/04/95, 25-52.1)

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APPENDIX H

R-14 / R-26 Modeling Calculations

Tier 2 SRO Calculations

Equation R-14 Solved for Cwater

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Contaminant of Concern	**PCE**	**TCE**	**DCE**	**VC**	**MC**
Concentration Detected in Soil (C_{soil}) - mg/Kg:	110	8	3.3	0.046	0.04
Width of Source Area Parallel to Direction of Groundwater Movement (W) - cm:	1.828	1.828	1.828	1.828	1.828
Henry's Law Constant App. C, Table E (H') - cm^3_{water}/cm^3_{air}:	0.754	0.422	0.167	1.11	0.0898
Hydraulic Conductivity (K) - cm/year:	315.4	315.4	315.4	315.4	315.4
Hydraulic Gradient (i) - cm/cm:	0.01	0.01	0.01	0.01	0.01
Volumetric Water Content in Vadose Zone Soils App. C, Table D (Θ_{ws}) - cm^3_{water}/cm^3_{soil}:	0.3	0.3	0.3	0.3	0.3
Volumetric Air Content in Vadose Zone Soils App. C, Table D (Θ_{as}) - cm^3_{air}/cm^3_{soil}:	0.13	0.13	0.13	0.13	0.13
Soil Bulk Density App. C, Table D (ρ_s) - g/cm^3:	1.5	1.5	1.5	1.5	1.5
Organic Carbon Partition Coefficient App. C, Table E or I (K_{oc}) - cm^3/g:	155	166	35.5	18.6	11.7
Organic Carbon Content of Soil Site-Specific or App. C, Table D (f_{oc}) - g/g:	0.0108	0.0108	0.0108	0.0108	0.0108
Infiltration Rate App. C, Table D (I) - cm/year:	30	30	30	30	30
Groundwater Mixing Zone Thickness App. C, Table D (δ_{gw}) - cm:	200	200	200	200	200
Soil Water Sorption Coefficient (k_s) - cm^3_{water}/g_{soil} **R-20** $k_s=K_{oc}*f_{oc}$:	1.67	1.79	0.38	0.20	0.13
Groundwater Darcy Velocity (U_{gw}) - cm/year **R-24** $U_{gw}=K*i$:	3.15	3.15	3.15	3.15	3.15
R-14 Predicted Concentration in Groundwater C_{water} - mg/L:	56.075	3.897	5.457	0.091	0.118

Equation R-14 Solved for Cwater

Intermediate Solutions:

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Contaminant of Concern	**PCE**	**TCE**	**DCE**	**VC**	**MC**
$a = \Theta_{ws}+(k_s*\rho_s)+(H'*\Theta_{as})$ =	2.90902	3.04406	0.89681	0.74562	0.501214
$b = (U_{gw}*\delta_{gw})/(I*W)$ =	0.012	0.012	0.012	0.012	0.012
$c = a*(1+b)$ =	2.942	3.079	0.907	0.754	0.507
$C_{water} = (\rho_s/c)*C_{soil}$ =	56.075	3.897	5.457	0.091	0.118

Equation R-26 Solved for C(x)

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Contaminant of Concern	**PCE**	**TCE**	**DCE**	**VC**	**MC**
Conc. at the Source -- $C_{(source)}$ - µg/L:	56.075	3.897	5.457	91	118
Dist. along centerline of gw plume in direction of gw flow (X) - cm:	610	610	610	610	610
Source width perpendicular to gw flow direction in horiz. plane (S_w) - cm:	2.438	2.438	2.438	2.438	2.438
Source width perpendicular to gw flow direction in vert. plane (S_d) - cm:	30.48	30.48	30.48	30.48	30.48
First Order Degradation Constant App. C, Table E (λ) - day^{-1}:	0.00096	0.00042	0.00024	0.00024	0.012
Hydraulic Conductivity (K) - cm/day:	0.86	0.86	0.86	0.86	0.86
Hydraulic gradient (i) - cm/cm:	0.01	0.01	0.01	0.01	0.01
Total Soil Porosity App. C, Table D (Θ_T) - cm^3/cm^3_{soil}:	0.43	0.43	0.43	0.43	0.43
Longitudinal Dispersivity (α_x) - cm **R-16** $\alpha_x=0.10*X$:	61.00	61.00	61.00	61.00	61.00
Transverse Dispersivity (α_y) - cm **R-17** $\alpha_y=\alpha_x/3$:	20.33	20.33	20.33	20.33	20.33
Vertical Dispersivity (α_z) - cm **R-18** $\alpha_z=\alpha_x/20$:	3.05	3.05	3.05	3.05	3.05
Error Functions: $B_1 = S_w/(4*SQRT(\alpha_x*X))$	5.47	5.47	5.47	5.47	5.47
From App. C, Table G enter corresp. error function value -- erf(B_1):	1	1	1	1	1
$B_2 = S_d/(2*SQRT(\alpha_z*X))$	0.35	0.35	0.35	0.35	0.35
From App. C, Table G enter corresp. error function value -- erf(B_2):	0.38269404	0.38269404	0.38269404	0.38269404	0.38269404
Specific Discharge (U) - cm/day **R-19** $U=K*i/\Theta_T$:	0.020	0.020	0.020	0.020	0.020
R-26 Concentration at distance(X) from the source -- $C_{(X)}$ - µg/L:	**0.058**	**0.936**	**15.403**	**0.257**	**0.000**

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Equation R-26 Solved for C(x)

Intermediate Solutions:

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Contaminant of Concern	**PCE**	**TCE**	**DCE**	**VC**	**MC**
$a = X/2*\alpha_x =$	5	5	5	5	5
$b = SQRT\ (1+(4*\lambda*\alpha_x/U) =$	3.565	2.475	1.982	1.982	12.141
$c = (1-b)*a =$	-12.827	-7.373	-4.910	-4.910	-55.704
$d = EXP(c) =$	0.000	0.001	0.007	0.007	0.000
$C_{(x)} = d*erf(B2)*erf(B1)*C_{(source)} =$	0.06	0.94	15.40	0.26	0.00

Datasheet: SSL Soil Remediation Objectives (mg/kg) - Industrial/Commercial

CAS No.	Chemical	Ingestion	Inhalation	Construction Worker Ingestion	Construction Worker Inhalation	Migration to Class I Groundwater	Migration to Class II Groundwater
127-18-4	Tetrachloroethylene	110.0615	144.7279	2388.488	382.9493	.28	1.4
79-01-6	Trichloroethylene	520.2909	49.37775	1224.271	1028.703	.28	1.4
156-59-2	cis-1,2-Dichloroethylene	20440	1801.007	20404.51	1801.007	3.92	11.2
75-01-4	Vinyl Chloride	3.012211	.9993116	65.36916	20.81899	.112	.5599999
75-09-2	Methylene Chloride	763.0933	178.6004	12242.71	3160.595	.28	2.8

Datasheet: SSL Soil Saturation Limits (Csat) for Chemicals with Melting Point < 30 deg C

Chemical	Csat (surface) (mg/kg)	Csat (subsurface) (mg/kg)
Tetrachloroethylene	382.9493	387.8694
Trichloroethylene	2168.731	2232.311
cis-1,2-Dichloroethylene	1801.007	2092.557
Vinyl Chloride	1402.301	1371.941
Methylene Chloride	3160.595	4343.855

Datasheet: SSL Parameters

Parameter	Units	Value Used
AT for Ingestion of Noncarcinogens	yr	Residential = 6 Industrial/Commercial = 25 Construction Worker = .115
AT for Inhalation of Noncarcinogens	yr	Residential = 30 Industrial/Commercial = 25 Construction Worker = .115
ATc for Carcinogens	yr	70
BW	kg	Residential = 15, noncarcinogens Residential = 70, carcinogens Industrial/Commercial = 70 Construction Worker = 70
ED for Ingestion of Carcinogens	yr	Industrial/Commercial = 25 Construction Worker = 1
ED for Inhalation of Carcinogens	yr	Residential = 30 Industrial/Commercial = 25 Construction Worker = 1
ED for Ingestion of Noncarcinogens	yr	Residential = 6 Industrial/Commercial = 25 Construction Worker = 1
ED for Inhalation of Noncarcinogens	yr	Residential = 30 Industrial/Commercial = 25 Construction Worker = 1
ED for Groundwater Ingestion	yr	Residential = 30 Industrial/Commercial = 25 Construction Worker = 1
ED for Mass-Limit Eqn.	yr	70
EF	d/yr	Residential = 350 Industrial/Commercial = 250 Construction Worker = 30
F(x)	unitless	.194
I (Infiltration Rate) I (Infiltration Rate for Mass-Limit Eqn.)	m/yr m/yr	.3 .18
IFsoil-adj (Residential)	(mg-yr)/(kg-d)	114
IRsoil	mg/d	Residential = 200 Industrial/Commercial = 50 Construction Worker = 480
PEF (Residential) PEF (Industrial/Commercial) PEF (Construction Worker)	m3/kg m3/kg m3/kg	1320000000 1240000000 124000000
Q/C for PEF	(g/m2-s)/(kg/m3)	Residential = 90.8 Industrial/Commercial = 85.81 Construction Worker = 85.81
Q/C for VF	(g/m2-s)/(kg/m3)	Residential = 68.81 Industrial/Commercial = 85.81 Construction Worker = 85.81
Q/C for VF (site specific)	(g/m2-s)/(kg/m3)	97.78
T (Exposure Interval)	s	Residential = 950000000 Industrial/Commercial = 790000000 Construction Worker = 3600000
T (Exposure Interval for Mass-Limit Eqn.)	yr	30
THQ (Target Hazard Quotient)	unitless	1
TR (Target Cancer Risk)	unitless	.000001
Um	m/s	4.69
Ut	m/s	11.32
V	unitless	.5

Datasheet: SSL Calculated Values

Chemical	Kd (surface) (cm3/g)	Kd (subsurface) (cm3/g)	Da (cm2/s)	VF (m3/kg)	VF (m3/kg)	Cw (residential) (mg/L)	Cw (industrial) (mg/L)
Tetrachloroethylene	1.674	1.674	1.474378E-03	20533.8	2053.38	9.999999E-02	.5
Trichloroethylene	1.7928	1.7928	8.793251E-04	20533.8	2053.38	9.999999E-02	.5
cis-1,2-Dichloroethylene	.3834	.3834	---	---	---	1.4	4
Vinyl Chloride	.20088	.20088	1.204219E-02	20533.8	2053.38	.04	.2
Methylene Chloride	.12636	.12636	1.940218E-03	20533.8	2053.38	9.999999E-02	1

Datasheet: Chemical Properties for the SSL Equations

Chemical	Solubility in Water (mg/L)	Diffusivity in Air (cm2/s)	Diffusivity in Water (cm2/s)	Henry's Law Constant (unitless)	Organic Carbon Partition Coefficient (cm3/g)
Tetrachloroethylene	200	.072	.0000082	.754	155
Trichloroethylene	1100	.079	.0000091	.422	166
cis-1,2-Dichloroethylene	3500	.0736	.0000113	.167	35.5
Vinyl Chloride	2760	.106	1.23E-06	1.11	18.6
Methylene Chloride	13000	.101	.0000117	.0898	11.7

Datasheet: Physical Soil Parameters for the SSL Equations

Parameter	Units	Value Used
Soil Bulk Density	kg/L	1.5
Organic Carbon Content (Surface Soil)	g/g (unitless)	.0108
Organic Carbon Content (Subsurface Soil)	g/g (unitless)	.0108
Total Soil Porosity	L/L (unitless)	.43
Air-Filled Soil Porosity (Surface Soil)	L/L (unitless)	.28
Air-Filled Soil Porosity (Subsurface Soil)	L/L (unitless)	.13
Water-Filled Soil Porosity (Surface Soil)	L/L (unitless)	.15
Water-Filled Soil Porosity (Subsurface Soil)	L/L (unitless)	.3
Mixing Zone Depth	m	---
Aquifer Thickness	m	---
Dilution Factor	unitless	20
Hydraulic Gradient	m/m	---
Hydraulic Conductivity	m/yr	---
Source Length Parallel to GW flow	m	---
Depth of Contaminant Source	m	3
Area of Contaminant Source	acres	.087
pH	unitless	7.2

Datasheet: Toxicological Properties for the SSL Equations

Chemical	RfDo (mg/kg-d)	RfC (mg/m3)	RfDs (mg/kg-d)	RfCs (mg/m3)	SFo [1/(mg/kg-d)]	URF [1/(ug/m3)]
Tetrachloroethylene	---	---	---	---	---	---
Trichloroethylene	.006	---	.006	---	.011	.0000017
cis-1,2-Dichloroethylene	.01	---	.1	---	---	---
Vinyl Chloride	---	---	---	---	1.9	.000084
Methylene Chloride	.06	3	.06	3	.0075	4.7E-07

EQUATIONS USED FOR TIER 2 SROs

Table C, Appendix C 35 IAC 742

Ingestion: S-1; S-3

Inhalation: S-4; S-5; S-6; S-7; S-26; S-27

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

Memorandum

Date: January 3, 2001

To: Bureau of Land File

From: Steve McCaslin

Subject: Field Visit Report

Reference: 0430305029 – Cook County
Downers Grove/Morey Corp.
Site Remediation/Technical Reports

Summary:

A site visit was conducted on January 2, 2001, between 10:30 a.m. and 12:30 p.m., to the Morey Corporation located at 2659 Wisconsin Street in Downers Grove, Illinois. Steve McCaslin from the Illinois EPA and Tom Brecheisen from Pioneer Environmental, Inc. (Pioneer) were present. The weather was sunny, calm winds and a temperature of 15 degrees Fahrenheit and snow cover on the ground.

Two soil borings were conducted during the site visit. One boring was place south of the previous borings to further delineate the contamination in the southern direction. One sample was taken at the 6 to 9 foot interval for lab analysis. The second boring was taken near the source of the release. The purpose of this boring was two fold. This area should represent the maximum area of contamination and second a deep boring was conducted to demonstrate there was no shallow groundwater on site. The boring was terminated at 24 feet with no indication of groundwater. The soil was very stiff gray clay. Two samples were submitted for lab analysis based on FID readings.

Pioneer will be submitting a report that summarizes these activities and analytical results.

RELEASABLE

NOV 0 1 2001

REVIEWER MM

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

(217) 782-6761

February 14, 2001

CERTIFIED MAIL
7099 3400 0002 1431 9264

Dana Morey
MC Holdings, Inc.
100 Morey Drive
Woodridge, IL 60517

Re: 0430305029/DuPage
Downers Grove/Morey Corporation
Site Remediation Program/Technical Reports

RELE[illegible]

FEB 26 2001

REVIEWER M[illegible]

Dear Mr. Morey:

The *Focused Site Investigation & Remedial Action Completion Report* (November 8, 2000/00-4399), and the addendum to the report (January 23, 2001/01-0286) as prepared by Pioneer Environmental, Inc. for the Morey Corporation property, has been reviewed by the Illinois Environmental Protection Agency ("Illinois EPA") and demonstrates that the remedial action was completed in accordance with the *Focused Site Investigation & Remedial Action Completion Report* (November 8, 2000/00-4399), and the addendum to the report (January 23, 2000/01-0286).

The Remediation Site, consisting of 0.03 acres, is located at 2659 Wisconsin Street, Downers Grove, Illinois. Pursuant to Section 58.10 of the Illinois Environmental Protection Act ("Act") (415 ILCS 5/1 et seq.), your request for a no further remediation determination is granted under the conditions and terms specified in this letter. The Remediation Applicant, as identified on the Illinois EPA's Site Remediation Program DRM-1 Form (November 13, 2000/00-4399), is Dana Morey.

This focused No Further Remediation Letter ("Letter") signifies a release from further responsibilities under the Act for the performance of the approved remedial action. This Letter shall be considered prima facie evidence that the Remediation Site described in the attached Illinois EPA Site Remediation Program Environmental Notice and shown in the attached Site Base Map does not constitute a threat to human health and the environment for the specified recognized environmental conditions so long as the Site is utilized in accordance with the terms of this Letter.

Conditions and Terms of Approval

Level of Remediation and Land Use Limitations

1) The recognized environmental conditions, as characterized by the focused site investigation, consist of the following:

   a) Regulated substances of concern that have been successfully addressed are detailed in the attached Table A.

2) The Remediation Site is restricted to Industrial/Commercial land use.

3) The land use specified in this Letter may be revised if:

   a) Further investigation or remedial action has been conducted that documents the attainment of objectives appropriate for the new land use; and

   b) A new Letter is obtained and recorded in accordance with Title XVII of the Act and regulations adopted thereunder.

Preventive, Engineering, and Institutional Controls

4) The implementation and maintenance of the following controls are required as part of the approval of the remediation objectives for this Remediation Site.

Institutional Controls:

5) No person shall construct, install, maintain, or operate a water system or well on the property identified in the Environmental Notice. All water supplies and water services for the Remediation Site must be obtained from a public water supply system. The provisions of this institutional control shall be applicable to all water usage (e.g., domestic, industrial/commercial uses and outdoor watering).

Other Terms

6) Where the Remediation Applicant is not the sole owner of the Remediation Site, the Remediation Applicant shall complete the attached *Property Owner Certification of the No Further Remediation Letter under the Site Remediation Program* Form. This certification, by original signature of each property owner, or the authorized agent of the owner(s), of the Remediation Site or any portion thereof who is not a Remediation Applicant shall be recorded along with this Letter.

7) Further information regarding this Remediation Site can be obtained through a written request under the Freedom of Information Act (5 ILCS 140) to:

Illinois Environmental Protection Agency
Attn: Freedom of Information Act Officer
Bureau of Land-#24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

8) Pursuant to Section 58.10(f) of the Act (415 ILCS 5/58.10(f)), should the Illinois EPA seek to void this Letter, the Illinois EPA shall provide notice to the current title holder and to the Remediation Applicant at the last known address. The notice shall specify the cause for the voidance, explain the provisions for appeal, and describe the facts in support of this cause. Specific acts or omissions that may result in the voidance of the Letter under Sections 58.10(e)(1)-(7) of the Act (415 ILCS 5/58.10(e)(1)-(7)) include, but shall not be limited to:

a) Any violation of institutional controls or the designated land use restrictions;

b) The failure to operate and maintain preventive or engineering controls or to comply with any applicable groundwater monitoring plan;

c) The disturbance or removal of contamination that has been left in-place in accordance with the Remedial Action Plan. Access to soil contamination may be allowed if, during and after any access, public health and the environment are protected consistent with the Remedial Action Plan;

d) The failure to comply with the recording requirements for this Letter;

e) Obtaining the Letter by fraud or misrepresentation;

f) Subsequent discovery of contaminants, not identified as part of the investigative or remedial activities upon which the issuance of the Letter was based, that pose a threat to human health or the environment;

g) The failure to pay the No Further Remediation Assessment Fee within forty-five (45) days after receiving a request for payment from the Illinois EPA;

h) The failure to pay in full the applicable fees under the Review and Evaluation Services Agreement within forty-five (45) days after receiving a request for payment from the Illinois EPA.

9) Pursuant to Section 58.10(d) of the Act, this Letter shall apply in favor of the following persons:

a) Dana Morey;

b) The owner and operator of the Remediation Site;

c) Any parent corporation or subsidiary of the owner of the Remediation Site;

7) Further information regarding this Remediation Site can be obtained through a written request under the Freedom of Information Act (5 ILCS 140) to:

Illinois Environmental Protection Agency
Attn: Freedom of Information Act Officer
Bureau of Land-#24
1021 North Grand Avenue East
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a) Any violation of institutional controls or the designated land use restrictions;

b) The failure to operate and maintain preventive or engineering controls or to comply with any applicable groundwater monitoring plan;

c) The disturbance or removal of contamination that has been left in-place in accordance with the Remedial Action Plan. Access to soil contamination may be allowed if, during and after any access, public health and the environment are protected consistent with the Remedial Action Plan;

d) The failure to comply with the recording requirements for this Letter;

e) Obtaining the Letter by fraud or misrepresentation;

f) Subsequent discovery of contaminants, not identified as part of the investigative or remedial activities upon which the issuance of the Letter was based, that pose a threat to human health or the environment;

g) The failure to pay the No Further Remediation Assessment Fee within forty-five (45) days after receiving a request for payment from the Illinois EPA;

h) The failure to pay in full the applicable fees under the Review and Evaluation Services Agreement within forty-five (45) days after receiving a request for payment from the Illinois EPA.

9) Pursuant to Section 58.10(d) of the Act, this Letter shall apply in favor of the following persons:

a) Dana Morey;

b) The owner and operator of the Remediation Site;

c) Any parent corporation or subsidiary of the owner of the Remediation Site;

d) Any co-owner, either by joint-tenancy, right of survivorship, or any other party sharing a relationship with the owner of the Remediation Site;

e) Any holder of a beneficial interest of a land trust or inter vivos trust, whether revocable or irrevocable, involving the Remediation Site;

f) Any mortgagee or trustee of a deed of trust of the owner of the Remediation Site or any assignee, transferee, or any successor-in-interest thereto;

g) Any successor-in-interest of the owner of the Remediation Site;

h) Any transferee of the owner of the Remediation Site whether the transfer was by sale, bankruptcy proceeding, partition, dissolution of marriage, settlement or adjudication of any civil action, charitable gift, or bequest;

i) Any heir or devisee of the owner of the Remediation Site;

j) Any financial institution, as that term is defined in Section 2 of the Illinois Banking Act and to include the Illinois Housing Development Authority, that has acquired the ownership, operation, management, or control of the Remediation Site through foreclosure or under the terms of a security interest held by the financial institution, under the terms of an extension of credit made by the financial institution, or any successor-in-interest thereto; or

k) In the case of a fiduciary (other than a land trustee), the estate, trust estate, or other interest in property held in a fiduciary capacity, and a trustee, executor, administrator, guardian, receiver, conservator, or other person who holds the remediated site in a fiduciary capacity, or a transferee of such party.

10) This letter, including all attachments, must be recorded as a single instrument within forty-five (45) days of receipt with the Office of the Recorder of DuPage County. For recording purposes, the Illinois EPA Site Remediation Program Environmental Notice attached to this Letter should be the first page of the instrument filed. This Letter shall not be effective until officially recorded by the Office of the Recorder of DuPage County in accordance with Illinois law so that it forms a permanent part of the chain of title for the Morey Corporation property.

11) Within thirty (30) days of this Letter being recorded by the Office of the Recorder of DuPage County, a certified copy of this Letter, as recorded, shall be obtained and submitted to the Illinois EPA to:

Robert E. O'Hara
Illinois Environmental Protection Agency
Bureau of Land/RPMS
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

12) In accordance with Section 58.10(g) of the Act, a No Further Remediation Assessment Fee based on the costs incurred for the Remediation Site by the Illinois EPA for review and evaluation services will be applied in addition to the fees applicable under the Review and Evaluation Services Agreement. Request for payment of the No Further Remediation Assessment Fee will be included with the billing statement.

If you have any questions regarding this correspondence, you may contact the Illinois EPA project manager, Steve McCaslin at 217-557-8085.

Sincerely,

Lawrence W. Eastep, P.E., Manager
Remedial Project Management Section
Division of Remediation Management
Bureau of Land

Attachments(3): Illinois EPA Site Remediation Program Environmental Notice
Site Base Map
Property Owner Certification of No Further Remediation Letter under the Site Remediation Program Form

cc: Tom Brecheisen
Pioneer Environmental, Inc.
1000 N. Halsted, Suite 202
Chicago, IL 60622

bcc: Records Unit
Bob O'Hara
Ginger Miller

SITE REMEDIATION PROGRAM
TABLE A: REGULATED SUBSTANCES OF CONCERN
0430305029 – MOREY CORPORATION

Volatile Organic Compounds

CAS No.	Compound Name
74-87-3	Chloromethane
74-83-9	Bromomethane
75-01-4	Vinyl Chloride
75-00-3	Chloroethane
75-09-2	Methylene Chloride
67-64-1	Acetone
75-15-0	Carbon Disulfide
75-35-4	1,1-Dichloroethene
75-34-3	1,1-Dichloroethane
540-59-0	1,2-Dichloroethene (total)
67-66-3	Chloroform
107-06-2	1,2-Dichloroethane
78-93-3	2-Butanone
71-55-6	1,1,1-Trichloroethane
56-23-5	Carbon Tetrachloride
75-27-4	Bromodichloromethane
78-87-5	1,2-Dichloropropane
10061-01-5	cis-1,3-Dichloropropene
79-01-6	Trichloroethene
124-48-1	Dibromochloromethane
79-00-5	1,1,2-Trichloroethane
71-43-2	Benzene
10061-02-6	Trans-1,3-Dichloropropene
75-25-2	Bromoform
108-10-1	4-Methyl-2-Pentanone
591-78-6	2-Hexanone
127-18-4	Tetrachloroethene
108-88-3	Toluene
79-34-5	1,1,2,2-Tetrachloroethane
108-90-7	Chlorobenzene
100-41-4	Ethylbenzene
100-42-5	Styrene
1330-20-7	Xylenes (total)

PREPARED BY:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

RETURN TO:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

THE ABOVE SPACE FOR RECORDER'S OFFICE

This Environmental No Further Remediation Letter must be submitted by the remediation applicant within 45 days of its receipt, to the Office of the Recorder of DuPage County.

Illinois State EPA Number: 0430305029

Dana Morey, the Remediation Applicant, whose address is 100 Morey Drive, Woodridge, IL 60517 has performed investigative and/or remedial activities for the remediation site depicted on the attached Site Base Map and identified by the following:

1. Legal description or Reference to a Plat Showing the Boundaries:

   Subject Property Legal Description:
   Lots 32 and 33 in Ellsworth Park unit number 5, being a subdivision in the southwest ¼ of section 12, Township 38 North, Range 10 East of the third principal meridian, according to the plat thereof recorded January 10, 1962 as document number R62-993 in DuPage County, Illinois.
   Remediation Site Description:
   Beginning at the southeast property corner of Lot 32, extending north along eastern property line for 120 feet, then due west 100 feet, then south 120 feet to the southern property line and then east 100 feet to the point of beginning.

2. Common Address: 2659 Wisconsin Street, Downers Grove, IL

3. Real Estate Tax Index/Parcel Index Number: 02-12-303-008

4. Remediation Site Owner: Dana Morey

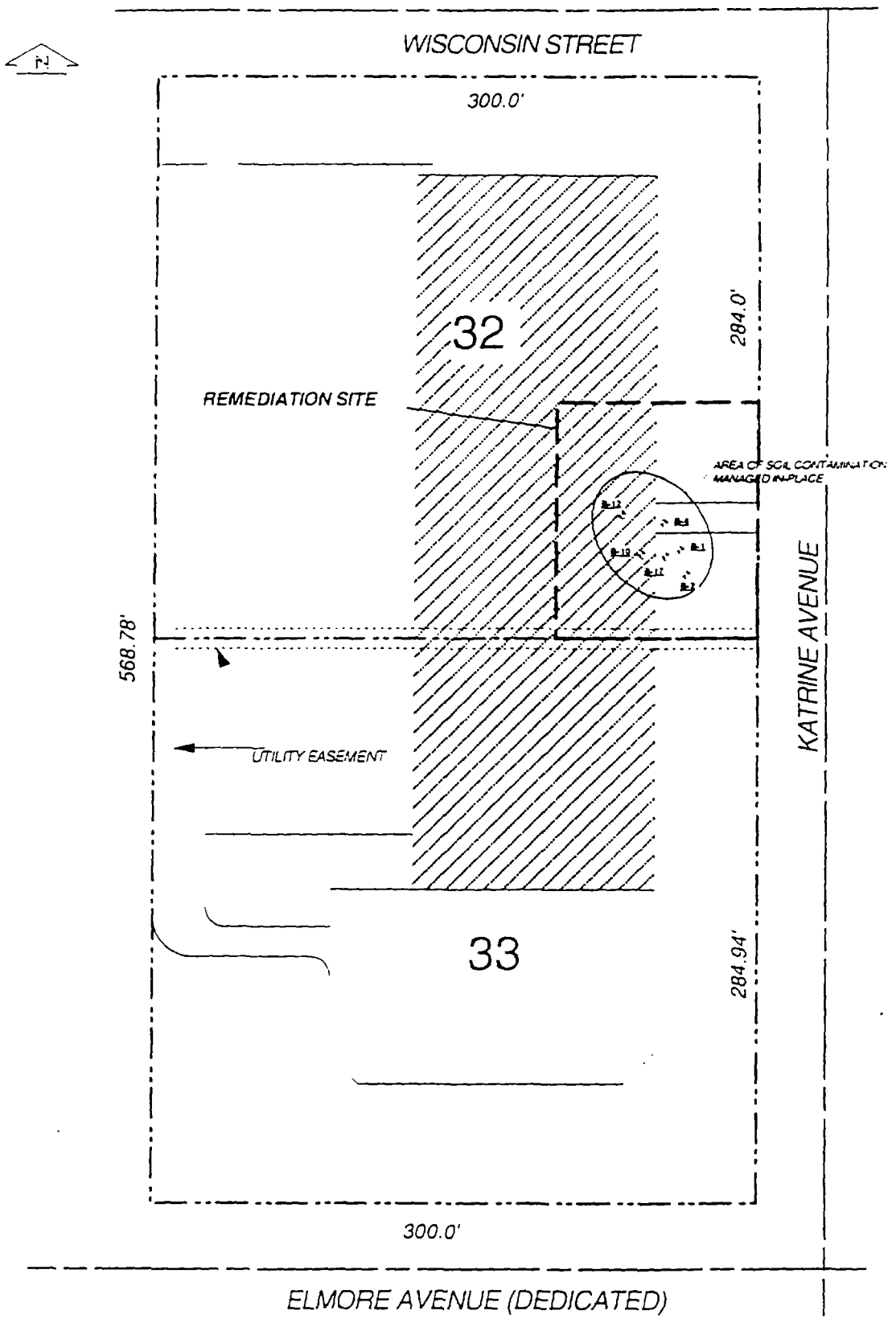
5. Land Use: Industrial/Commercial

6. Site Investigation:Focused

See NFR letter for other terms.

(Illinois EPA Site Remediation Program Environmental Notice)

SITE BASE MAP
0430305029 - DuPAGE COUNTY
DOWNERS GROVE - 2555 WISCONSIN STREET
SITE REMEDIATION PROGRAM



PIONEER ENVIRONMENTAL, INC.

Legend:
- Soil Boring Location exceeding Tier 1 SROs (Industrial/Commercial)

Scale:	Date:
1" = 80'	January 2001
Drawn by: T. Brecheisen	Checked by: W. Smit
Job No. 006188	

Figure 2
Site Base Map
The Morey Corporation
Downers Grove, Illinois

PROPERTY OWNER CERTIFICATION OF THE NFR LETTER UNDER THE SITE REMEDIATION PROGRAM

If the Remediation Applicant is not the sole owner of the remediation site, include the full legal name, title, the company, the street address, the city, the state, the ZIP code, and the telephone number of all other property owners. Include the site name, street address, city, ZIP code, county, Illinois inventory identification number and real estate tax index/parcel index number. The property owner(s), or the duly authorized agent of the owner(s) must certify, by original signature, the statement appearing below.

A duly authorized agent means a person who is authorized by written consent or by law to act on behalf of a property owner including, but not limited to:

1. For corporations, a principal executive officer of at least the level of vice-president;
2. For a sole proprietorship or partnership, the proprietor or a general partner, respectively; *and*
3. For a municipality, state or other public agency, the head of the agency or ranking elected official.

For multiple property owners, attach additional sheets containing the information described above, along with a signed, dated certification for each. All property owner certifications must be recorded along with the attached NFR letter.

Property Owner Information

Owner's Name: _____

Title: _____

Company: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____ Phone: _____

Site Information

Site Name: _____

Site Address: _____

City: _____ State: _____ Zip Code: _____ County: _____

Illinois inventory identification number: _____

Real Estate Tax Index/Parcel Index No. _____

I hereby certify that I have reviewed the attached No Further Remediation Letter and that I accept the terms and conditions and any land use limitations set forth in the letter.

Owner's Signature: _____ Date: _____

SUBSCRIBED AND SWORN TO BEFORE ME
this _____ day of _____, 19__

_____
Notary Public

The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations promulgated thereunder. If the Remediation Applicant is not also the sole owner of the remediation site, this form must be completed by all owners of the remediation site and recorded with the NFR Letter. Failure to do so may void the NFR Letter. This form has been approved by the Forms Management Center. All information submitted to the Site Remediation Program is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

7099 3400 0002 1431 9264

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Article Sent To:

Postage	$
Certified Fee	1.90
Return Receipt Fee (Endorsement Required)	1.50
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Name (Plea

Street, Apt.

City, State,

Dana Morey
MC Holdigs, Inc.
100 Morey Dr.
Woodridge, IL 60517

PS Form 38 Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dana Morey
MC Holdigs, Inc.
100 Morey Dr.
Woodridge, IL 60517

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly) E. Rosentreter

B. Date of Delivery 2/21/01

C. Signature X E. Rosentreter

☒ Agent
☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

E. Rosentreter

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)* 9264

PS Form 3811, July 1999 Domestic Return Receipt 102595-00-M-0952

PREPARED BY:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

DRAFT

RETURN TO:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

THE ABOVE SPACE FOR RECORDER'S OFFICE

This Environmental No Further Remediation Letter must be submitted by the remediation applicant within 45 days of its receipt, to the Office of the Recorder of DuPage County.

Illinois State EPA Number: 0430305029

Dana Morey, the Remediation Applicant, whose address is 100 Morey Drive, Woodrideg, IL 60517 has performed investigative and/or remedial activities for the remediation site depicted on the attached Site Base Map and identified by the following:

1. Legal description or Reference to a Plat Showing the Boundaries:

   Subject Property Legal Description:
   Lots 32 and 33 in Ellsworth Park unit number 5, being a subdivision in the southwest ¼ of section 12, Township 38 North, Range 10 East of the third principal meridian, according to the plat thereof recorded January 10, 1962 as document number R62-993 in DuPage County, Illinois.
   Remedial Site Description:
   Beginning at the southeast property corner of Lot 32, extending north along eastern property line for 120 feet, then due west 100 feet, then south 120 feet to the southern property line and then east 100 feet to the point of beginning.

2. Common Address: 2659 Wisconsin Street, Downers Grove, IL

3. Real Estate Tax Index/Parcel Index Number: 02-12-303-008

4. Remediation Site Owner: Dana Morey

5. Land Use: Industrial/Commercial

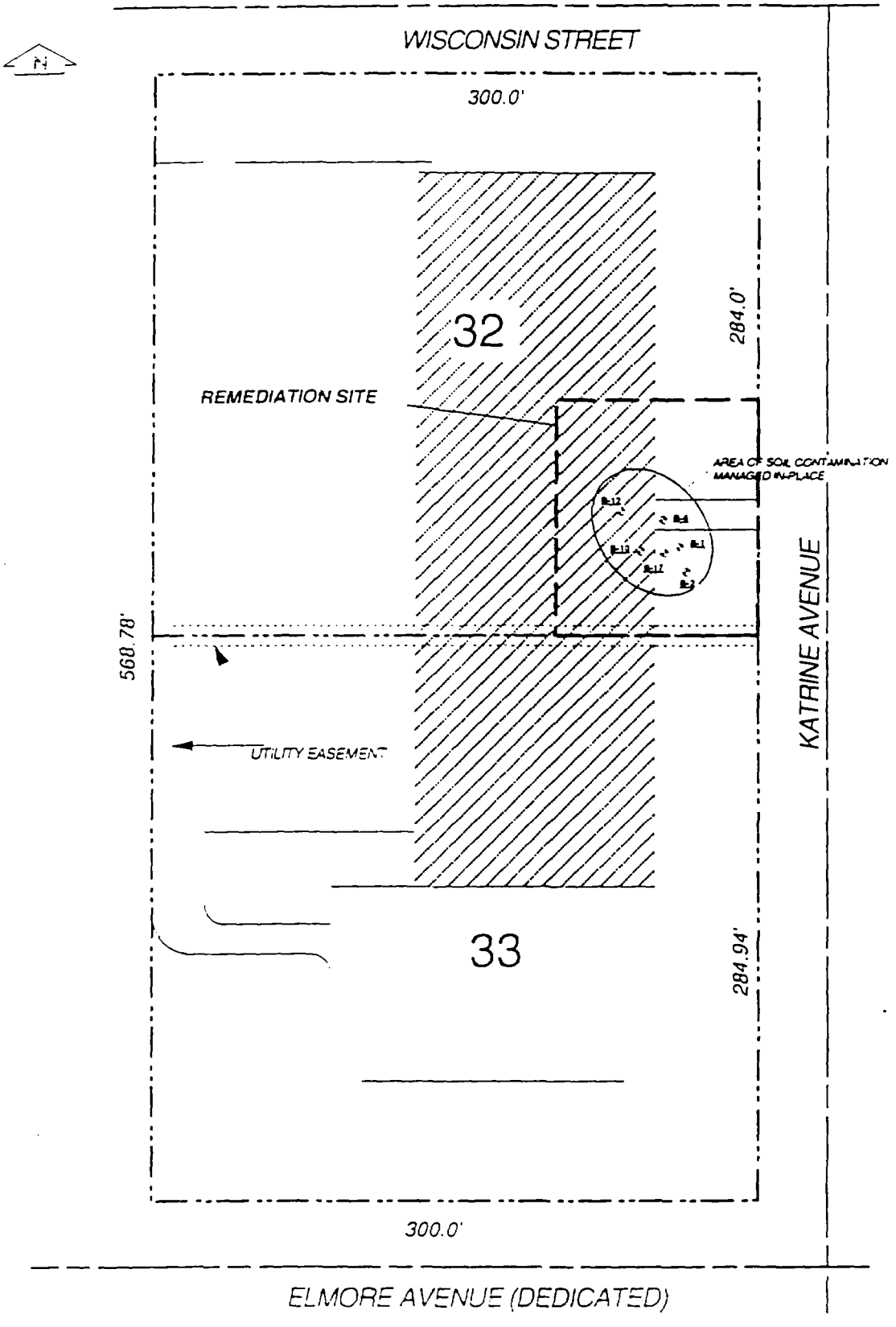
6. Site Investigation:Focused

See NFR letter for other terms.

(Illinois EPA Site Remediation Program Environmental Notice)

SITE BASE MAP
0430305029 - DuPAGE COUNTY
DOWNERS GROVE 2659 WISCONSIN STREET
SITE REMEDIATION PROGRAM

DRAFT



PIONEER ENVIRONMENTAL, INC

Legend
* Soil Boring Location exceeding Tier 1 SROs (Industrial/Commercial)

Scale	Date
1" = 80'	January 2001
Drawn by:	Checked by:
T. Siegmeier	W. Smith
Job No. 006188	

Figure 2
Site Base Map
The Morey Corporation
Downers Grove, Illinois

PROPERTY OWNER CERTIFICATION OF THE NFR LETTER UNDER THE SITE REMEDIATION PROGRAM

DRAFT

If the Remediation Applicant is not the sole owner of the remediation site, include the full legal name, title, the company, the street address, the city, the state, the ZIP code, and the telephone number of all other property owners. Include the site name, street address, city, ZIP code, county, Illinois inventory identification number and real estate tax index/parcel index number. The property owner(s), or the duly authorized agent of the owner(s) must certify, by original signature, the statement appearing below.

A duly authorized agent means a person who is authorized by written consent or by law to act on behalf of a property owner including, but not limited to:

1. For corporations, a principal executive officer of at least the level of vice-president;
2. For a sole proprietorship or partnership, the proprietor or a general partner, respectively; and
3. For a municipality, state or other public agency, the head of the agency or ranking elected official.

For multiple property owners, attach additional sheets containing the information described above, along with a signed, dated certification for each. All property owner certifications must be recorded along with the attached NFR letter.

Property Owner Information

Owner's Name:_____

Title:_____

Company:_____

Street Address:_____

City:_____ State:_____ Zip Code: _____ Phone:_____

Site Information

Site Name: _____

Site Address: _____

City: _____ State:_____ Zip Code: _____ County: _____

Illinois inventory identification number:_____

Real Estate Tax Index/Parcel Index No._____

I hereby certify that I have reviewed the attached No Further Remediation Letter and that I accept the terms and conditions and any land use limitations set forth in the letter.

Owner's Signature: _____ Date: _____

SUBSCRIBED AND SWORN TO BEFORE ME
this _____day of _____, 19__

_____
Notary Public

The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations promulgated thereunder. If the Remediation Applicant is not also the sole owner of the remediation site, this form must be completed by all owners of the remediation site and recorded with the NFR Letter. Failure to do so may void the NFR Letter. This form has been approved by the Forms Management Center. All information submitted to the Site Remediation Program is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7099 3400 0002 1432 0499

Article Sent To:

Postage	$
Certified Fee	1.90
Return Receipt Fee (Endorsement Required)	1.50
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Name (Plea: Dana Morey
Street, Apt.: MC Holdings, Inc
City, State: 100 Morey Dr.
Woodridge, IL 60517

PS Form 3800, July 1999 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dana Morey
MC Holdings, Inc
100 Morey Dr.
Woodridge, IL 60517

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* — B. Date of Delivery: 02-02-01

C. Signature: X [signature] ☐ Agent ☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)* 0499

PS Form 3811, July 1999 — Domestic Return Receipt — 102595-00-M-0952

01-1402

0430305027
Morey Corporation
SR/tech

O'BRIEN, O'ROURKE & HOGAN
ATTORNEYS AT LAW

10 South LaSalle Street, Suite 2900
Chicago, Illinois 60603-1023
(312) 739-3500 [Phone]
(312) 739-3535 [Fax]

DARIEN, IL OFFICE:
8182 South Cass Avenue
Darien, Illinois 60561-5013
(630) 724-9950

FLORIDA OFFICE:
Moye, O'Brien, O'Rourke, Hogan & Pickert
Orlando, Florida 32801

BRYAN L. CAPPS*
WILLIAM J. COTTER
SEAN M. DILLON**
WILLIAM T. DWYER, JR.
W. CRAIG FOWLER
MICHAEL GILMAN
HOWARD I. GOLDBLATT
BRIAN P. HEALD*
FREDERIC G. HOGAN
ANTHONY R. KOVALCIK*

wcotter@oohlaw.com

MICHAEL A. LICKERMAN
GREGORY S. MARTIN*
NATHAN E. MINEAR**
JAMES E. MOYE**
JOHN C. O'ROURKE, JR.
STEPHEN W. PICKERT*
RICHARD P. SPENCE*

*Admitted to practice in Florida only
**Admitted to practice in Florida and Georgia only

DONALD V. O'BRIEN (1922 – 1999)

April 11, 2001

VIA FEDERAL EXPRESS

Mr. Robert E. O'Hara
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Bureau of Land / RPMS
1021 North Grand Avene East
P. O. Box 19276
Springfield, Illinois 62794

ORIGINAL

Re: 2659 Wisconsin, Downers Grove, DuPage County, IL

Dear Mr. O'Hara,

This office represents Dana Morey and MC Holdings Corp, an Illinois corporation that was the former owner of the captioned property prior to its sale in March, 2001 to Ross and Barbara Johnson.

In connection with that sale, a No Further Remediation Letter was issued by the Illinois Environmental Protection Agency on February 14, 2001 under the signature of Lawrence W. Eastep. As provided under the Illinois Environmental Protection Act, and as specified in said letter, a certified copy of the No Further Remediation Letter as recorded with the DuPage County Recorder of Deeds on March 19, 2001 as document number R2001-046297 is enclosed for your records. We are also enclosing herewith for your records a certified copy of the Disclosure Documents executed by the seller and buyer under the Illinois Responsible Property Transfer Act, also recorded with the DuPage County Recorder of Deeds on March 19, 2001 as document number R2001-046296.

If you have any questions, please contact the undersigned.

Very truly yours,

William J. Cotter

RECEIVED
APR 13 2001
IEPA/BOL

/wjc
Enclosures
cc: Mr. Dana Morey (w/o enclosures)

RELEASABLE
APR 18 2001
REVIEWER MD

160

PREPARED BY:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

RECORDER DUPAGE COUNTY, IL

I certify that this is a copy of an instrument recorded in my office.

J.P. "Rick" Carney
DuPage Co. Recorder
Date: 4-6-2001
Deputy: RNC

J.P. "RICK" CARNEY
DUPAGE COUNTY RECORDER
MAR.19,2001 2:30 PM
OTHER 08-12-303-008
010 PAGES R2001-046297

RETURN TO:

Name: Dana Morey
MC Holdings, Inc.

Address: 100 Morey Drive
Woodridge, IL 60517

ORIGINAL

1ST AMERICAN TITLE Order # 0000109 2 of 3 NC

THE ABOVE SPACE FOR RECORDER'S OFFICE

This Environmental No Further Remediation Letter must be submitted by the remediation applicant within 45 days of its receipt, to the Office of the Recorder of DuPage County.

Illinois State EPA Number: 0430305029

Dana Morey, the Remediation Applicant, whose address is 100 Morey Drive, Woodridge, IL 60517 has performed investigative and/or remedial activities for the remediation site depicted on the attached Site Base Map and identified by the following:

1. Legal description or Reference to a Plat Showing the Boundaries:

   Subject Property Legal Description:
   Lots 32 and 33 in Ellsworth Park unit number 5, being a subdivision in the southwest ¼ of section 12, Township 38 North, Range 10 East of the third principal meridian, according to the plat thereof recorded January 10, 1962 as document number R62-993 in DuPage County, Illinois.
   Remediation Site Description:
   Beginning at the southeast property corner of Lot 32, extending north along eastern property line for 120 feet, then due west 100 feet, then south 120 feet to the southern property line and then east 100 feet to the point of beginning.

2. Common Address: 2659 Wisconsin Street, Downers Grove, IL

3. Real Estate Tax Index/Parcel Index Number: ~~02~~ 08-12-303-008

4. Remediation Site Owner: Dana Morey

5. Land Use: Industrial/Commercial

6. Site Investigation:Focused

See NFR letter for other terms.

RECEIVED
APR 13 2001
IEPA/BOL

(Illinois EPA Site Remediation Program Environmental Notice)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

(217) 782-6761

February 14, 2001

CERTIFIED MAIL
7099 3400 0002 1431 9264

Dana Morey
MC Holdings, Inc.
100 Morey Drive
Woodridge, IL 60517

Re: 0430305029/DuPage
Downers Grove/Morey Corporation
Site Remediation Program/Technical Reports

Dear Mr. Morey:

The *Focused Site Investigation & Remedial Action Completion Report* (November 8, 2000/00-4399), and the addendum to the report (January 23, 2001/01-0286) as prepared by Pioneer Environmental, Inc. for the Morey Corporation property, has been reviewed by the Illinois Environmental Protection Agency ("Illinois EPA") and demonstrates that the remedial action was completed in accordance with the *Focused Site Investigation & Remedial Action Completion Report* (November 8, 2000/00-4399), and the addendum to the report (January 23, 2000/01-0286).

The Remediation Site, consisting of 0.03 acres, is located at 2659 Wisconsin Street, Downers Grove, Illinois. Pursuant to Section 58.10 of the Illinois Environmental Protection Act ("Act") (415 ILCS 5/1 et seq.), your request for a no further remediation determination is granted under the conditions and terms specified in this letter. The Remediation Applicant, as identified on the Illinois EPA's Site Remediation Program DRM-1 Form (November 13, 2000/00-4399), is Dana Morey.

This focused No Further Remediation Letter ("Letter") signifies a release from further responsibilities under the Act for the performance of the approved remedial action. This Letter shall be considered prima facie evidence that the Remediation Site described in the attached Illinois EPA Site Remediation Program Environmental Notice and shown in the attached Site Base Map does not constitute a threat to human health and the environment for the specified recognized environmental conditions so long as the Site is utilized in accordance with the terms of this Letter.

J. P. "Rick" Carney R2001046297 DuPage County Recorder

Conditions and Terms of Approval

Level of Remediation and Land Use Limitations

1) The recognized environmental conditions, as characterized by the focused site investigation, consist of the following:

   a) Regulated substances of concern that have been successfully addressed are detailed in the attached Table A.

2) The Remediation Site is restricted to Industrial/Commercial land use.

3) The land use specified in this Letter may be revised if:

   a) Further investigation or remedial action has been conducted that documents the attainment of objectives appropriate for the new land use; and

   b) A new Letter is obtained and recorded in accordance with Title XVII of the Act and regulations adopted thereunder.

Preventive, Engineering, and Institutional Controls

4) The implementation and maintenance of the following controls are required as part of the approval of the remediation objectives for this Remediation Site.

Institutional Controls:

5) No person shall construct, install, maintain, or operate a water system or well on the property identified in the Environmental Notice. All water supplies and water services for the Remediation Site must be obtained from a public water supply system. The provisions of this institutional control shall be applicable to all water usage (e.g., domestic, industrial/commercial uses and outdoor watering).

Other Terms

6) Where the Remediation Applicant is not the sole owner of the Remediation Site, the Remediation Applicant shall complete the attached *Property Owner Certification of the No Further Remediation Letter under the Site Remediation Program* Form. This certification, by original signature of each property owner, or the authorized agent of the owner(s), of the Remediation Site or any portion thereof who is not a Remediation Applicant shall be recorded along with this Letter.

J. P. "Rick" Carney R2001046297 DuPage County Recorder

7) Further information regarding this Remediation Site can be obtained through a written request under the Freedom of Information Act (5 ILCS 140) to:

Illinois Environmental Protection Agency
Attn: Freedom of Information Act Officer
Bureau of Land-#24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

8) Pursuant to Section 58.10(f) of the Act (415 ILCS 5/58.10(f)), should the Illinois EPA seek to void this Letter, the Illinois EPA shall provide notice to the current title holder and to the Remediation Applicant at the last known address. The notice shall specify the cause for the voidance, explain the provisions for appeal, and describe the facts in support of this cause. Specific acts or omissions that may result in the voidance of the Letter under Sections 58.10(e)(1)-(7) of the Act (415 ILCS 5/58.10(e)(1)-(7)) include, but shall not be limited to:

a) Any violation of institutional controls or the designated land use restrictions;

b) The failure to operate and maintain preventive or engineering controls or to comply with any applicable groundwater monitoring plan;

c) The disturbance or removal of contamination that has been left in-place in accordance with the Remedial Action Plan. Access to soil contamination may be allowed if, during and after any access, public health and the environment are protected consistent with the Remedial Action Plan;

d) The failure to comply with the recording requirements for this Letter;

e) Obtaining the Letter by fraud or misrepresentation;

f) Subsequent discovery of contaminants, not identified as part of the investigative or remedial activities upon which the issuance of the Letter was based, that pose a threat to human health or the environment;

g) The failure to pay the No Further Remediation Assessment Fee within forty-five (45) days after receiving a request for payment from the Illinois EPA;

h) The failure to pay in full the applicable fees under the Review and Evaluation Services Agreement within forty-five (45) days after receiving a request for payment from the Illinois EPA.

9) Pursuant to Section 58.10(d) of the Act, this Letter shall apply in favor of the following persons:

a) Dana Morey;

b) The owner and operator of the Remediation Site;

c) Any parent corporation or subsidiary of the owner of the Remediation Site;

7) Further information regarding this Remediation Site can be obtained through a written request under the Freedom of Information Act (5 ILCS 140) to:

Illinois Environmental Protection Agency
Attn: Freedom of Information Act Officer
Bureau of Land-#24
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e) Obtaining the Letter by fraud or misrepresentation;

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g) The failure to pay the No Further Remediation Assessment Fee within forty-five (45) days after receiving a request for payment from the Illinois EPA;

h) The failure to pay in full the applicable fees under the Review and Evaluation Services Agreement within forty-five (45) days after receiving a request for payment from the Illinois EPA.

9) Pursuant to Section 58.10(d) of the Act, this Letter shall apply in favor of the following persons:

a) Dana Morey;

b) The owner and operator of the Remediation Site;

c) Any parent corporation or subsidiary of the owner of the Remediation Site;

d) Any co-owner, either by joint-tenancy, right of survivorship, or any other party sharing a relationship with the owner of the Remediation Site;

e) Any holder of a beneficial interest of a land trust or inter vivos trust, whether revocable or irrevocable, involving the Remediation Site;

f) Any mortgagee or trustee of a deed of trust of the owner of the Remediation Site or any assignee, transferee, or any successor-in-interest thereto;

g) Any successor-in-interest of the owner of the Remediation Site;

h) Any transferee of the owner of the Remediation Site whether the transfer was by sale, bankruptcy proceeding, partition, dissolution of marriage, settlement or adjudication of any civil action, charitable gift, or bequest;

i) Any heir or devisee of the owner of the Remediation Site;

j) Any financial institution, as that term is defined in Section 2 of the Illinois Banking Act and to include the Illinois Housing Development Authority, that has acquired the ownership, operation, management, or control of the Remediation Site through foreclosure or under the terms of a security interest held by the financial institution, under the terms of an extension of credit made by the financial institution, or any successor-in-interest thereto; or

k) In the case of a fiduciary (other than a land trustee), the estate, trust estate, or other interest in property held in a fiduciary capacity, and a trustee, executor, administrator, guardian, receiver, conservator, or other person who holds the remediated site in a fiduciary capacity, or a transferee of such party.

10) This letter, including all attachments, must be recorded as a single instrument within forty-five (45) days of receipt with the Office of the Recorder of DuPage County. For recording purposes, the Illinois EPA Site Remediation Program Environmental Notice attached to this Letter should be the first page of the instrument filed. This Letter shall not be effective until officially recorded by the Office of the Recorder of DuPage County in accordance with Illinois law so that it forms a permanent part of the chain of title for the Morey Corporation property.

11) Within thirty (30) days of this Letter being recorded by the Office of the Recorder of DuPage County, a certified copy of this Letter, as recorded, shall be obtained and submitted to the Illinois EPA to:

Robert E. O'Hara
Illinois Environmental Protection Agency
Bureau of Land/RPMS
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

J. P. "Rick" Carney R2001046297 DuPage County Recorder

12) In accordance with Section 58.10(g) of the Act, a No Further Remediation Assessment Fee based on the costs incurred for the Remediation Site by the Illinois EPA for review and evaluation services will be applied in addition to the fees applicable under the Review and Evaluation Services Agreement. Request for payment of the No Further Remediation Assessment Fee will be included with the billing statement.

If you have any questions regarding this correspondence, you may contact the Illinois EPA project manager, Steve McCaslin at 217-557-8085.

Sincerely,

Lawrence W. Eastep, P.E., Manager
Remedial Project Management Section
Division of Remediation Management
Bureau of Land

Attachments(3): Illinois EPA Site Remediation Program Environmental Notice
Site Base Map
Property Owner Certification of No Further Remediation Letter under the Site Remediation Program Form

cc: Tom Brecheisen
Pioneer Environmental, Inc.
1000 N. Halsted, Suite 202
Chicago, IL 60622

bcc: Records Unit
Bob O'Hara
Ginger Miller

J. P. "Rick" Carney R2001046297 DuPage County Recorder

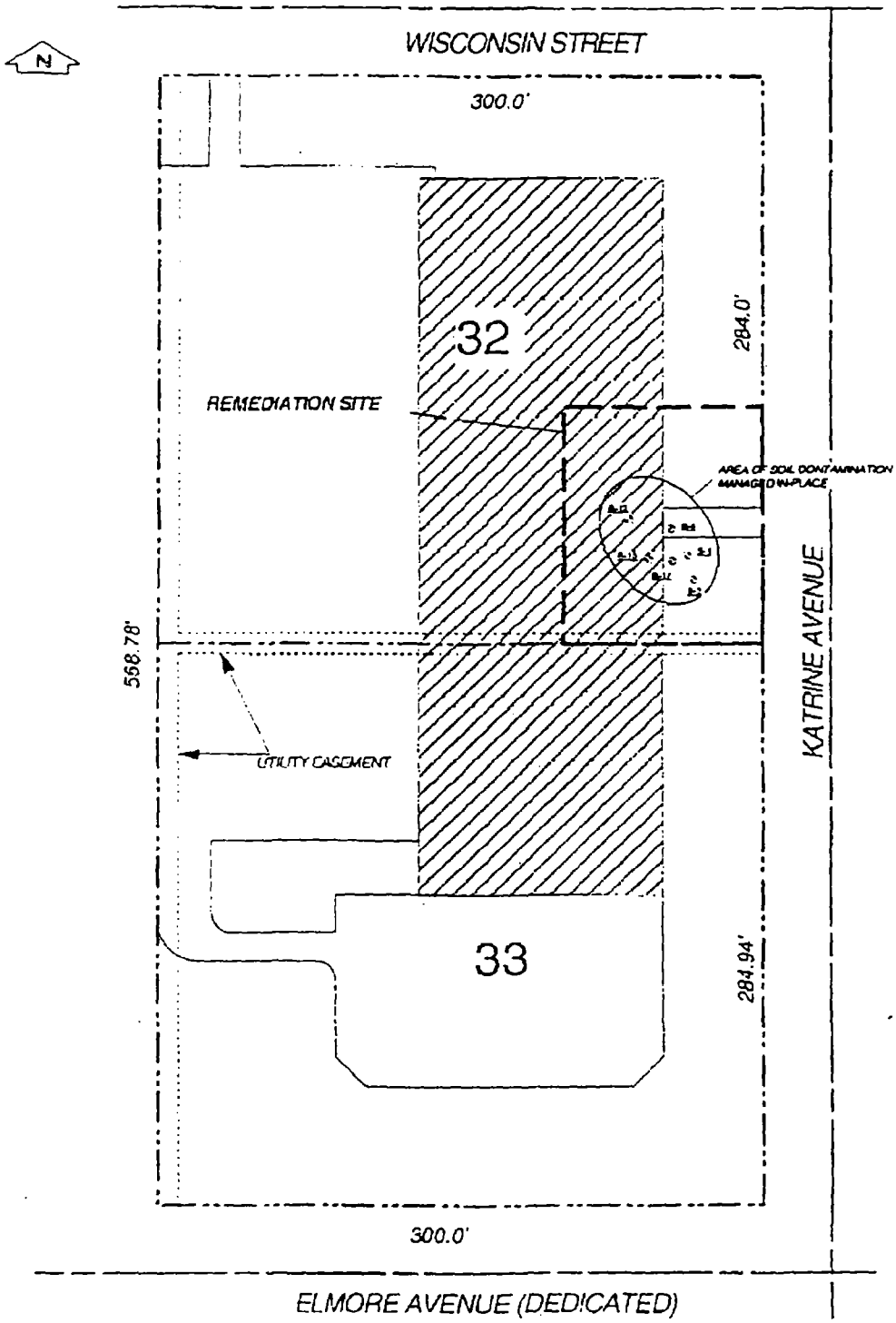
SITE REMEDIATION PROGRAM
TABLE A: REGULATED SUBSTANCES OF CONCERN
0430305029 – MOREY CORPORATION

Volatile Organic Compounds

CAS No.	Compound Name
74-87-3	Chloromethane
74-83-9	Bromomethane
75-01-4	Vinyl Chloride
75-00-3	Chloroethane
75-09-2	Methylene Chloride
67-64-1	Acetone
75-15-0	Carbon Disulfide
75-35-4	1,1-Dichloroethene
75-34-3	1,1-Dichloroethane
540-59-0	1,2-Dichloroethene (total)
67-66-3	Chloroform
107-06-2	1,2-Dichloroethane
78-93-3	2-Butanone
71-55-6	1,1,1-Trichloroethane
56-23-5	Carbon Tetrachloride
75-27-4	Bromodichloromethane
78-87-5	1,2-Dichloropropane
10061-01-5	cis-1,3-Dichloropropene
79-01-6	Trichloroethene
124-48-1	Dibromochloromethane
79-00-5	1,1,2-Trichloroethane
71-43-2	Benzene
10061-02-6	Trans-1,3-Dichloropropene
75-25-2	Bromoform
108-10-1	4-Methyl-2-Pentanone
591-78-6	2-Hexanone
127-18-4	Tetrachloroethene
108-88-3	Toluene
79-34-5	1,1,2,2-Tetrachloroethane
108-90-7	Chlorobenzene
100-41-4	Ethylbenzene
100-42-5	Styrene
1330-20-7	Xylenes (total)

J. P. "Rick" Carney R2001046297 DuPage County Recorder

SITE BASE MAP
0430305029 - DuPAGE COUNTY
DOWNERS GROVE / 2559 WISCONSIN STREET
SITE REMEDIATION PROGRAM



PIONEER ENVIRONMENTAL INC.	Legend: Soil Boring Location exceeding Tier 1 SROs (Industrial/Commercial)	Scale: 1" = 80'	Date: January, 2001	Figure 2 Site Base Map The Morey Corporation Downers Grove, Illinois
		Drawn by: T. Breonelsen Job No.: 00618B	Checked by: W. Smith	

Property Owner Certification of the NFR Letter
Under the Site Remediation Program

If the Remediation Applicant is not the sole owner of the remediation site, include the full legal name, title, the company, the street address, the city, the state, the ZIP code, and the telephone number of all other property owners. Include the site name, street address, city, ZIP code, county, Illinois inventory identification number and real estate tax index/parcel index number. The property owner(s), or the duly authorized agent of the owner(s) must certify, by original signature, the statement appearing below.

A duly authorized agent means a person who is authorized by written consent or by law to act on behalf of a property owner including, but not limited to:

1. For corporations, a principal executive officer of at least the level of vice-president;
2. For a sole proprietorship or partnership, the proprietor or a general partner, respectively; and
3. For a municipality, state or other public agency, the head of the agency or ranking elected official.

For multiple property owners, attach additional sheets containing the information described above, along with a signed, dated certification for each. All property owner certifications must be recorded along with the attached NFR letter.

Property Owner Information

Owner's Name: MC Holdings Corp., an Illinois corporation
Title: Attn: Dana Morey
Company: c/o The Morey Corporation
Street Address: 100 Morey Drive
City: Woodridge State: IL Zip Code: 60517 Phone: 630/754-2300

Site Information

Site Name:
Site Address: 2659 Wisconsin Avenue
City: Downers Grove State: IL Zip Code: 60515 County: DuPage
Illinois inventory identification number:
Real Estate Tax Index/Parcel Index No. 02-12-303-008

I hereby certify that I have reviewed the attached No Further Remediation Letter and that I accept the terms and conditions and any land use limitations set forth in the letter.

Owner's Signature: MC Holdings Corp. Dana Morey Date: 03/12/01

SUBSCRIBED AND SWORN TO BEFORE ME this 12th day of March, 19 2001

"OFFICIAL SEAL"
WILLIAM J. COTTER
Notary Public, State of Illinois
My Commission Expires 3/06/2004

Notary Public

The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.17 of the Environmental Protection Act and regulations promulgated thereunder. If the Remediation Applicant is not also the sole owner of the remediation site, this form must be completed by all owners of the remediation site and recorded with the NFR Letter. Failure to do so may void the NFR Letter. This form has been approved by the Forms Management Center. All information submitted to the Site Remediation Program is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

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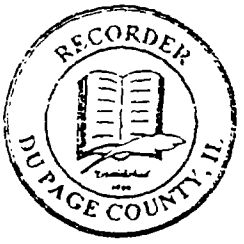
ENVIRONMENTAL DISCLOSURE DOCUMENT FOR TRANSFER OF REAL PROPERTY

The following information is provided pursuant to the Responsible Property Transfer Act of 1988

RECORDER DUPAGE COUNTY, IL



I certify that this is a copy of an instrument recorded in my office.

J.P. "Rick" Carney
DuPage Co. Recorder
Date: 4-6-2001
Deputy: RNC

J.P. "RICK" CARNEY
DUPAGE COUNTY RECORDER
MAR.19,2001 2:30 PM
OTHER 08-12-303-008
007 PAGES R2001-046296

Seller: MC Holdings Corp., an Illinois Corporation

Buyer: Ross A. Johnson and Barbara A. Johnson

Document No.:

ISY AMERICAN TITLE Order # D0001189/083NC

I. PROPERTY IDENTIFICATION

A. Address of property: 2659 Wisconsin Street, Downers Grove — Downers Grove
Street — City or Village — Township

Permanent Real Estate Index No.: 08-12-303-008

B. Legal Description:

Section 12 Township 38 N Range 10

Enter or attach current legal description in this area:

Attached.

Prepared by: William J. Cotter (name)
10 S. LaSalle, #2900, Chicago, IL 60603 (address)

Return to: William J. Cotter (name)
10 S. LaSalle, #2900, Chicago, IL 60603 (address)

LIABILITY DISCLOSURE

Transferors and transferees of real property are advised that their ownership or other control of such property may render them liable for any environmental clean-up costs whether or not they caused or contributed to the presence of environmental problems associated with the property.

C. Property Characteristics:

Lot Size 300' X 569' Acreage

Check all type of improvement and uses that pertain to the property:

____ Apartment building (6 units or less)

____ Commercial apartment (over 6 units)

____ Store, office, commercial building

X Industrial building

____ Farm, with buildings

____ Other, specify

II. NATURE OF TRANSFER:

	YES	NO
A. (1) Is this a transfer by deed or other instrument of conveyance?	X	
(2) Is this a transfer by assignment of over 25% of beneficial interest of an Illinois land trust?		X
(3) A lease exceeding a term of 40 years?		X
(4) A mortgage or collateral assignment of beneficial interest?		X

B. (1) Identify Transferor:

MC Holdings Corp., 100 Morey Drive, Woodridge, IL 60517

Name and Current Address of Transferor

Name and Address of Trustee if this is a transfer of beneficial interest of a land trust. Trust No.

(2) Identify person who has completed this form on behalf of the Transferor and who has knowledge of the information contained in this form:

Dana Morey, 100 Morey Drive, Woodridge, IL 60517 (630) 754-2300

Name, Position (if any), and address Telephone No.

C. Identify Transferee: Ross and Barbara Johnson, 1007 Burlington, Downers Grove, IL

Name and Current Address of Transferee

III. NOTIFICATION

Under the Illinois Environmental Protection Act, owners of real property may be held liable for costs related to the release of hazardous substances.

1. Section 22.2(f) of the Act states:

"Notwithstanding any other provision or rule of law, and subject only to the defenses set forth in subsection (j) of this Section, the following persons shall be liable for all costs of removal or remedial action incurred by the State of Illinois as a result of a release or substantial threat of a release of a hazardous substance:

(1) The owner and operator of a facility or vessel from which there is a release or substantial threat of release of a hazardous substance;

(2) Any person who at the time of disposal, transport, storage or treatment of a hazardous substance owned or operated the facility or vessel used for such disposal, transport, treatment or storage from which there was a release or substantial threat of a release of any such hazardous substance;

(3) Any person who by contract, agreement, or otherwise has arranged with another party or entity for transport, storage, disposal or treatment of hazardous substances owned, controlled or possessed by such person at a facility there is a release or substantial threat of a release of such hazardous substances; and

(4) Any person who accepts or accepted any hazardous substances for transport to disposal, storage or treatment facilities or sites from which there is a release or a substantial threat of a release of a hazardous substance."

2. Section 4(q) of the Act states:

"The Agency shall have the authority to provide notice to any person who may be liable pursuant to Section 22.2(f) of this Act for a release or a substantial threat of a release of a hazardous substance. Such notice shall include the identified response action and an opportunity for such person to perform the response action."

3. Section 22.2(f) of the Act states:

"If any person who is liable for a release or substantial threat of release of a hazardous substance fails without sufficient cause to provide removal or remedial action upon or in accordance with a notice and request by the agency or upon or in accordance with any order of the Board or any court, such person may be liable to the State for punitive damages in an amount at least equal to, and not more than 3 times, the amount of any costs incurred by the State of Illinois as a result of such failure to take such removal or remedial action. The punitive damage imposed by the Board shall be in addition to any costs recovered from such person pursuant to this Section and in addition to any other penalty or relief provided by this Act or any other law."

4. Section 22.18(a) of the Act states:

"Notwithstanding any other provision or rule or law, except as provided otherwise in subsection (b), the owner or operator, or both, of an underground storage tank shall be liable for all costs of preventive action, corrective action and enforcement action incurred by the State of Illinois as a result of a release or a substantial threat of release of petroleum from an underground storage tank."

5. The text of the statutes set out above is subject to change by amendment. Persons using this form may update it to reflect changes in the text of the statutes cited, but no disclosure statement shall be invalid merely because it sets forth an obsolete or superseded version of such text.

J. P. "Rick" Carney R2001046296 DuPage County Recorder

IV. ENVIRONMENTAL INFORMATION

Regulatory Information During Current Ownership

1. Has the transferor ever conducted operations on the property which involved the generation, manufacture, processing, transportation, treatment, storage or handling of "hazardous substances", as defined by the Illinois Environmental Protection Act? This question shall not be applicable for consumer goods stored or handled by a retailer in the same form, approximate amount, concentration and manner as they are sold to consumers, provided that such retailer does not engage in any commercial mixing (other than paint mixing or tinting of consumer sized containers), finishing, refinishing, servicing, or cleaning operations on the property.

Yes X No ____

2. Has the transferor ever conducted operations on the property which involved the processing, storage or handling of petroleum, other than that which was associated directly with the transferor's vehicle usage?

Yes ____ No X

3. Has the transferor ever conducted operations on the property which involved the generation, transportation, storage, treatment or disposal of "hazardous or special wastes", as defined by the federal Resource Conservation and Recovery Act and the Illinois Environmental Protection Act?

Yes X No ____

4. Are there any of the following specific units (operating or closed) at the property which are or were used by the transferor to manage waste, hazardous wastes, hazardous substances or petroleum?

	YES	NO		YES	NO
Landfill		X	Injection Wells		X
Surface Impoundment		X	Wastewater Treatment Units		X
Land Treatment		X	Septic Tanks		X
Waste Pile		X	Transfer Stations		X
Incinerator		X	Waste Recycling Operations		X
Storage Tank (Above Ground)		X	Waste Treatment Detoxification		X
Storage Tank (Underground)		X	Other Land Disposal Area		X
Container Storage Area		X			

If there are "YES" answers to any of the above items and the transfer is other than a mortgage or collateral assignment of beneficial interest, attach a site plan which identifies the location of each unit, such site plan to the filed with the Environmental Protection Agency along with this disclosure document.

	YES	NO
5. Has the transferor ever held any of the following in regard to this real property?		
a. Permits for discharges of wastewater to waters of the State.		X
b. Permits for emissions to the atmosphere.		X
c. Permits for any waste storage, waste treatment or waste disposal operation.		X
6. Has the transferor had any wastewater discharges (other than sewage) to a publicly owned treatment works?		X
7. Has the transferor taken any of the following actions relative to this property?		
a. Prepared a Chemical Safety Contingency Plan pursuant to the Illinois Chemical Safety Act.		X
b. Filed an Emergency and Hazardous Chemical Inventory Form pursuant to the federal Emergency Planning and Community Right-to-Know Act of 1986.		X
c. Filed a Toxic Chemical Release Form pursuant to the federal Emergency Planning and Community Right-To-Know Act of 1986.		X
8. Has the transferor or any facility on the property or the property been the subject of any of the following State or federal governmental actions?		
a. Written notification regarding known, suspected or alleged contamination on or emanating from the property.	X	
b. Filing an environmental enforcement case with a court or the Pollution Control Board for which a final order or consent decree was entered.		X
c. If item b. was answered by checking Yes, then indicate whether or not the final order or decree is still in effect for this property.		X

J. P. "Rick" Carney R2001046296 DuPage County Recorder

9. Environmental Releases During Transferor's Ownership

	YES	NO
a. Has any situation occurred at this site which resulted in a reportable "release" on any hazardous substances or petroleum as required under State or Federal laws?	X	
b. Have any hazardous substances or petroleum, which were released, come into direct contact with the ground at this site?	X	

c. If the answers to questions (a) and (b) are Yes, have any of the following actions or events been associated with a release on the property?

X Use of a cleanup contractor to remove or treat materials including soils, pavement or other surficial materials
____ Assignment of in-house maintenance staff to remove or treat materials including soils, pavement or other surficial materials
____ Designation, by the IEPA or the IESDA, of the release as "significant" under the Illinois Chemical Safety Act
X Sampling and analysis of soils
____ Temporary or more long-term monitoring of groundwater at or near the site
____ Impaired usage of an on-site or nearby water well because of offensive characteristics of the water
____ Coping with fumes from subsurface storm drains or inside basements, etc.
____ Signs of substances leaching out of the ground along the base of slopes or at other low points on or immediately adjacent to the site

	YES	NO
10. Is the facility currently operating under a variance granted by the Illinois Pollution Control Board?		X

11. Is there any explanation needed for clarification of any of the above answers or responses? Minor quantities of regulated substances discovered on site. Transferor initiated and completed remediation program. IEPA issued "No Further Remediation" letter February 14, 2001

B. SITE INFORMATION UNDER OTHER OWNERSHIP OR OPERATION

1. Provide the following information about the previous owner or any entity or person the transferor leased the site to or otherwise contracted with for the management of the site or real property:

Name: Morey Corporation

Type of business/ or property usage: industrial/electronics

2. If the transferor has knowledge, indicate whether the following existed under prior ownerships, leaseholds granted by the transferor, other contracts for management or use of the facilities or real property:

	YES	NO		YES	NO
Landfill		X	Injection Wells		X
Surface Impoundment		X	Wastewater Treatment Units		X
Land Treatment		X	Septic Tanks		X
Waste Pile		X	Transfer Stations		X
Incinerator		X	Waste Recycling Operations		X
Storage Tank (Above Ground)		X	Waste Treatment Detoxification		X
Storage Tank (Underground)		X	Other Land Disposal Area		X
Container Storage Area		X			

J. P. "Rick" Carney R2001046296 DuPage County Recorder

V CERTIFICATION

A. Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate.

MC Holdings Corp., By: _____
signature

Dana Morey, President
type or print name

TRANSFEROR *OR TRANSFERORS* (or on behalf of Transferor)

B. This form was delivered to me with all elements completed on

March ~~19~~ 2001

_____
Barbara R. Johnson

_____
signature

Ross A. Johnson
type or print name

TRANSFEREE *OR TRANSFEREES* (or on behalf of Transferee)

C. This form was delivered to me with all elements completed on

_____ 19_____

N/A
signature

_____
type or print name

LENDER

(Ch. 30, par. 906)

COMPLIMENTS OF CHICAGO TITLE INSURANCE COMPANY
F. 3490 1096

J. P. "Rick" Carney R2001046296 DuPage County Recorder

SITE BASE MAP
043030501B - DuPAGE COUNTY
DOWNERS GROVE / 2858 WISCONSIN STREET
SITE REMEDIATION PROGRAM

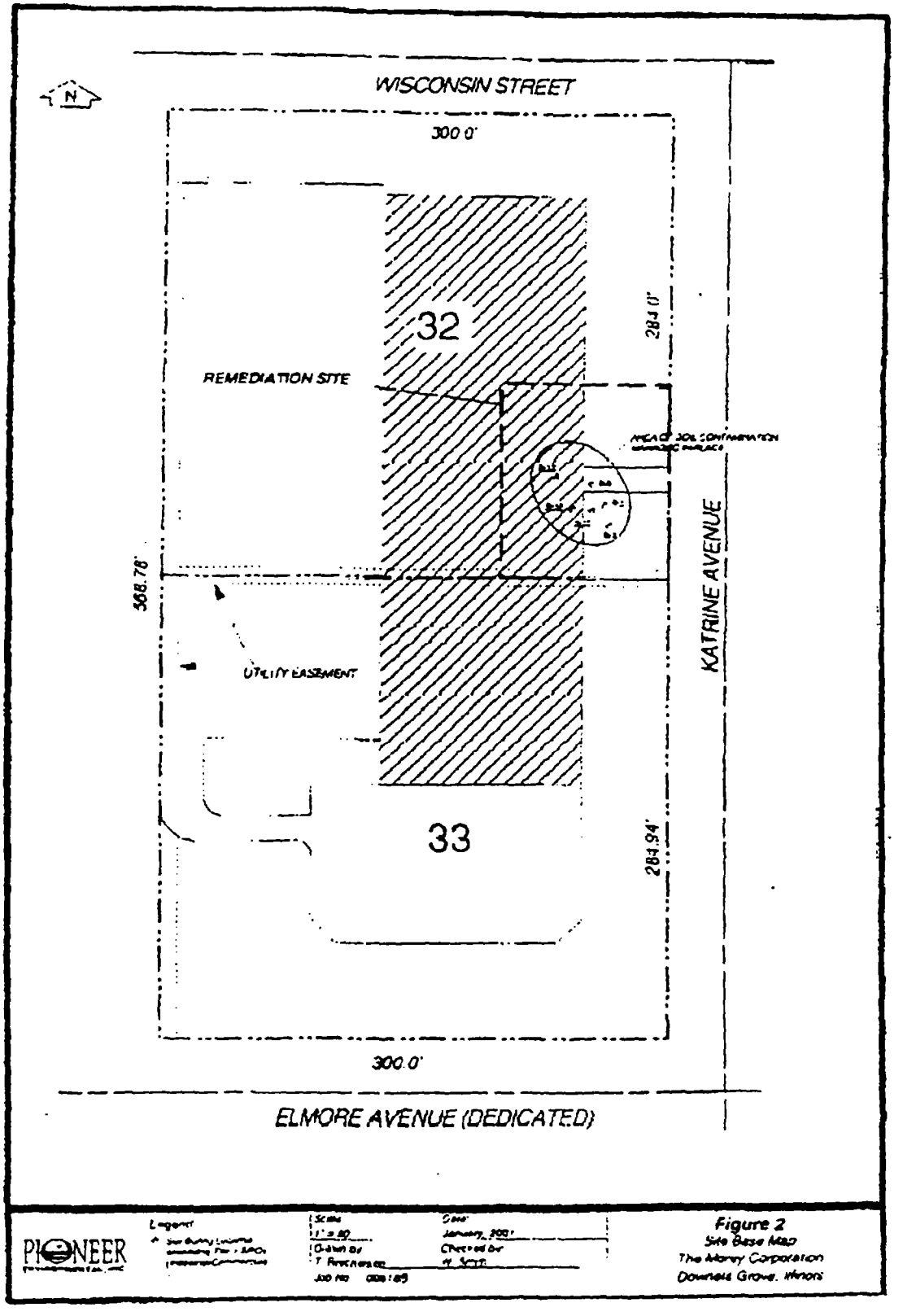


Figure 2
Site Base Map
The Morey Corporation
Downers Grove, Illinois

EXHIBIT A

LEGAL DESCRIPTION

LOT 32 AND 33, IN ELLSWORTH PARK UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST 1/4 OF SECTION 12, TOWNSHIP 38 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 10, 1962 AS DOCUMENT R62-993, IN DUPAGE COUNTY, ILLINOIS

COMMONLY KNOWN AS: 2659 WISCONSIN AVENUE
DOWNERS GROVE, ILLINOIS 60561

P. I. N.: 08-12-303-008

THE MOREY CORPORATION

May 12, 2001

Ms. Amy Yindrick, Esq
Foley & Lardner
330 North Wabash Ave Suite 3000
Chicago, IL 60611

Re: Lockformer Subpoena

Dear Amy:

I have enclosed copies of the following information in response to the Lockformer Subpoena:

The NFR letter received from the State of Illinois EPA.

Focused Site Investigation and Remedial Action Completion Report, Prepared by Pioneer Environmental, Inc., dated November 8, 2000.

Focused Site Investigation and Remedial Action Completion Report (addendum), Prepared by Pioneer Environmental, Inc., dated January 23, 2001.

A list of chemicals kept by The Morey Corporation.

A material data safety sheet for the one product we have identified which contains chemicals listed in the subpoena.

A purchase history for the product reflecting all purchases since 1992.

The product we have identified is "Slide Epoxease Areosol". The product is used in our manufacturing process to enable us to dislodge hardened plastics from molds.

I appreciate your assistance in this matter. After you and your environmental specialists have had an opportunity to review the enclosed, please call me to discuss at (630) 754-2130.

Sincerely,

Michael L. Legel
Chief Financial Officer

MOR 000581

Morey Corporation Chemical Inventory by Product Name

Acti-Brite
Acid Cleaner
3880 Adhesive Elect. Cond.
Air Dry Enamel (Glyptal)
Air Lube
Alkyd Resin Solution - Glyptal
Aluminum Alloys
Alloy Steel
Ammonium Hydroxide - (Liquid Mask)
BE Series Baking Epoxy Ink
Bobbing Compound
Brass
Bronze
BSC - 93 - PC
Carbon Steel
Castle Metals - variety
Catalyst 23 LV
Cleaner 320
Copper
Loctite ODC cleaner and degreaser - 20260
Chemask DA
Cho-Therm 1674 Solvent Based Silicone
Conductive Adhesive
CSL 588 Electronic Grade Sealant/Adhesive
Cylesstic TK 460 Lubricating Oil
DBE Solvent
Dow Corning High Vacuum Grease
Dow Corning (4) Electrical Insulating Compound
Dow Corning (R) 340 Heat Sink Compound
Dry Lube Aerosol Lubricant 2W757-BT.F.E.
E-341 FR Black Epoxy Resin
Eccobond A-401-37
Eccogel 1265 Clear, Part A
Eccogel 1265 Part B
Eccostrip 93 Organic Solvent
Elastomeric Rubber Flange Sealant
Epoxy Color Paste Black
Foille Plus Medicated First Aid Spray
Flange sealant 509 850 c
Flexible Anaerobic Gasket Flange Sealant
Flux Core Solder 245

Hi-Grade #3592 Flux
Gasoline (Lead Free)
GE Silicones
High Temperature Flange SLT Anaerobic 300ML
Humiseal Type 1A33
Humiseal Type Thinner 521
Hysol 7804 Polyamide Hot Melt Adhesive
Isopropanol, Anhydrous (Alcohol)
Koki JS - 3000 Flux
Liquid Silicone Rubber
Lite Tak (R) 375 Surface Curing UV Adhesive
Lite Tak (R) 3751 Adhesive
Loctite (R) 509 Gasket Eliminator Sealant
Loctite (R) 712 Accelerator Tak Pak (R)
Loctite 4471 instant adhesive prism
Locquic Primer N
Locquic (R) Primer T 7471
Lonco SLS 65 Flux
Low Breakloose PST 250ML Tube Anaerobic
Lubriplate DS-ES Lubricating Grease
McLube 1775x Fluoropolymer/Organic Resin
McLube 2003 Fluoropolymer/Dispersion
Medical Device Adhesive Light Curing -UV Adhesive 3201
Mobil Vacuum Pump Oil
Mojave Brown Enamel 1E1950E
Multi-Cleaner #2 Glass & Surface Cleaner
Multi-Blend #5 Neutral Cleaner
Multi-Clean #7 Spray & Wipe Degreaser
Oatey Cleaner (Methyl Ethyl Ketone and Acetone)
Omegabond 101 Epoxy (Part A)
Orange Industrial Lube 390
Orange Turbine Oil 150 R&O
Paint (Caterpillar Yellow)
PC-101 Protective Coating
Pc-101 Thinner
PD860002Sp, PD 860002SA and PD 860002S SMT Adhesive
PD944 Surface Mount Adhesive
Permabond epoxy adhesive
Petroleum Hydrocarbon (Kerosene)
Petroleum Solvent
Phenolphthalein Solution 0.1%
Phenolphthalein Indicator Solution 5g/l
Poly Prep Primer
Polyethylene Glycol Monolauryloxy (Nu-Kote)
Prism (R) 460

Removable Threadlocker 242
Loctite 271 - Threadlocker
Loctite 290 Threadlocker Wicking Grade 29005
Nickel
Restech Polyol 309
Restech Activator 142
Retaining Compound 620 High Temperature Anaerobic
RE 180 Screen Ink Thinner (9/28/00)
RT-1 Epoxy Hardener
RTV 11 Silicone Rubber Compound
RTV 102 Silicone Rubber Compound
RTV 103 Silicone Rubber Sealant
RTV 108 Silicone Rubber Sealant
RTV 133 Silicone Rubber Sealant
RTV 160 Silicone Rubber Sealant
RTV 162 Silicone Rubber Sealant
SAE-30 Lubricating Oil
Shineline Multi-Surface Cleaner
Silicone Elastomer
Silastic(R) RTV Silicone Rubber Base
Silastic(R) RTV Silicone Rubber Curing Agent
Slide Eporease Aerosol
Sodium Hydroxide 8.00
SS4-M951K Solder Paste
Solventless Actvt. 1 Lt Cn
Solder Paste 63Sn/37PG
Solvent Based Coating Material
Sparkle Glass Cleaner
Static - Free Hand Guard Lotion
Statguard Static Dissipative Floor Finish
Stycast 2651 MM White
Stycast 2754, Part B
Stycast 2850FT Black
SU 100 Silicone Sealant/Adhesive Remover
Super Bonder (R) 496 Instant Adhesive
Super Bonder (R) 495 General Purpose Inst. Adhesive
Tak Pak (R) 7452 Accelerator
Tak Pak (R) 382 Instant Adhesive
Three in One Oil
Thinner 425
Thinner X732-10M
Turmofluid 40 B Lub.
WD-40 (Aliphatic Petroleum Distillates)
Xylene cas 1330-20-7
Zep Z-Green

Zep Big Orange

Fred Pfeiffer - Safety Manager

1090370
TMC ~~1040350~~
per JTON

M I B

MATERIAL SAFETY DATA SHEET
SLIDE PRODUCTS, INC.
430 S. WHEELING RD.
WHEELING, IL 60090

Rec. 8/13/99

PRODUCT NAME: SLIDE EPOXEASE AEROSOL

EMERGENCY TELEPHONE: 800-535-5053
INFORMATION TELEPHONE: 847-541-7220
D.U.N.S. NUMBER: 00-299-4168
PREPARED BY: MICHAEL MUTH

REVISION DATE: 6-1-97
PRODUCT NUMBER: 40616T
FAX NUMBER: 847-541-7986

SECTION I. IDENTIFICATION

CHEMICAL NAME: SYNTHETIC WAX DISPERSION
CHEMICAL FAMILY: SYNTHETIC WAX
FORMULA: 40616T
SYNONYMS: EPOXEASE
DOT HAZARD CLASSIFICATION: ORM-D
DOT SHIPPING NAME: CONSUMER COMMODITY
CHEMICAL ABSTRACT REGISTRY NUMBER: N/A, MIXTURE
IDENTIFICATION NUMBER: NONE
H.M.I.S. RATING: 1,3,0,1

SECTION II. PHYSICAL DATA

DATA IN SECTION II APPLIES TO CONCENTRATE BEFORE ADDING PROPELLANT

BOILING POINT: 103-337 DEGREES F.
FREEZING POINT: < -40 DEGREES F.
SPECIFIC GRAVITY: (H20 =1): 1.02
WEIGHT PER GALLON @ 60 F.: 8.58
VAPOR PRESSURE @ 70 F. (MM HG): 350
VAPOR DENSITY (AIR = 1): > 1
SOLUBILITY IN WATER, % BY WT.: NIL
PERCENT VOLATILE BY WEIGHT: 96
EVAPORATION RATE (MINUTES): 20
APPEARANCE AND ODOR: OPAQUE BROWN LIQUID - CHLORINATED SOLVENT ODOR

SECTION III. HAZARDOUS INGREDIENTS

MATERIAL:	APPROX. WEIGHT %:	CAS NUMBER:	PEL (OSHA)
TRICHLOROETHYLENE **	55-65	79-01-6	100 PPM
PROPANE A-108	10-20	74-98-6	1000
ALIPHATIC NAPHTHA	20-26	68513-03-1*	130
SYNTHETIC WAX	1-6	MIXTURE	N/A

##CONTAINS NO OZONE DEPLETING CHEMICALS##
ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA DIRECTORY
**)SEE SECTIONS X AND XI FOR DETAILED CAUTIONS

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS IN AIR: LEL: 1.0 UEL: 9.5 (VOLUME %)
FLASH POINT: N/A
SPECIAL FIRE FIGHTING PROCEDURES: CHLORINATED HYDROCARBON FORM HCL, HF AND TRACES OF PHOSGENE UPON PYROLYSIS.
UNUSUAL FIRE & EXPLOSION HAZARDS: AEROSOLS MAY RUPTURE VIOLENTLY AT TEMPERATURES ABOVE 120' F.

PO0153.05 1 Purchase Order Inquiry 09:28:02 5/10/01
* HISTORY * Receiver Detail

Product 1090370 GEN LUB MOLD RELEASE

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6515	STOCK	66030	7215	10	80592	12.000	.000	SR
6515	STOCK	66565	8718	10	90992	24.000	.000	SR
6515	STOCK	67366	10799	10	102992	48.000	.000	SR
6515	STOCK	72277	22881	10	91093	48.000	48.000	SR
6515	STOCK	76081	30920	10	42194	24.000	24.000	SR
6515	STOCK	84281	47580	10	21395	60.000	60.000	SR
9855	STOCK	93680	76578	10	31596	12.000	12.000	SR
9855	STOCK	93681	76959	10	32196	12.000	12.000	SR
9855	STOCK	93803	80533	10	51796	24.000	24.000	SR
6888	STOCK	94675	81377	10	53096	12.000	12.000	SR
9855	STOCK	95284	105940	30	42897	24.000	2.000	SR
9855	STOCK	106316	129137	10	42798	24.000	24.000	SR
9855	STOCK	108583	141329	10	113098	12.000	12.000	SR

F3=Exit F7=Fold F12=Previous

Spray Cans

1992 84 CANS
1993 48
1994 24
1995 60
1996 48
1997 24
1998 36

1999 15
2000 33
2001 18
390

PO0151.09 1 Purchase Order Inquiry 09:28:35 5/10/01
Purchase Order Line Item Summary

Purchase Orders by Product 1090370 GEN LUB MOLD RELEASE

P.O.	Line	Vendor	Received	Ordered	Remain	Wh	Expected
110590	10	6888	34.000	34.000	.000	SR	12/27/19
116904	10	6888	32.000	39.000	7.000	SR	12/27/19

F13=Prod Rls Inq F17=LINE:Item Rls Inq F19=LINE:P.O. Rls Inq
F3=Exit F7=Fold F12=Cancel

ENMARC
ENVIRONMENTAL MANAGEMENT AND RESOURCE CONSULTANTS, INC.
PO Box 578 • Lemont, IL 60439
630 257. 9357 • 888 436 6272 • Fax 630 257 1650

PHASE II SUBSURFACE INVESTIGATION(S)

SITE LOCATION:

Morey Corporation
2659 Wisconsin Ave.
Downers Grove, Illinois

PREPARED BY:

ENvironmental Management And
Resource Consultants, Inc. (ENMARC)
229 E. Custer Street
Lemont, Illinois 60439

May 18th, 2000 and June 2, 2000

PHASE II SUBSURFACE INVESTIGATION(S)

Morey Corporation
2659 Wisconsin Ave.
Downers Grove, Illinois

I. INTRODUCTION

On May 9th, 2000, a Phase I Environmental Site Assessment of the above referenced Property was completed on behalf of the potential purchaser, Cable/Comm Technologies. The results of the Phase I ESA indicated two areas of potential environmental concern: (1) the clay potting compound mixing area inside of the building which contain evidence of spilled materials and structural degradation of the underlying concrete floor; and (2) an area exterior to the building in which a drain leading from the chemical and waste storage area exits through the wall. There was evidence of stressed vegetation within this area, indicating that chemical spills have impacted the these surface soils by means of migration through the storage room drain. Figure 1 provides a map identifying the locations of these potential concerns.

Additionally, on May 18th, ENMARC had been requested to mobilize to the site to collect samples from this exterior area (@ the end of the drainage piping), following the removal of approximately1.5 cubic yards by the Morey Corporation. The Morey Corporation had experienced a release of a flux thinner (containing the hazardous compounds: isopropanol and methanol) that had migrated through the drain located in the chemical storage room and into the environment at this location. An approximate 3' x 3' x 4' deep excavation had been manually dug and the soils placed into containers. ENMARC collected samples from the sidewalls and bottom of the excavation and subjected them to field screening analysis using a Photoionization Detection (PID) meter. Field screening analysis of the sidewall samples collected from 2-3' depth intervals resulted in no PID readings. However, the bottom sample collected and subjected to field screening indicated a PID reading @ 8.7 ppm.

Subsequently, ENMARC collected an additional sample off the bottom of the small excavation area (@ 4') for submittal to an environmental testing laboratory for analytical documentation of the levels of contaminants that may be present. The bottom sample was collected pursuant to EPA Method 5035 (refer to Section II for details of sampling method), labeled and placed into an iced cooler pending transport to an environmental testing laboratory. The sample was submitted under chain-of-custody to the laboratory and analyzed for VOC's (Volatile Organic Compounds), SVOC's (Semi-Volatile Organic Compounds) and isopropanol and methanol compounds using EPA SW-846 test methods. Results of the analysis indicated levels of several contaminants above the current Tier 1 standards adopted under 35 Illinois Administrative Code (IAC) Part 742, Tiered Approach to Corrective Action Objectives (TACO). These contaminants include: tetrachloroethene, trichloroethene and vinyl chloride.

As a result, an extended subsurface investigation was completed on June 2nd, 2000. The intent of the follow-up subsurface investigation completed was to attempt to delineate the extent of the impact plume of contaminants discovered at the site.

II. EXTENDED PHASE II FIELD ACTIVITIES

On June 2, 2000, ENMARC mobilized the necessary equipment and personnel to the subject Property to install borings by means of Geoprobe methods to determine the extent of the impact previously discovered at the site, and to complete one boring within the potting compound mixing area. A total of seven borings were completed.

Figure 2 and Figure 3 provides illustrations of the location of the borings completed as part of the extended Phase II subsurface investigation completed. The samples were collected and analyzed in accordance with EPA protocol:

(1)Sample Collection
The borings were continuous sampled through their entire length for purposes of classifying the soils beneath the site, in addition to collecting samples at 2 foot depth intervals for field screening analysis and potential laboratory analytical documentation of the absence/presence of dry cleaning compounds. The samples collected from each depth interval were split into three portions. Pursuant to EPA Method 5035, approximately 5 ± g (weighed in the field) aliquots of the initial portion were placed into each of three pre-preserved 40 ml VOA bottles (one was preserved with methanol and two with a sodium bisulfate/deionized water solution) supplied by the laboratory. An additional portion was place into a 4 ounce glass jar with teflon lid for dry weight determinations, and the remaining portion was placed into a heavy duty plastic bag and sealed for purposes of "headspace" field screening analysis. The laboratory samples (VOA bottles and 4 ounce glass jars) were placed into an iced cooler pending submittal to an environmental testing laboratory for analytical confirmation of the levels of suspect constituents.

All sampling equipment was decontaminated between sample locations utilizing a detergent wash, i.e., tri-sodium phosphate; tap water rinse and a final distilled water rinse and allowed to air dry. A new, clean pair of nitrile gloves was utilized for each sampling interval.

(2)Field Screening:
The samples collected and placed into the heavy duty plastic bags were subjected to a heated environment for approximately ten minutes to enhance the volatilization of any organic contaminants prior to headspace screening with a properly calibrated Photoionization Detection (PID) meter, HNu Model HW-101. The probe of the PID meter was subsequently inserted through the plastic bag and into the "headspace" of the glass container and the maximum reading recorded. The PID meter was utilized to assess, in the field, the presence of potential impact. Boring logs, including the field screening analysis results were recorded in the field for each boring location. Attachment 1contains copies of the boring logs completed for the project.

(3)Sample Submittal to the Laboratory
The samples collected were labeled with the following information: Client, Site Name, Date, Sample Identification # and samplers initials. The samples were placed into an "iced" cooler for preservation purposes during transport to the laboratory. A laboratory chain-of-custody sheet was completed and submitted with the samples relinquished to the laboratory for analysis. Due to the lack of the presence of semi-volatiles and other compounds analyzed in the initial sample collected on 5/18/2000, all samples were subjected to analysis for VOC's only using EPA Method 8260.

III. SITE GEOLOGY

Pursuant to geologic reference sources, specifically the 1984 Berg Circular entitled, *"Potential for Contamination of Shallow Aquifers from Land Burial of Municipal Wastes"*, the site may be located within one of the following Berg Geologic Zones:

Zone Ax: Alluvium, a mixture of gravel, sand, silt and clay along streams, variable in composition and thickness;

Zone C2: Sand and gravel within 20-50 feet of land surface, overlain and underlain by relatively impermeable till, other fine-grained material, and/or bedrock;

Zone E: uniform, relatively impermeable silty or clayey till at least 50 feet thick; no evidence of interbedded sand and gravel.

Visual inspection of the samples collected of the soils beneath the site indicates that the native soils consist of silty clay materials within the shallow subsurface environment, up through a depth of approximately 12 feet below grade near the source (where the drain pipe exits the building). Within this area in which the source is located, the elevation is approximately 4 -5 feet higher than the remaining topography, particularly that at and north of the loading dock area. At approximately 11' feet below grade at the source location, a stiff, grey silty clay layer is encountered which appears to be the confining layer absent of impact above TACO Tier 1 standards. This confining layer is subsequently encountered at shallower depths across the site in the direction of the loading dock. Additionally, the initial strata immediately encountered at the site consists of non-native clayey fill materials. Without the completion of borings to greater depths, the type of Berg soils that underlay the site cannot be defined.

IV. SOIL SAMPLE ANALYSIS

Samples from the depth interval indicating the highest levels of potential impact (based upon visual and/or field screening analysis) from each boring location were submitted to an environmental testing laboratory for purposes of analysis for Volatile Organic Compounds (VOC's, EPA Method 8260), which were initially detected in the first sample collected and analyzed from the site.

Laboratory analysis of the samples collected did result in levels of several (VOC) compounds that had initially been detected at several of the borings installed. A table summarizing the results of the analysis completed in comparison to TACO Tier 1 standards is incorporated as Attachment 2, along with copies of the laboratory analysis reports for each of the samples submitted for analysis.

Based upon review of the analysis results, the highest impact is located at the bottom of the concrete stoop located immediately adjacent to the unloading dock area. It appears that releases of contaminants from the drainage pipe would follow the topography of the ground surface and flow towards the bottom of the concrete steps towards the unloading dock. Materials appear to have accumulated at this location and infiltrated into the ground.

V. CONCLUSIONS AND RECOMMENDATIONS

In general, the levels detected at the site were compared to the TACO Tier 1 standards which comprise the initial Tier of cleanup objectives developed under TACO by the Illinois EPA . TACO Tier 1 evaluations are used as the first basis of comparison in establishing impact and corresponding remediation. Tier 1 standards are based upon three types of exposure: ingestion, inhalation and the migration path to groundwater ingestion routes of exposure, and is additionally based upon property use, i.e., residential versus commercial/industrial. TACO uses a series of ASTM equations which models the transport of contaminants through the subsurface. Tier 1 standards are calculated from these equations using conservative, generic calculation parameters. It appears that the primary route of exposure that the contaminant levels at this site exceed, under a Tier 1 evaluation, is the migration to groundwater ingestion exposure route. There are, however, several locations at which the inhalation exposure routes are additionally exceeded. A summary identifying these exceedences is incorporated into the following table:

SAMPLE I.D./DEPTH	PARAMETERS ABOVE TACO TIER 1 RESULTS IN PPM		
	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE
S-1 @ 4'	14.9	0.618	0.116
B2 @ 8-10'	66.7	5.96	ND
B4 @ 6-8'	220.8	0.496	ND
B5 @ 4'	4.03	0.250	ND
B6 @ 4'	97.7	0.129	ND
B7 @ 4'	0.147	ND	ND
IEPA TACO TIER I CLEANUP OBJECTIVES – RESIDENTIAL, PPM			
INGESTION	12	58	0.3
INHALATION	11	5	0.03
IEPA TACO TIER I CLEANUP OBJECTIVES – COMMERCIAL/INDUSTRIAL, PPM			
INGESTION	110	520	3
INHALATION	20	8.9	0.06
IEPA TACO TIER I CLEANUP OBJECTIVES – CONSTRUCTION WORKER, PPM			
INGESTION	2400	1200	65
INHALATION	28	12	0.08
IEPA TACO TIER I CLEANUP OBJECTIVES – MIGRATION TO GW INGESTION (BOTH RESIDENTIAL & COMMERCIAL/INDUSTRIAL			
CLASS I	0.06	0.06	0.01
CLASS II	0.3	0.3	0.07

Figure 2 also provides a map in which an impact boundary, of those levels exceeding Tier 1 standards, is estimated.

However, TACO additionally establishes Tier 2 and Tier 3 objectives, which are based on the development of site-specific standards/modeling. In lieu of the conservative, all encompassing parameters for use in calculating cleanup objectives as done under Tier 1, Tier 2 standards are based upon the use of site-specific parameters that are developed from the collection and geotechnical testing of the soils at the site. Tier 3 further exemplifies site specific development of standards by allowing the use of additional modeling of the contaminants present at a site, in addition to considering other conditions not allowed under Tier 1 or Tier 2 .

Additionally, under TACO evaluations, the use of institutional controls and engineering barriers to limit the exposure to contaminants at a Property is allowed. Institutional controls include the use of restrictions to limit the use of the property, prohibit the installation or use of on-site wells, and facilitate the use of highway authority agreements, etc. Engineering barriers include the installation of such barriers as clean soil, concrete or asphalt caps over the impacted areas to prohibit exposure to the underlying contaminants.

In conclusion, TACO was developed by the Illinois EPA in order to address impact at industrial/commercial properties using a risk-based approach in lieu of one set of broad, conservative standards for establishing "clean" which in the past has created costly and unnecessary cleanups. The IEPA now recognizes site specific conditions for establishing cleanup objectives, as wells as the use of institutional controls and engineering barriers to minimize the risk associated with impacted properties.

With regard to the specific impact discovered at the site, there is a high likelihood that the calculation of a site specific cleanup objectives, in conjunction with the limited application of engineering barriers, may be able to demonstrate that the existing levels can be allowed to remain in-place as-is. Based upon review of the areas exceeding TACO cleanup objectives, ENMARC would like to provide the following evaluations and recommendations:

1. Based upon the fact that the site is currently supplied with potable water from a municipal water supply source, and that the installation of an on-site well is not necessary, and may even be prohibited at the Village level, the groundwater ingestion route of exposure to the contaminant levels is limited, therefore the exposure route with regard to groundwater ingestion is basically eliminated; and

2. Collection of a sample for physical soils analysis, for purposes of calculating site specific Tier 2 cleanup objectives for the inhalation exposure route. There are four areas at which the inhalation exposure route standards under Tier 1 have been exceeded, based upon the current and continuing industrial use of the Property: S-1, B2, B4, and B6. Prior experience with similar contaminants and soils indicates that most of these locations would fall under a Tier 2 standard for inhalation, excepting for B4 where the levels of Tetrachloroethene are relatively high @ 220.8 ppm. This location also exceeds the standard established for the ingestion exposure route for Tetrachloroethene (@ 110 ppm) which cannot be changed by a Tier 2 evaluation. Therefore, the application of a concrete cap to act as a barrier to the impact would suffice. An approximate 10' x 10' concrete patio over the location of B4 would sufficiently eliminate the inhalation and ingestion exposures to the impact levels at this location.

In order to achieve the above, an additional investigation and collection of samples for both chemical and physical analysis would be necessary. The cost of the investigation (by ENMARC) would be approximately $ 4,125.00. This would include the installation of up to 5 additional borings, the geotechnical and chemical analysis of these samples, TACO modeling to determine Tier 2 site specific objectives, and a final report. The additional sampling and analysis will take several weeks to complete due to the extensive laboratory work required. In conjunction with the use of site specific objectives, the 10' x 10' patio at the highest area of impact (B4) would act as an engineering barrier, which would in all likelihood eliminate the routes of exposure to the contamination in accordance with the protocol established under TACO.

If Tier 2 calculations do not resolve the inhalation impact areas (specifically that @ B6), we estimate that a 25' x 15' area would require capping with concrete to serve as an additional engineering barrier. The cost of the engineering barriers would thus be approximately $ 5000. The total cost of addressing the impacted areas by means of risk management would subsequently be $ 10,000.00.

LIMITATIONS

Conclusions and recommendations in the Phase II section of this report are based upon the data obtained from samples collected at the indicated locations and from any other information discussed in this report. Only a limited evaluation was performed and this report does not reflect any variations which may occur between sample locations. The nature and extent of such variations may not become evident until later. If variations appear evident, it will be necessary to re-evaluate the recommendations in this report.

The observations described in this report were made under the conditions state herein. The findings presented in the report were based solely upon the services described in 20-656.02 and not on tasks or procedures beyond the scope of the described and authorized services.

Certain site-specific information presented in this report was obtained from the parties herein referenced. ENMARC did not attempt to verify independently the accuracy or completeness of all information reviewed or received during the course of this subsurface site investigation.

The objective of this Phase II subsurface site investigation was to provide data for the evaluation of the site located at 2659 Wisconsin Ave., Downers Grove, Illinois. Further investigative site information which was not available to ENMARC at the time of this assessment may result in a modification of the findings stated above.

This report has been prepared in accordance with generally accepted site assessment practices. No other warranty, expressed or implied, is made.

LIST OF FIGURES AND ATTACHMENTS:

Figure 1: Site Plan Map
Figure 2: Boring Location Map

Attachment 1: Boring Log Records
Attachment 2: Laboratory Analysis Reports

LIST OF FIGURES:

Figure 1:Site Plan Map

Figure 2:Boring Location Map – Inside; Near Potting Compound Mixing Area

Figure 3: Boring Location Map – Outside; Near Loading Dock Area

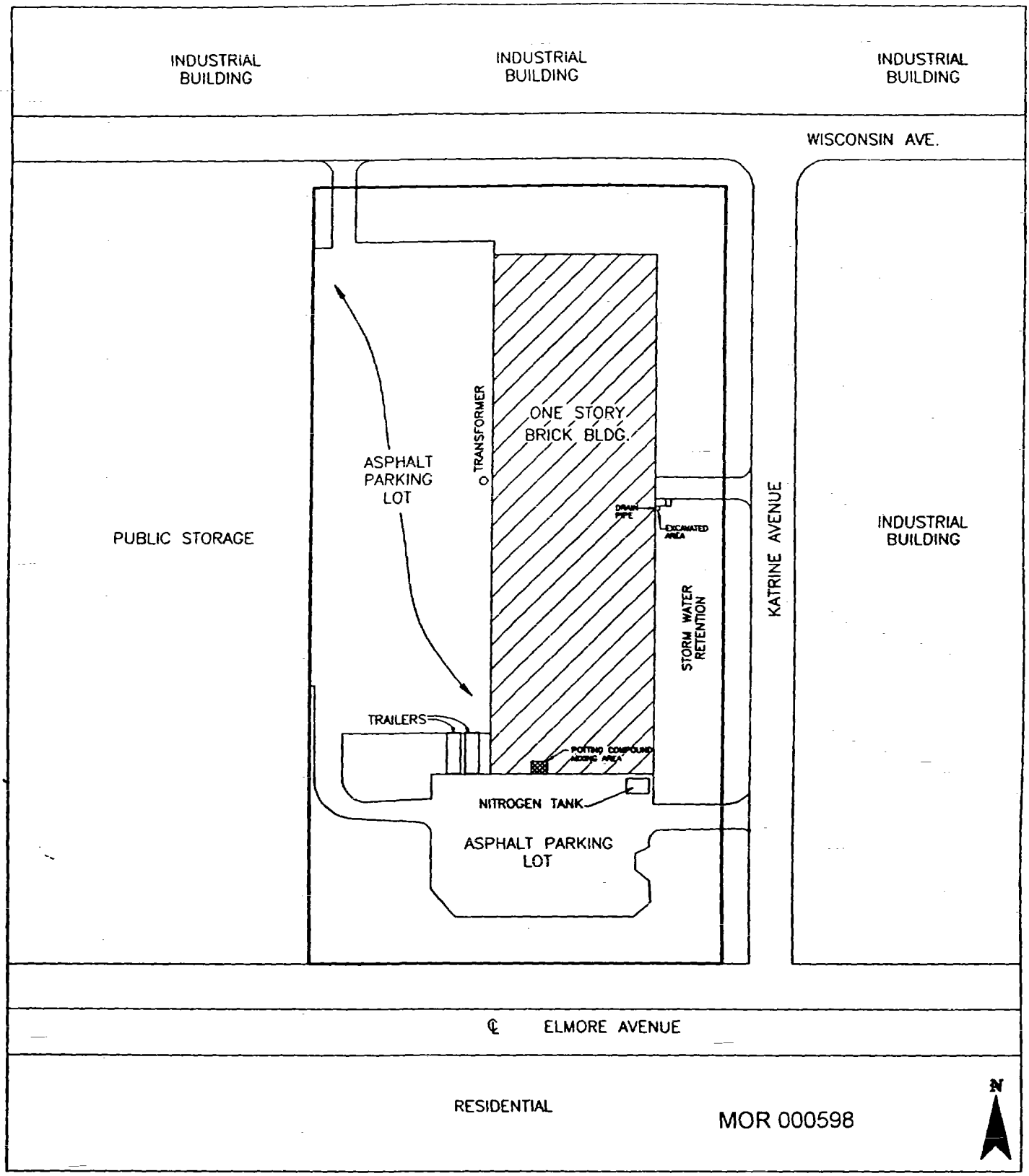


FIGURE 1: SITE PLAN MAP

0' 100' 200'

5-9-2000 6-14-2000	MOREY BUILDING 2659 WISCONSIN AVE. DOWNERS GROVE, ILLINOIS
	SCALE 1" : 100' | ENMARC

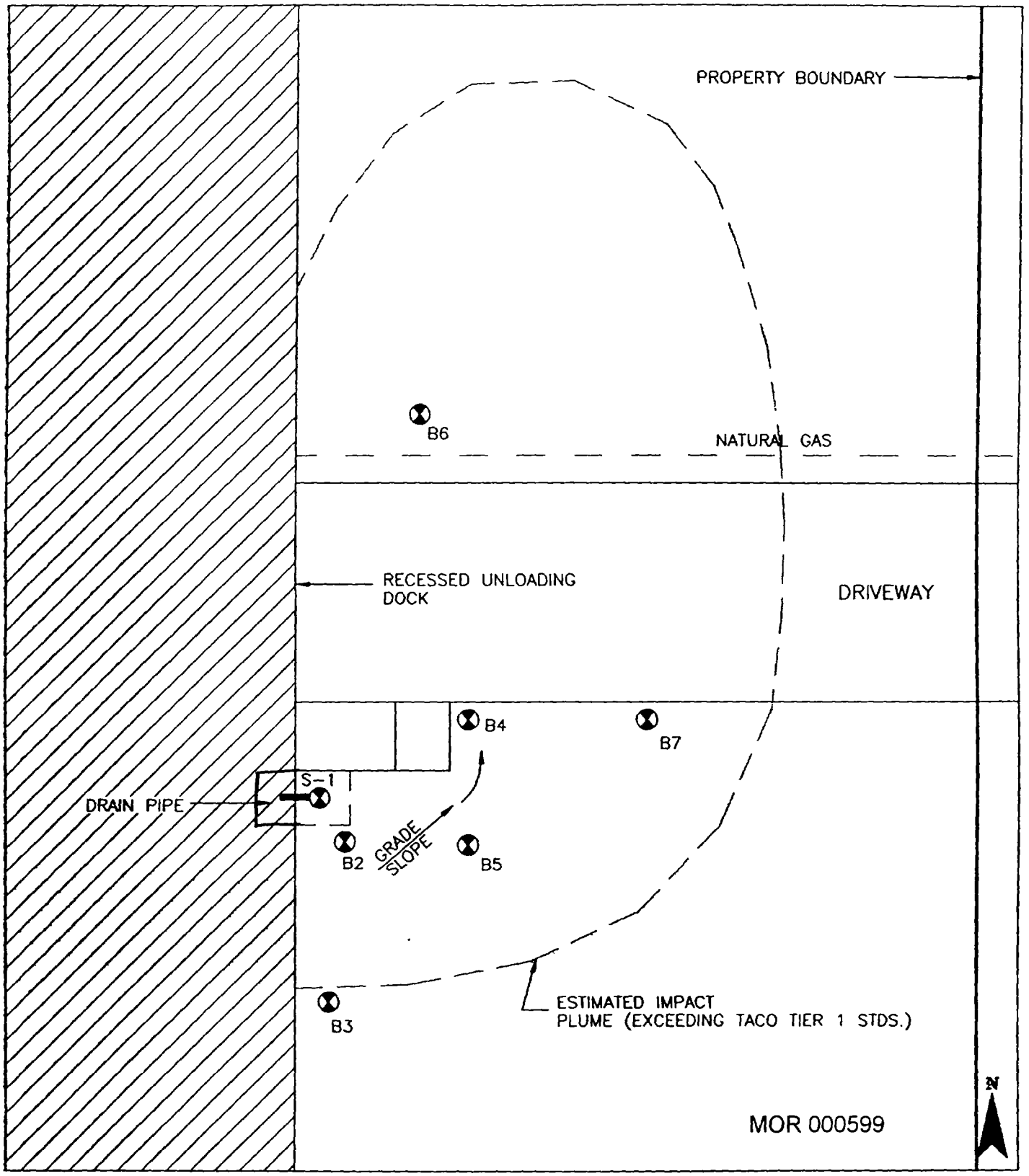


FIGURE 3: BORING LOCATION MAP -- NEAR LOADING DOCK AREA

0' 10' 20'

6/2/2000	MOREY BUILDING 2659 WISCONSIN AVE. DOWNERS GROVE, ILLINOIS
	SCALE 1" : 10' — ENMARC

Attachment 1:

Boring Log Records

Project No.: 20-656.02	Boring Number: B1	Page: 1 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: INSIDE BUILDING – NEAR POTTING COMPOUND MIXING AREA	Start 6:20 AM Finish 7:10 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1" DIAM, 2' LENGTH HAND PROBE		1	4" CONCRETE, 3–4" STONE BASE		NO OBVIOUS EVIDENCE OF IMPACT
			2	BROWN/GREY MOTTLED, SILTY CLAY, TR. SAND & GRAVEL	0.2	
			3	END OF BORING (EOB)		
			4			
			5			
			6			
			7			
			8			
			9			
			10			
			11			
			12			
			13			*Sample Submitted For Analysis
			14			
			15			

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B2	Page: 2 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. @ NE CORNER OF EXCAVATION AREA	Start 7:24 AM Finish 7:50 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	70%	1	BAREGROUND CLAYEY BROWN/BLACK FILL	10.2	NO OBVIOUS EVIDENCE OF IMPACT
			2	BROWN/GREY MOTTLED SITLY CLAY, W/GRAVEL, TRACE SAND, BECOME STIFF @ GREATER DEPTHS;		
			3		10.4	
		100%	4			
			5		11.2	
			6			
			7		11.8	
			8			
		100%	9		12.0*	
			10	LIMESTONE FRAGMENT CLAYEY SAND AND GRAVEL		
			11		10.8	
			12	STIFF MOSTLY GREY SILTY CLAY, TR. GRAVEL		
		100%	13		ND*	*Sample Submitted For Analysis
			14			
			15	END OF BORING (EOB) @ 16'	ND	

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B3	Page: 3 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. ~ 20' SOUTH OF EXCAVATION AREA	Start 7:54 AM Finish 8:12 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	50%	1	BAREGROUND		
			1	4" BLACK TOPSOIL		NO OBVIOUS EVIDENCE OF IMPACT
			2	CLAYEY BROWN/BLACK FILL	2.2*	
			3			SAMPLE COLLECTED @ 3.5-4', NEAR FILL/NATIVE SOIL INTERFACE
			4	BROWN/GREY MOTTLED SITLY CLAY, SOME GRAVEL, TRACE SAND		
		100%	5		1.6	
			6			
			7		0.8	
			8			
		100%	9		1.0	
			10	MORE GREY IN COLOR, MORE DENSE		
			11		0.8	
			12			
			13	END OF BORING (EOB)	ND*	*Sample Submitted For Analysis
			14			
			15			

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B4	Page: 4 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. @ EDGE OF DRIVEWAY, DOWN-GRADIENT FROM DRAIN PIPE	Start 8:25 AM Finish 8:50 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	80%	1	BAREGROUND 10" BLACK TOPSOIL BROWN/BLACK CLAY & GRAVEL FILL	15.2	EVIDENCE OF STAINING NEAR SURFACE
			2			
			3	BLACK SILTY CLAY, HIGH ORGANIC, EVIDENCE OF ROOTS	32.0	SAMPLE COLLECTED @ 2', NEAR FILL/NATIVE SOIL INTERFACE (EXTRACT ONLY)
			4	BROWN/GREY MOTTLED SITLY CLAY, SOME GRAVEL, TRACE SAND		
			5		22.2	
		100%	6	STIFF, GREY SILTY CLAY, TR. SAND & GRAVEL		
			7		35.8*	
			8			
			9	GREY/BROWN SANDY CLAY W/SILT; TR. GRAVEL; MOIST - WET	11.2	
		80%	10			
			11		0.2	
			12	GREY SILTY CLAY, TR. SAND & GRAVEL		
			13	END OF BORING (EOB)		*Sample Submitted For Analysis
			14			
			15	MOR 000604		

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling 8.5 - 9' =>

▽ Depth After Drilling LITTLE RECHARGE

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____ WET

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC

229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B5	Page: 5 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. ~10' EAST OF EXC. AREA	Start 8:56 AM Finish 9:20 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	90%	1	BAREGROUND		
			1	4" BLACK CLAYEY TOPSOIL	12.4	NO MAJOR EVIDENCE OF STAINING OR ODORS
			2	BROWN/BLACK CLAY FILL		
			3	BROWN/GREY MOTTLED SILTY CLAY, SOME GRAVEL, TRACE SAND	18.8	
			4			SAMPLE COLLECTED @ 4'
		100%	5		12.0	
			6			
			7		0.8	
		100%	8	GREY SILTY CLAY, TR. SAND & GRAVEL		
			9	STIFF, DENSE	0.6	
			10			
			11	REFUSAL, ROCK IN SHOE	NS	
			12	END OF BORING (EOB)		
			13			*Sample Submitted For Analysis
			14			
			15			

MOR 000605

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B6	Page: 6 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. NORTH OF DRIVEWAY; JUST NORTH OF GAS LINE	Start 9:40AM Finish 10:00AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	95%	1	GRASS, 4" TOPSOIL, 2" CLAY FILL		
			2	BROWN/MOTTLED GREY SILTY CLAY; TR. SAND, SOME GRAVEL	11.8	NO MAJOR EVIDENCE OF STAINING OR ODORS
			3		18.8*	
			4			SAMPLE COLLECTED @ 4'
		100%	5		22.0*	
			6			
			7	STIFF, GREY SILTY CLAY, TR. SAND & GRAVEL	1.0	
			8			
		100%	9		0.8	
			10			
			11		0.8	
			12			
			13	END OF BORING (EOB)		*Sample Submitted For Analysis
			14			
			15			

MOR 000606

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Project No.: 20-656.02	Boring Number: B7	Page: 7 of 7
		Date: 6/2/2000
Site Name: MOREY BUILDING Address: 2659 Wisconsin Ave. Downers Grove, Illinois	Boring Location: OUTSIDE OF BLDG. APPROX. 10' EAST OF BORING B4	Start 10:05 AM Finish 10:15 AM

Sample Number	Sample Type	Sample Recovery	Depth (feet)	Detailed Soil And Rock Description	PID (ppm)	COMMENTS
	1.5" DIAM, 4' LENGTH MACRO-CORE	70%	1	GRASS, BLACK CLAYEY TOPSOIL	2.2	NO MAJOR EVIDENCE OF STAINING OR ODORS
			2	6" BROWN CLAYEY FILL		
			3	BROWN/GREY SILTY CLAY, TR. SAND, SOME GRAVEL, STIFF	3.8*	
			4			SAMPLE COLLECTED @ 4'
		100%	5		1.0*	
			6			
			7	STIFF, GREY SILTY CLAY, TR. SAND & GRAVEL	0.8	
			8	END OF BORING (EOB)		
			9			
			10			
			11			
			12			
			13			*Sample Submitted For Analysis
			14			
			15			

MOR 000607

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Groundwater Data

▼ Depth While Drilling DRY

▽ Depth After Drilling DRY

Auger Depth _____ Drill Type: GEOPROBE

Rotary Depth _____

Driller Envirodynamics Geologist J. Virgilio

Note: Boring backfilled w/cuttings unless otherwise noted.

ENMARC
229 E. Custer Street
Lemont, Illinois

Attachment 2:

Laboratory Analysis Reports

MOREY BUILDING, DOWNERS GROVE, IL
ANALYSIS SUMMARY TABLE – CONSTITUENTS EXCEEDING IEPA STANDARDS

PARAMETERS	SAMPLE I.D.#, Results in ppm									IEPA TACO TIER I STANDARDS, PPM							
										RESIDENTIAL		INDUSTRIAL /COMMERCIAL[2]				RESIDENTIAL & INDUSTRIAL-COMMERCIAL	
	S-1 @ 4'	B1 (Inside) 1-3'	B-2 @ 8-10'	B-2 @ 12-14'	B-3 @ 4'	B-4 @ 6-8'	B-5 @ 4'	B-6 @ 4'	B-7 @ 4'	Ingestion	Inhalation	Industrial/Commercial		Construction Worker		Path to GW	
												Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
VOC's & SVOC (Volatileand Semi-Volatile Organic Compounds-- only those constituents above detection presented):																	
Acetone	ND	0.281 B	0.241 B	0.292 B	0.159 B	0.652	0.225 B	0.236	0.272	7800	100,000	200,000	100,000	200,000	100,000	16	16
Benzene	ND	ND	0.00473	ND	0.007	ND	0.00602	0.00835	0.007	22	0.8	200	1.5	4300	2 1	0 03	0.17
2-Butanone	ND	ND	ND	ND	ND	ND	ND	0.0472	ND	--	--	--	--	--	--	--	--
1,3- Dichlorobenzene[3]	2.72	ND	ND	ND	ND	ND	ND	ND	ND	70	570	1800	570	180	570	0.2	1 0
1,4 - Dichlorobenzene	2.67	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	17,000	--	240	2	11
cis-1,2-Dicloroethene	3 11	ND	8 74	0.00634	ND	0.023	0 0646	0 0388	ND	780	1200	20,000	1200	20,000	1200	0 4	1 1
trans-1,2-Dicloroethene	ND	ND	0 118	ND	ND	ND	0.00470	ND	ND	1600	3100	41,000	3100	41,000	3100	0.7	3 4
(bis)(2-Ethyl Hexyl)Phthalate	ND	0 194	NT	NT	NT	NT	ND	ND	ND	--	--	--	--	--	--	--	--
Methylene chloride	ND	ND	0.00627 B	0.00723 B	0.009 B	0.006 B	ND	0.0124	ND	85	13	760	24	12,000	34	0.02	2
Tetrachloroethene	**14.9**	ND	**66.7**	0.0218	ND	**220.8**	**4.03**	**97.7**	**0.147**	12	11	110	20	2400	28	0 06	0.3
Toluene	ND	ND	0 00725	ND	0.013	0.018	0.00922	0.0150	0.010	16000	650	410,000	650	410,000	42	12	29
Trichloroethene	**0.618**	ND	**5.96**	ND	ND	**0.496**	**0.250**	**0.129**	ND	58	5	520	8 9	1200	12	0.06	0 3
Vinyl Chloride	**0.116**	ND	ND	ND	ND	ND	ND	ND	ND	0 3	0 03	3	0 06	65	0 08	0.01	0 07

(1) TACO -- Tiered Approach to Cleanup Objectives -- 35 IAC Part 742.

(2) Application of Commercial/Industrial Standards requires the use of an institutional control limited the use of the Property to Commercial/Industrial.

(3) No objective established under TACO. Objective established by IEPA Office of Chemical Safety.

B => Acetone found in lab blank @ 0.0207ppm; => Methylene Chloride found in lab blank @ 0.0162mg/kg.

Notes. Those levels exceeding Tier 1 standards are shaded.

NT => Not Tested due to lack of SVOC's at source discovered from initial sampling efforts (@ S-1).

aea laboratories, inc.

LABORATORY DATA REPORT

CLIENT **Enmarc**
229 E. Custer Street
Lemont, Illinois 60439

PROJECT NAME	: **MOREY BLDG, DOWNERS GROVE, IL**
NUMBER#	: 20.565
TASK ORDER	: N/A
ATTN	: **J. Virgilio**
RECEIVED	: 06/02/00
REPORTED	: 06/14/00
FILE ID#	: ***00005360 THRU 00005368***

PROJECT SUMMARY:

Analyses were performed in accordance with the methods found in the USEPA publication: Test Methods for Evaluating Solid Waste, Physical/Chemical methods, SW- 846, 3rd Edition, December 1996. Specific method references are listed on the analytical report.

Results have been expressed on a "wet" weight (as received) basis except where otherwise specified .

All analyses were performed within established holding times, and all Quality Control criteria as outlined in the methods have been met.

LABORATORY DIRECTOR _____

MOR 000610

IN# 60819

AEA LABORATORIES, INC.

DBA: AMERICAN-ATHENA LABORATORIES
LABORATORY TESTING OF SOIL WATER AND HAZARDOUS WASTE

8609 W. Bryn Mawr, Suite 201, Chicago, IL 60631-3524
Tel.: 773-693-8030 Fax: 773-693-8783 888-AEA-TEST
Web: http://www.aeatest.com

CHAIN OF CUSTODY

Client: ENMARC	Project Name: MOREY BLDG., Downers Grove, IL
Address: 229 E. Custer St. Lemont, IL 60439	Sampler Name: J. Virgilio
	Project #: 20-656
Report to: J. Virgilio	Time Period: (5) Day 4 Day 3 Day 2 Day 1 Day <24Hr.
Phone #: 630/257-9357 Fax #: 630/257-1650	Date Needed: 6-9-00

Field ID; Location	Matrix	Date Time	Type Cont.	# Cont.	Parameters Requested	AEA ID #
1 B1 @ 1-3' E	Soil	6-2-00 AM	2oz. Glass VOAs	2 3	VOCs ; SVOCs (also see attached MSDS)	00005360
2 B2 @ 8-10' E			2oz. Glass VOAs	1 3	VOCs	00005361
3 B2 @ 12-14' E					Extract ; Hold	00005362
4 B3 @ 4' E					VOCs	00005363
5 B4 Comm' 2-4' E					Extract ; Hold	00005364
6 B4 @ 6-8' E					VOCs	00005365
7 B5 @ 4' E					VOCs	00005366
8 B6 @ 4' E					VOCs	00005367
9 B7 @ 4' E					VOCs	00005368
10						
11					Note ⇒ VOA Bottles marked w/ an "E" indicates Sample Effervesced w/ preservative	
12						
13						
14						
15						

Sample Preserved: (Y) N	Condition of Sample(s): (Good) Violated
Preservative Type: Ice + ~~SOAS VOAs~~ ⇒ (1) HCl + (E) Na_2SO_4	Temp. of Container °C: < 4°C

GLOSSARY:
MATRIX=Soil(S), Air(A), Water(W), Drinking Water(DW), Wipe(P), Other(O). A=Accept, R=Reject
CONTAINER=40ml Vial(A), 60ml Vial(B), 2oz(C), 4oz(D), 8oz(E), 1Liter(F), Glass(G), Plastic(P), Air Tube(T), Wipe(W)
PRESERVATIVE=HCl, HNO3, H2SO4, NaOH, MeCl, Other(O). I=Ice. N/A=Not Applicable

Relinquished by: J. Virgilio	Date/Time: 6-2-00/11 AM	Accepted by: J. Davis	
Relinquished by: J. Davis	Date/Time: 6-2-00 1PM	Accepted by:	13:48 6-2-00
Comments: 06021826 "E" for effervesced	MOR 000611	Page 1 of 1	

aea laboratories, inc.

Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B1			
Lab Number			AF05360			
Description			1-3'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 3550B	SONICATION PREP-BNA	-	6/05/00	-	06/05/00	EQ
SW-846 8270C	**Semi-Volatiles by 8270**	-	-	mg/kg	06/05/00	EN
	1,2,4-Trichlorobenzene	0.0784	< Stated MDL		06/05/00	EN
	1,2-Dichlorobenzene	0.0784	< Stated MDL		06/05/00	EN
	1,3-Dichlorobenzene	0.0784	< Stated MDL		06/05/00	EN
	1,4-Dichlorobenzene	0.0784	< Stated MDL		06/05/00	EN
	2,4,5-Tichlorophenol	0.117	< Stated MDL		06/05/00	EN
	2,4,6-Trichlorophenol	0.117	< Stated MDL		06/05/00	EN
	2,4-Dichlorophenol	0.117	< Stated MDL		06/05/00	EN
	2,4-Dimethylphenol	0.0784	< Stated MDL		06/05/00	EN
	2,4-Dinitrophenol	0.0784	< Stated MDL		06/05/00	EN
	2,4-Dinitrotoluene	0.0784	< Stated MDL		06/05/00	EN
	2,6-Dinitrotoluene	0.0784	< Stated MDL		06/05/00	EN
	2-Chloronaphthalene	0.0784	< Stated MDL		06/05/00	EN
	2-Chlorophenol	0.117	< Stated MDL		06/05/00	EN
	2-Methylnaphthalene	0.0784	< Stated MDL		06/05/00	EN
	2-methylphenol	0.0784	< Stated MDL		06/05/00	EN
	2-Nitroaniline	0.0784	< Stated MDL		06/05/00	EN
	2-Nitrophenol	0.0971	< Stated MDL		06/05/00	EN
	3,3-Dichlorobenzidine	0.0784	< Stated MDL		06/05/00	EN
	3-Nitroaniline	0.0784	< Stated MDL		06/05/00	EN
	4,6-Dinitro-2-methylphenol	0.0784	< Stated MDL		06/05/00	EN
	4-Bromophenyl-phenylether	0.0784	< Stated MDL		06/05/00	EN
	4-Chloro-3-methylphenol	0.0784	< Stated MDL		06/05/00	EN
	4-Chloroaniline	0.0784	< Stated MDL		06/05/00	EN
	4-Chlorophenyl-phenylether	0.0784	< Stated MDL		06/05/00	EN
	4-Methylphenol	0.0784	< Stated MDL		06/05/00	EN
	4-Nitroaniline	0.0784	< Stated MDL		06/05/00	EN
	4-Nitrophenol	0.0784	< Stated MDL		06/05/00	EN
	Acenaphthene	0.0784	< Stated MDL		06/05/00	EN
	Acenaphthylene	0.0784	< Stated MDL		06/05/00	EN
	Anthracene	0.0784	< Stated MDL		06/05/00	EN
	Benzo[a]anthracene	0.0784	< Stated MDL		06/05/00	EN
	Benzo[a]pyrene	0.0784	< Stated MDL		06/05/00	EN
	Benzo[b]fluoranthene	0.0784	< Stated MDL		06/05/00	EN
	Benzo[g,h,i]perylene	0.0784	< Stated MDL		06/05/00	EN
	Benzo[k]fluoranthene	0.0784	< Stated MDL		06/05/00	EN
	Benzyl alcohol	0.0784	< Stated MDL		06/05/00	EN

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B1			
Lab Number			AF05360			
Description			1-3'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	bis (2-Chloroethoxy) methane	0.0784	< Stated MDL		06/05/00	EN
	bis (2-Chloroethyl) ether	0.0784	< Stated MDL		06/05/00	EN
	bis (2-Chloroisopropyl) ether	0.0784	< Stated MDL		06/05/00	EN
	bis(2-Ethylhexyl)phthalate	0.0784	0.194		06/05/00	EN
	Butylbenzylphthalate	0.0784	< Stated MDL		06/05/00	EN
	Chrysene	0.0784	< Stated MDL		06/05/00	EN
	Dibenz[a,h]anthracene	0.0784	< Stated MDL		06/05/00	EN
	Dibenzofuran	0.0784	< Stated MDL		06/05/00	EN
	Diethylphthalate	0.0784	< Stated MDL		06/05/00	EN
	Dimethylphthalate	0.0784	< Stated MDL		06/05/00	EN
	Di-n-butylphthalate	0.117	< Stated MDL		06/05/00	EN
	Di-n-octylphthalate	0.0784	< Stated MDL		06/05/00	EN
	Fluoranthene	0.0784	< Stated MDL		06/05/00	EN
	Fluorene	0.0784	< Stated MDL		06/05/00	EN
	Hexachlorethane	0.0784	< Stated MDL		06/05/00	EN
	Hexachlorobenzene	0.0971	< Stated MDL		06/05/00	EN
	Hexachlorobutadiene	0.0784	< Stated MDL		06/05/00	EN
	Hexachlorocyclopentadienes	0.0784	< Stated MDL		06/05/00	EN
	Indeno[1,2,3-cd]pyrene	0.0784	< Stated MDL		06/05/00	EN
	Isophorone	0.0784	< Stated MDL		06/05/00	EN
	Naphthalene	0.0784	< Stated MDL		06/05/00	EN
	Nitrobenzene	0.0784	< Stated MDL		06/05/00	EN
	n-Nitroso-di-n-propylamine	0.0784	< Stated MDL		06/05/00	EN
	n-Nitrsodiphenylamine	0.0784	< Stated MDL		06/05/00	EN
	Pentachlorophenol	0.0971	< Stated MDL		06/05/00	EN
	Phenanthrene	0.0784	< Stated MDL		06/05/00	EN
	Phenol	0.0784	< Stated MDL		06/05/00	EN
	Pyrene	0.0784	< Stated MDL		06/05/00	EN
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.0064	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.0064	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.0064	< Stated Limit		06/13/00	AS

MOR 000613

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B1			
Lab Number			AF05360			
Description			1-3'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	1,2,4-Trichlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.0064	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.0064	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.0064	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.0064	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.0064	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.0064	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.0064	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.0064	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0128	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.0064	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0128	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.0064	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0128	< Stated Limit		06/13/00	AS
	Acetone	0.0128	0.281 B		06/13/00	AS
	Benzene	0.0064	< Stated Limit		06/13/00	AS
	Bromobenzene	0.0064	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.0064	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.0064	< Stated Limit		06/13/00	AS
	Bromoform	0.0064	< Stated Limit		06/13/00	AS
	Bromomethane	0.0064	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0128	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.0064	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.0064	< Stated Limit		06/13/00	AS
	Chlorodibromomethane	0.0064	< Stated Limit		06/13/00	AS
	Chloroethane	0.0064	< Stated Limit		06/13/00	AS
	Chloroform	0.0064	< Stated Limit		06/13/00	AS
	Chloromethane	0.0064	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.0064	< Stated Limit		06/13/00	AS
	cis-1,3-Dichloropropene	0.0064	< Stated Limit		06/13/00	AS
	Dibromomethane	0.0064	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.0064	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.0064	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.0064	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.0064	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0128	< Stated Limit		06/13/00	AS
	Methylene chloride	0.0064	< Stated Limit		06/13/00	AS
	Naphthalene	0.0064	< Stated Limit		06/13/00	AS

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B1			
Lab Number			AF05360			
Description			1-3'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	n-Butylbenzene	0.0064	< Stated Limit		06/13/00	AS
	o-Xylene	0.0064	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.0064	< Stated Limit		06/13/00	AS
	Propylbenzene	0.0064	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.0064	< Stated Limit		06/13/00	AS
	Styrene	0.0064	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.0064	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.0064	< Stated Limit		06/13/00	AS
	Toluene	0.0064	< Stated Limit		06/13/00	AS
	trans-1,2-Dichloroethene	0.0064	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.0064	< Stated Limit		06/13/00	AS
	Trichloroethene	0.0064	< Stated Limit		06/13/00	AS
	Trichlorofluoromethane	0.0064	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.0064	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	14.8	%	06/06/00	JM

B=Acetone was found in the method blank at 0.0207 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000615

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B2			
Lab Number			AF05361			
Description			8-01'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.0041	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.0041	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.0041	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.0041	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.0041	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.0041	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.0041	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.0041	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.0041	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.0041	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.0041	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.0041	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.0041	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.0041	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.0041	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.0041	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0082	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.0041	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0082	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.0041	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0082	< Stated Limit		06/13/00	AS
	Acetone	0.0082	0.241 B		06/13/00	AS
	Benzene	0.0041	0.00473		06/13/00	AS
	Bromobenzene	0.0041	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.0041	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.0041	< Stated Limit		06/13/00	AS
	Bromoform	0.0041	< Stated Limit		06/13/00	AS
	Bromomethane	0.0041	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0082	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.0041	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.0041	< Stated Limit		06/13/00	AS

MOR 000616

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B2			
Lab Number			AF05361			
Description			8-01'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.0041	< Stated Limit		06/13/00	AS
	Chloroethane	0.0041	< Stated Limit		06/13/00	AS
	Chloroform	0.0041	< Stated Limit		06/13/00	AS
	Chloromethane	0.0041	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.916	8.74		06/14/00	AS
	cis-1,3-Dichloropropene	0.0041	< Stated Limit		06/13/00	AS
	Dibromomethane	0.0041	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.0041	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.0041	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.0041	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.0041	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0082	< Stated Limit		06/13/00	AS
	Methylene chloride	0.0041	0.00627 B		06/13/00	AS
	Naphthalene	0.0041	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.0041	< Stated Limit		06/13/00	AS
	o-Xylene	0.0041	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.0041	< Stated Limit		06/13/00	AS
	Propylbenzene	0.0041	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.0041	< Stated Limit		06/13/00	AS
	Styrene	0.0041	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.0041	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.916	66.7		06/14/00	AS
	Toluene	0.0041	0.00725		06/13/00	AS
	trans-1,2-Dichloroethene	0.0041	0.118		06/13/00	AS
	trans-1,3-Dichloropropene	0.0041	< Stated Limit		06/13/00	AS
	Trichloroethene	0.916	5.96		06/14/00	AS
	Trichlorofluoromethane	0.0041	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.0041	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	17.3	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.00714 mg/kg and acetone was at 0.0207 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000617

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aea laboratories, inc.

Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B2			
Lab Number			AF05362			
Description			12-14'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JV
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.00568	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.00568	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.00568	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.00568	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.00568	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.00568	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.00568	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.00568	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.00568	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.00568	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.00568	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.00568	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.00568	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.00568	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.00568	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.00568	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0114	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.00568	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0114	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.00568	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0114	< Stated Limit		06/13/00	AS
	Acetone	0.0114	0.292 B		06/13/00	AS
	Benzene	0.00568	< Stated Limit		06/13/00	AS
	Bromobenzene	0.00568	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.00568	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.00568	< Stated Limit		06/13/00	AS
	Bromoform	0.00568	< Stated Limit		06/13/00	AS
	Bromomethane	0.00568	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0114	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.00568	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.00568	< Stated Limit		06/13/00	AS

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B2			
Lab Number			AF05362			
Description			12-14'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.00568	< Stated Limit		06/13/00	AS
	Chloroethane	0.00568	< Stated Limit		06/13/00	AS
	Chloroform	0.00568	< Stated Limit		06/13/00	AS
	Chloromethane	0.00568	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.00568	0.00634		06/13/00	AS
	cis-1,3-Dichloropropene	0.00568	< Stated Limit		06/13/00	AS
	Dibromomethane	0.00568	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.00568	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.00568	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.00568	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.00568	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0114	< Stated Limit		06/13/00	AS
	Methylene chloride	0.00568	0.00723 B		06/13/00	AS
	Naphthalene	0.00568	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.00568	< Stated Limit		06/13/00	AS
	o-Xylene	0.00568	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.00568	< Stated Limit		06/13/00	AS
	Propylbenzene	0.00568	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.00568	< Stated Limit		06/13/00	AS
	Styrene	0.00568	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.00568	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.00568	0.0218		06/13/00	AS
	Toluene	0.00568	< Stated Limit		06/13/00	AS
	trans-1,2-Dichloroethene	0.00568	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.00568	< Stated Limit		06/13/00	AS
	Trichloroethene	0.00568	< Stated Limit		06/13/00	AS
	Trichlorofluoromethane	0.00568	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.00568	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	17.3	%	06/05/00	JM

B=Methylene chloride was found in the method blank at 0.00714 mg/kg and acetone was at 0.0207 mg/kg. Used sample B2@8-10' for moisture
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000619

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B3			
Lab Number			AF05363			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.00485	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.00485	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.00485	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.00485	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.00485	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.00485	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.00485	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.00485	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.00485	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.00485	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.00485	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.00485	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.00485	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.00485	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.00485	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.00485	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0097	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.00485	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0097	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.00485	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0097	< Stated Limit		06/13/00	AS
	Acetone	0.0097	0.159 B		06/13/00	AS
	Benzene	0.00485	0.007		06/13/00	AS
	Bromobenzene	0.00485	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.00485	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.00485	< Stated Limit		06/13/00	AS
	Bromoform	0.00485	< Stated Limit		06/13/00	AS
	Bromomethane	0.00485	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0097	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.00485	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.00485	< Stated Limit		06/13/00	AS

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B3			
Lab Number			AF05363			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.00485	< Stated Limit		06/13/00	AS
	Chloroethane	0.00485	< Stated Limit		06/13/00	AS
	Chloroform	0.00485	< Stated Limit		06/13/00	AS
	Chloromethane	0.00485	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.00485	< Stated Limit		06/13/00	AS
	cis-1,3-Dichloropropene	0.00485	< Stated Limit		06/13/00	AS
	Dibromomethane	0.00485	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.00485	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.00485	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.00485	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.00485	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0097	< Stated Limit		06/13/00	AS
	Methylene chloride	0.00485	0.009 B		06/13/00	AS
	Naphthalene	0.00485	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.00485	< Stated Limit		06/13/00	AS
	o-Xylene	0.00485	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.00485	< Stated Limit		06/13/00	AS
	Propylbenzene	0.00485	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.00485	< Stated Limit		06/13/00	AS
	Styrene	0.00485	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.00485	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.00485	< Stated Limit		06/13/00	AS
	Toluene	0.00485	0.013		06/13/00	AS
	trans-1,2-Dichloroethene	0.00485	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.00485	< Stated Limit		06/13/00	AS
	Trichloroethene	*0.00485*	*< Stated Limit*		*06/13/00*	AS
	Trichlorofluoromethane	0.00485	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.00485	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	13.8	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.0162 mg/kg and acetone was at 0.0179 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000621

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B4			
Lab Number			AF05365			
Description			6-8'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.0054	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.0054	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.0054	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.0054	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.0054	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.0054	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.0054	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.0054	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.0054	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.0054	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.0054	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.0054	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.0054	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.0054	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.0054	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.0054	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0108	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.0054	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0108	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.0054	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0108	< Stated Limit		06/13/00	AS
	Acetone	0.0108	0.652 B		06/13/00	AS
	Benzene	0.0054	< Stated Limit		06/13/00	AS
	Bromobenzene	0.0054	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.0054	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.0054	< Stated Limit		06/13/00	AS
	Bromoform	0.0054	< Stated Limit		06/13/00	AS
	Bromomethane	0.0054	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0108	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.0054	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.0054	< Stated Limit		06/13/00	AS

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B4			
Lab Number			AF05365			
Description			6-8'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.0054	< Stated Limit		06/13/00	AS
	Chloroethane	0.0054	< Stated Limit		06/13/00	AS
	Chloroform	0.0054	< Stated Limit		06/13/00	AS
	Chloromethane	0.0054	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.0054	0.023		06/13/00	AS
	cis-1,3-Dichloropropene	0.0054	< Stated Limit		06/13/00	AS
	Dibromomethane	0.0054	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.0054	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.0054	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.0054	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.0054	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0108	< Stated Limit		06/13/00	AS
	Methylene chloride	0.0054	0.006 B		06/13/00	AS
	Naphthalene	0.0054	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.0054	< Stated Limit		06/13/00	AS
	o-Xylene	0.0054	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.0054	< Stated Limit		06/13/00	AS
	Propylbenzene	0.0054	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.0054	< Stated Limit		06/13/00	AS
	Styrene	0.0054	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.0054	< Stated Limit		06/13/00	AS
	Tetrachloroethene	3.06	220.8 B		06/13/00	AS
	Toluene	0.0054	0.018		06/13/00	AS
	trans-1,2-Dichloroethene	0.0054	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.0054	< Stated Limit		06/13/00	AS
	Trichloroethene	0.0054	0.496		06/13/00	AS
	Trichlorofluoromethane	0.0054	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.0054	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	14.8	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.0162 mg/kg and acetone was at 0.0179 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000623

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B5			
Lab Number			AF05366			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.00355	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.00355	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.00355	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.00355	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.00355	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.00355	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.00355	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.00355	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.00355	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.00355	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.00355	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.00355	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.00355	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.00355	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.00355	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.00355	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0071	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.00355	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0071	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.00355	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0071	< Stated Limit		06/13/00	AS
	Acetone	0.0071	0.225 B		06/13/00	AS
	Benzene	0.00355	0.00602		06/13/00	AS
	Bromobenzene	0.00355	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.00355	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.00355	< Stated Limit		06/13/00	AS
	Bromoform	0.00355	< Stated Limit		06/13/00	AS
	Bromomethane	0.00355	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0071	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.00355	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.00355	< Stated Limit		06/13/00	AS

MOR 000624

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B5			
Lab Number			AF05366			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.00355	< Stated Limit		06/13/00	AS
	Chloroethane	0.00355	< Stated Limit		06/13/00	AS
	Chloroform	0.00355	< Stated Limit		06/13/00	AS
	Chloromethane	0.00355	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.00355	0.0646		06/13/00	AS
	cis-1,3-Dichloropropene	0.00355	< Stated Limit		06/13/00	AS
	Dibromomethane	0.00355	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.00355	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.00355	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.00355	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.00355	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0071	< Stated Limit		06/13/00	AS
	Methylene chloride	0.00355	< Stated Limit		06/13/00	AS
	Naphthalene	0.00355	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.00355	< Stated Limit		06/13/00	AS
	o-Xylene	0.00355	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.00355	< Stated Limit		06/13/00	AS
	Propylbenzene	0.00355	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.00355	< Stated Limit		06/13/00	AS
	Styrene	0.00355	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.00355	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.0618	4.03		06/13/00	AS
	Toluene	0.00355	0.00922		06/13/00	AS
	trans-1,2-Dichloroethene	0.00355	0.00470		06/13/00	AS
	trans-1,3-Dichloropropene	0.00355	< Stated Limit		06/13/00	AS
	Trichloroethene	0.00355	0.250		06/13/00	AS
	Trichlorofluoromethane	0.00355	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.00355	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	12.0	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.0162 mg/kg and acetone was at 0.0179 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000625

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aea laboratories, inc.

Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B6			
Lab Number			AF05367			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.00728	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.00728	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.00728	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.00728	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.00728	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.00728	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.00728	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.00728	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.00728	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.00728	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.00728	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.00728	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.00728	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.00728	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.00728	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.00728	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0146	0.0472		06/13/00	AS
	2-Chlorotoluene	0.00728	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0146	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.00728	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0146	< Stated Limit		06/13/00	AS
	Acetone	0.0146	0.236 B		06/13/00	AS
	Benzene	0.00728	0.00835		06/13/00	AS
	Bromobenzene	0.00728	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.00728	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.00728	< Stated Limit		06/13/00	AS
	Bromoform	0.00728	< Stated Limit		06/13/00	AS
	Bromomethane	0.00728	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0146	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.00728	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.00728	< Stated Limit		06/13/00	AS

aea laboratories, inc.

Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B6			
Lab Number			AF05367			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.00728	< Stated Limit		06/13/00	AS
	Chloroethane	0.00728	< Stated Limit		06/13/00	AS
	Chloroform	0.00728	< Stated Limit		06/13/00	AS
	Chloromethane	0.00728	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.00728	0.0388		06/13/00	AS
	cis-1,3-Dichloropropene	0.00728	< Stated Limit		06/13/00	AS
	Dibromomethane	0.00728	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.00728	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.00728	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.00728	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.00728	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0146	< Stated Limit		06/13/00	AS
	Methylene chloride	0.00728	0.0124 B		06/13/00	AS
	Naphthalene	0.00728	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.00728	< Stated Limit		06/13/00	AS
	o-Xylene	0.00728	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.00728	< Stated Limit		06/13/00	AS
	Propylbenzene	0.00728	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.00728	< Stated Limit		06/13/00	AS
	Styrene	0.00728	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.00728	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.692	97.7		06/13/00	AS
	Toluene	0.00728	0.0150		06/13/00	AS
	trans-1,2-Dichloroethene	0.00728	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.00728	< Stated Limit		06/13/00	AS
	Trichloroethene	0.00728	0.129		06/13/00	AS
	Trichlorofluoromethane	0.00728	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.00728	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	14.0	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.0162 mg/kg and acetone was at 0.0179 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000627

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B7			
Lab Number			AF05368			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
SW-846 5035	Volatile Prep by 5035	-	06/02/00	-	06/02/00	JCZ
SW-846 8260B	**Volatiles by 8260B**	-	-	mg/kg	06/13/00	AS
	1,1,1,2-Tetrachloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,1,1-Trichloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,1,2,2-Tetrachloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,1,2-Trichloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,1-Dichloro-1-propene	0.00475	< Stated Limit		06/13/00	AS
	1,1-Dichloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,1-Dichloroethene	0.00475	< Stated Limit		06/13/00	AS
	1,2,3-Trichlorobenzene	0.00475	< Stated Limit		06/13/00	AS
	1,2,3-Trichloropropane	0.00475	< Stated Limit		06/13/00	AS
	1,2,4-Trichlorobenzene	0.00475	< Stated Limit		06/13/00	AS
	1,2,4-Trimethylbenzene	0.00475	< Stated Limit		06/13/00	AS
	1,2-Dibromo-3-chloropropane	0.00475	< Stated Limit		06/13/00	AS
	1,2-Dibromoethane	0.00475	< Stated Limit		06/13/00	AS
	1,2-Dichlorobenzene	0.00475	< Stated Limit		06/13/00	AS
	1,2-Dichloroethane	0.00475	< Stated Limit		06/13/00	AS
	1,2-Dichloropropane	0.00475	< Stated Limit		06/13/00	AS
	1,3,5-Trimethylbenzene	0.00475	< Stated Limit		06/13/00	AS
	1,3-Dichlorobenzene	0.00475	< Stated Limit		06/13/00	AS
	1,3-Dichloropropane	0.00475	< Stated Limit		06/13/00	AS
	1,4-Dichlorobenzene	0.00475	< Stated Limit		06/13/00	AS
	2,2-Dichloropropane	0.00475	< Stated Limit		06/13/00	AS
	2-Butanone (MEK)	0.0095	< Stated Limit		06/13/00	AS
	2-Chlorotoluene	0.00475	< Stated Limit		06/13/00	AS
	2-Hexanone	0.0095	< Stated Limit		06/13/00	AS
	4-Chlorotoluene	0.00475	< Stated Limit		06/13/00	AS
	4-Methyl-2-Pentanone (MIBK)	0.0095	< Stated Limit		06/13/00	AS
	Acetone	0.0095	0.272 B		06/13/00	AS
	Benzene	0.00475	0.007		06/13/00	AS
	Bromobenzene	0.00475	< Stated Limit		06/13/00	AS
	Bromochloromethane	0.00475	< Stated Limit		06/13/00	AS
	Bromodichloromethane	0.00475	< Stated Limit		06/13/00	AS
	Bromoform	0.00475	< Stated Limit		06/13/00	AS
	Bromomethane	0.00475	< Stated Limit		06/13/00	AS
	Carbon disulfide	0.0095	< Stated Limit		06/13/00	AS
	Carbon tetrachloride	0.00475	< Stated Limit		06/13/00	AS
	Chlorobenzene	0.00475	< Stated Limit		06/13/00	AS

MOR 000628

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Enmarc
229 E. Custer Street
Lemont, Illinois 60439
Fax No.: (630) 257-1650
Attn: J. Virgilio

First Lab Number: 005360
Sample Matrix: SOIL
Project Name: Morey Bldg, Downers Grove, IL
Project No.: 20.565

Sampled: 06/02/00
Received: 06/02/00
Date Reported: 06/14/00

ANALYTICAL REPORT

Field ID			B7			
Lab Number			AF05368			
Description			4'			
Method	Analyte	Reporting Limit (dry wt.)	Result (dry wt.)	Unit	Analysis Date	Analyst
	Chlorodibromomethane	0.00475	< Stated Limit		06/13/00	AS
	Chloroethane	0.00475	< Stated Limit		06/13/00	AS
	Chloroform	0.00475	< Stated Limit		06/13/00	AS
	Chloromethane	0.00475	< Stated Limit		06/13/00	AS
	cis-1,2-Dichloroethene	0.00475	< Stated Limit		06/13/00	AS
	cis-1,3-Dichloropropene	0.00475	< Stated Limit		06/13/00	AS
	Dibromomethane	0.00475	< Stated Limit		06/13/00	AS
	Dichlorodifluoromethane	0.00475	< Stated Limit		06/13/00	AS
	Ethylbenzene	0.00475	< Stated Limit		06/13/00	AS
	Hexachlorobutadiene	0.00475	< Stated Limit		06/13/00	AS
	Isopropylbenzene (Cumene)	0.00475	< Stated Limit		06/13/00	AS
	m,p,-Xylenes	0.0095	< Stated Limit		06/13/00	AS
	Methylene chloride	0.00475	< Stated Limit		06/13/00	AS
	Naphthalene	0.00475	< Stated Limit		06/13/00	AS
	n-Butylbenzene	0.00475	< Stated Limit		06/13/00	AS
	o-Xylene	0.00475	< Stated Limit		06/13/00	AS
	p-Isopropyltoluene (Cymene)	0.00475	< Stated Limit		06/13/00	AS
	Propylbenzene	0.00475	< Stated Limit		06/13/00	AS
	sec-Butylbenzene	0.00475	< Stated Limit		06/13/00	AS
	Styrene	0.00475	< Stated Limit		06/13/00	AS
	tert-Butylbenzene	0.00475	< Stated Limit		06/13/00	AS
	Tetrachloroethene	0.00475	0.147		06/13/00	AS
	Toluene	0.00475	0.010		06/13/00	AS
	trans-1,2-Dichloroethene	0.00475	< Stated Limit		06/13/00	AS
	trans-1,3-Dichloropropene	0.00475	< Stated Limit		06/13/00	AS
	Trichloroethene	0.00475	< Stated Limit		06/13/00	AS
	Trichlorofluoromethane	0.00475	< Stated Limit		06/13/00	AS
	Vinyl chloride	0.00475	< Stated Limit		06/13/00	AS
SM 2540 B.	% Moisture	0.1	14.8	%	06/06/00	JM

B=Methylene chloride was found in the method blank at 0.0162 mg/kg and acetone was at 0.0179 mg/kg.
Analytes reported on dry weight basis except for Moisture.
AEA Laboratories, Inc.

Arminta P. Priddy
Laboratory Director

MOR 000629

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Michigan Recovery Systems, Inc.

an EQ company

Generator Approval Notification

March 20, 1998

Customer: ENVIRONMENTAL WASTE SVCS.

Fax: (630) 365-3112

Approval Number:	032217D		
Generator Name:	MOREY CORP		
Waste Common Name:	FLUX		
Generator EPA ID #:	ILD025415266	**Approved Container:**	DRUM
Primary Waste Code:	D001	**Approval Expires On:**	03/19/99
Secondary Waste Code(s):	NONE		
Generator Comments:			

MOR 000634

ACTION MATERIALS CORPORATION

NON FERROUS MATERIALS
14483 East Perry Rd., DeKalb, Illinois 60115
Phone 815-286-3584

5144

Date: 7-25-01

~~SHIPPED TO~~:
RECD. FROM: MONEY CORPORATION

ADDRESS: 100 MONEY DRIVE
WOODRIDGE IL

PCS.	DESCRIPTION	PRICE	GROSS	TARE	NET
16	63/37 SOLDER				

Signature

Form 001

MOR 000635

Generator: Morey Corp. EPA ID #: ILD025415266 Manifest # MI4901173

List the waste codes and check the appropriate box for the waste described on each line of the manifest referenced above

a D002 (X) Non-Wastewater ( ) Wastewater c. _____ ( ) Non-Wastewater ( ) Wastewat

b D001 (X) Non-Wastewater ( ) Wastewater d. _____ ( ) Non-Wastewater ( ) Wastewat

All treatment standards or prohibition levels exceeded by the waste are checked below, with the applicable hazardous waste treatment standards from 268.40 "Treatment Standards for Hazardous Waste".

Check Manifest Line Item #: if Present				Constituents of Concern	CAS #	Wastewater mg/l or Technology Code	Non-Wastewater mg/l or Technology Code
11a.	11b.	11c.	11d.				
				1. Listed Hazardous Wastes F001,F002,F003,F004, F005-Solvents wastes that contain any of one or more of the following spent solvents:			
____	____	____	____	Acetone	67-94-1	0.28	160
____	____	____	____	Benzene	71-43-2	0.14	10
____	____	____	____	n-Butyl alcohol	71-36-3	5.6	2.6
____	____	____	____	Carbon disulfide	75-15-0	3.8	NA
____	____	____	____	Carbon tetrachloride	56-23-5	0.057	6.0
____	____	____	____	Chlorobenzene	108-90-7	0.057	6.0
____	____	____	____	o-Cresol	95-48-7	0.11	5.6
____	____	____	____	m-Cresol	108-39-4	0.77	5.6
____	____	____	____	p-cresol	106-44-5	0.77	5.6
____	____	____	____	Cresol-mixed isomers	1318-77-3	0.88	11.2
____	____	____	____	Cyclohexanone	108-94-1	0.36	NA
____	____	____	____	o-Dichlorobenzene	95-50-1	0.088	6.0
____	____	____	____	Ethyl acetate	141-07-6	0.34	33
____	____	____	____	Ethyl benzene	100-41-4	0.057	10
____	____	____	____	Ethyl ether	60-29-7	0.12	160
____	____	____	____	Isobutyl alcohol	78-83-1	5.6	170
____	____	____	____	Methanol	67-56-1	5.6	NA
____	____	____	____	Methylene chloride	75-09-2	0.089	30
____	____	____	____	Methyl ethyl ketone	78-93-3	0.28	36
____	____	____	____	Methyl isobutyl ketone	108-10-1	0.14	33
____	____	____	____	Nitrobenzene	98-95-3	0.068	14
____	____	____	____	Pyridine	110-86-1	0.014	16
____	____	____	____	Tetrachloroethylene	127-18-4	0.056	6.0
____	____	____	____	Toluene	108-88-3	0.080	10
____	____	____	____	1,1,1-Trichloroethane	71-55-6	0.054	6.0
____	____	____	____	1,1,2-Trichloroethane	79-00-5	0.054	6.0
____	____	____	____	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
____	____	____	____	Trichloroethylene	79-01-6	0.054	6.0
____	____	____	____	Trichloromonofluoro-methane	75-69-4	0.020	30
____	____	____	____	Xylene-mixed isomers	1330-20-7	0.32	30
				F003 and/or F005 solvent wastes that contain any combination of one or more of the following three solvents as the only listed F001-F005 solvents:			
____	____	____	____	Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
____	____	____	____	Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP
____	____	____	____	Methanol.	67-56-1	5.6	0.75 mg/l TCLP
				F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvent.			
____	____	____	____	2-Nitropropane	79-46-9	WETOX or CHOXD fb CARBN; or INCIN	INCIN
				F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvent.			
____	____	____	____	2-Ethoxyethanol	110-80-5	BIODG or INCIN	INCIN

MOR 000630

11a. 11b. 11c. 11d Other Listed Wastes: Enter the waste code, subcategory, and applicable treatment standard and applicable prohibition levels for listed wastes not previously specified

				Waste Code	If applicable Subcategory	Treatment Standard and/or prohibition levels

2. California List Waste This shipment contains hazardous waste subject to additional RCRA Section 3004(d) California List waste treatment standards.

				Liquid waste with PCB's >50 ppm
				Liquid waste that contain halogenated organic compounds (HCC) in total concentrations ≥ 1,000 mg/l or 1000 mg/kg (nonliquids).(INCINERATION) (HOCs found in 40 CFR 268.32, Appendix III)
				Nickel (liquid waste)>134 ppm
				Thallium (liquid waste) >130 ppm

3. Hazardous Waste Characteristics

				No additional hazardous waste characteristics are exhibited by this waste which would require treatment beyond the standards described above.
X	X			Treatment standards for the additional hazardous waste characteristics exhibited by this waste are indicated below.

Check Manifest Line Item #: if Present						Wastewater mg/l or Technology Code	Non-Wastewater mg/l or Technology Code
11a.	11b.	11c.	11d.	Constituents of Concern	CAS #		
	X			D001-Ignitable Hi TOC(≥10%TOC)		N/A	RORGS or CMBST
				D001-Ignitable Liquids except Hi TOC managed in non-CWA or equivalent/ non-Class 1 SDWA systems		DEACT & meet 268.48** or RORGS or CMBST	DEACT & meet 268.48** or RORGS or CMBST
				D001-Ignitable Liquids except Hi TOC managed in CWA or equivalent/Class 1 SDWA systems		DEACT	DEACT
X				D002-Corrosive managed in non-CWA or equivalent/non-Class1 SDWA systems		DEACT & meet 268.48**	DEACT & meet 268.48**
				D002-Corrosive managed in CWA or equivalent/Class1 SDWA systems		DEACT	DEACT
				D004-Arsenic	7440-38-2	5.0	5.0 mg/l EP or TCLP
				D005-Barium	7440-39-3	100	100.0 mg/l TCLP
				D006-Cadmium	7440-43-9	1.0	1.0 mg/l TCLP
				D007-Chromium (Total)	7440-47-3	5.0	5.0 mg/l TCLP
				D008-Lead	7439-92-1	5.0	5.0 mg/l EP or TCLP
				D009-Mercury (High mercury organic subcategory)	7439-97-6	N/A	IMERC or RMERC
				D009-Mercury (High mercury inorganic subcategory)	7439-97-6	N/A	RMERC
				D009-Mercury (Low mercury subcategory)	7439-97-6	N/A	0.2 mg/l TCLP
				D009-Mercury All wastewaters	7439-97-6	0.2	N/A
				D010-Selenium	7782-49-2	1.0	5.7 mg/l TCLP
				D011-Silver	7440-22-4	5.0	5.0 mg/l TCLP

** If selecting this subcategory include the Underlying Hazardous Constituents form.

3. Hazardous Waste Characteristics (con't)
For non-wastewater waste streams that have any of the hazardous waste characteristics on this page checked, include the Underlying Hazardous Constituents Form with this LDR form.

Check Manifest Line Item # if Present				Constituents of Concern	CAS #	Wastewater mg/l or Technology Code	Non-Wastewater mg/l or Technology Code
11a.	11b.	11c.	11d.				
____	____	____	____	D012-Endrin	72-20-8	BIODG or INCIN	0.13 & meet 268.48
				Endrin Aldehyde	7428-93-4	BIODG or INCIN	0.13 & meet 268.48
____	____	____	____	D013-Lindane			
				alpha-BHC	319-84-6	CARBN or INCIN	0.066 & meet 268.48
				beta-BHC	319-65-7	CARBN or INCIN	0.066 & meet 268.48
				delta-BHC	319-68-8	CARBN or INCIN	0.066 & meet 268.48
				gamma-BHC (Lindane)	319-65-7	CARBN or INCIN	0.066 & meet 268.48
____	____	____	____	D014-Methoxychlor	72-43-5	WETOX or INCIN	0.18 & meet 268.48
____	____	____	____	D015-Toxaphene	8001-35-2	BIODG or INCIN	2.6 & meet 268.48
____	____	____	____	D016-2,4-D	94-76-7	CHOXD, BIODR or INCIN	10.0 & meet 268.48
____	____	____	____	D017-2,4,5-TP	93-72-1	CHOXD or INCIN	7.9 & meet 268.48
____	____	____	____	D018-Benzene	71-43-2	0.14	10.0 & meet 268.48
____	____	____	____	D019-Carbon Tetrachloride	56-23-5	0.057	6.0 & meet 268.48
____	____	____	____	D020-Chlordane	57-74-9	0.0033	0.26 & meet 268.48
____	____	____	____	D021-Chlorobenzene	108-90-7	0.057	6.0 & meet 268.48
____	____	____	____	D022-Chloroform	67-66-3	0.046	6.0 & meet 268.48
____	____	____	____	D023-o-Cresol	95-48-7	0.11	5.8 & meet 268.48
____	____	____	____	D024-m-Cresol	108-39-4	0.77	5.6 & meet 268.48
____	____	____	____	D025-p-Cresol	106-44-5	0.77	5.6 & meet 268.48
____	____	____	____	D026-Total Cresol	1319-77-3	0.88	11.2 & meet 268.48
____	____	____	____	D027-p-Dichlorobenzene	106-46-7	0.090	6.0 & meet 268.48
____	____	____	____	D028-1,2-Dichloroethane	107-06-2	0.21	6.0 & meet 268.48
____	____	____	____	D029-1,1-Dichloroethylene	75-35-4	0.025	6.0 & meet 268.48
____	____	____	____	D030-2,4-Dinitrotoluene	121-14-2	0.32	140.0 & meet 268.48
____	____	____	____	D031-Heptachlor	76-44-8	0.0012	0.066 & meet 268.48
				Heptachlor epoxide	1024-57-3	0.016	0.066 & meet 268.48
____	____	____	____	D032-Hexachlorobenzene	118-74-1	0.055	10.0 & meet 268.48
____	____	____	____	D033-Hexachlorobutadiene	87-68-3	0.055	5.6 & meet 268.48
____	____	____	____	D034-Hexachloroethane	67-72-1	0.055	30.0 & meet 268.48
____	____	____	____	D035-Methyl ethyl ketone	78-93-3	0.28	36.0 & meet 268.48
____	____	____	____	D036-Nitrobenzene	98-95-3	0.068	14.0 & meet 268.48
____	____	____	____	D037-Pentachlorophenol	87-86-5	0.089	7.4 & meet 268.48
____	____	____	____	D038-Pyridine	110-86-1	0.014	16.0 & meet 268.48
____	____	____	____	D039-Tetrachloroethylene	127-18-4	0.056	6.0 & meet 268.48
____	____	____	____	D040-Trichloroethylene	79-01-6	0.054	6.0 & meet 268.48
____	____	____	____	D041-2,4,5-Trichlorophenol	95-95-4	0.018	7.4 & meet 268.48
____	____	____	____	D042-2,4,6-Trichlorophenol	88-06-2	0.035	7.4 & meet 268.48
____	____	____	____	D043-Vinyl Chloride	75-01-4	0.27	8.0 & meet 268.48

I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment

Company Name Morey Corp.

Authorized Signature _____ Date 4.7.98

Manifest Doc.# 01173 Line Item _____ MRSI Approval Number _____

Circle those regulated constituents which can reasonably be expected to be present, at the point of generation of the hazardous waste described above, at a concentration above the specified treatment standard

Acenaphthylene
Acenaphthene
Acetone
Acetonitrile
Acetophenone
2-Acetylaminofluorene
Acrolein
Acrylamide
Acrylonitrile
Aldrin
4-Aminobiphenyl
Aniline
Anthracene
Aramite
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
Benzene
Benz(a)anthracene
Benzal chloride
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(g,h,i)perylene
Benzo(a)pyrene
Bromodichloromethane
Methyl bromide
4-Bromophenyl phenyl ether
n-Butyl alcohol
Butyl benzyl phthalate
2-*sec*-Butyl-4,6-dinitrophenol
Carbon disulfide
Carbon tetrachloride
Chlordane
p-Chloroaniline
Chlorobenzene
Chlorobenzilate
2-Chloro-1,3-butadiene
Chlorodibromomethane
Chloroethane
bis(2-Chloroethoxy) methane
bis(2-Chloroethyl) ether
Chloroform
bis(2-Chloroisopropyl) ether
p-Chloro-*m*-cresol
2-Chloroethyl vinyl ether
Chloromethane
2-Chloronathalene
2-Chlorophenol
3-Chloropropylene
Chrysene
o-Cresol
m-Cresol
p-Cresol
Cyclohexanone

1,2-Dibromo-3-Chloropropane
Ethylene dibromide
Dibromomethane
2,4,-D
o-p'-DDD
p,p'-DDD
o,p'-DDE
p,p'-DDE
o,p'-DDT
p,p'-DDT
Dibenz(a,h) anthracene
Dibenz(a,e)pyrene
m-Dichlorobenzene
o-Dichlorobenzene
p-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
trans-1,2-Dichloroethylene
2,4-Dichlorophenol
2,6-Dichlorophenol
1,2-Dichloropropane
cis-1,3-Dichloropropylene
trans-1,3-Dichloropropylene
Dieldrin
Diethyl phthalate
2,4-Dimethyl phenol
Dimethyl phthalate
Di-*n*-butyl phthalate
1,4-Dinitrobenzene
4,6-Dinitro-o-cresol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-*n*-octyl phthalate
p-Dimethylaminoazobenzene
Di-*n*-propylnitrosamine
1,4-Dioxane
Diphenylamine
Diphenylnitrosamine
1,2-Diphenyl hydrazine
Disulfoton
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl acetate
Ethyl cyanide
Ethyl benzene
Ethyl ether
bis(2-Ethylhexyl)phthalate
Ethyl methacrylate
Ethylene oxide

Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
HxCDDs
HxCDFs
Hexachloroethane
Hexachloropropylene
Indeno(1,2,3-c,d) pyrene
Iodomethane
Isobutyl alcohol
Isodrin
Isosafrole
Kepone
Methacrylonitrile
Methanol
Methapyrilene
Methoxychlor
3-Methylcholanthrene
4,4-Methylene bis-
Methylene chloride
Methyl ethyl ketone
Methyl isobutyl ketone
Methyl methacrylate
Methyl methansulfonate
Methyl parathion
Naphthalene
2-Naphthylamine
o-Nitroaniline
p-Nitroaniline
Nitrobenzene
5-Nitre-o-toluidine
o-Nitrophenol
p-Nitrophenol
N-Nitrosodiethylamide
N-Nitrosodimethylamine
N-Nitrosodi-*n*-butylamine
N-Nitrosomethylethylamine
N-Nitromorpholine
N-Nitrosopiperidine
N-Nitrosopyrrolidine
Parathion
Total PCBs
Pentachlorobenzene
PeCDDs
PeCDFs
Pentachloroethane
Pentachloronitrobenzene
Pentachlorophenol
Phenacetin
Phenanthrene

Phenol
Phorate
Phthalic acid
Phthalic anhydride
Pronamide
Pyrene
Pyridine
Safrole
Silvex
2,4,5-T
1,2,4,5-Tetrachlorobenzene
TCDDs
TCDFs
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Toluene
Toxaphene
Bromoform
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichloromonofluoromethane
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
1,2,3-Trichloropropane
1,1,2-Trichloro-1,2,2-trifluoroetha
tris-(2,3-Dibromopropyl)phosphat
Vinyl chloride
Xylenes-mixed isomers
Antimony
Arsenic
Barium
Cadmium
Chromium (total)
Cyanides (total)
Cyanides (Amenable)
Fluoride
Lead
Mercury
Nickel
Selenium
Silver
Sulfide
Thallium
Vanadium

MOR 000633

LAND DISPOSAL RESTRICTION & CERTIFICATION FORM 6/98

Please check the facility you are shipping to:

☐ Michigan Disposal Waste Treatment Plant
(Stabilization and Treatment)
49350 N. I-94 Service Drive
Belleville, MI 48111
EPA ID # MID 000 724 831

☐ Wayne Disposal, Inc.
Subtitle C Landfill
(Secure Hazardous Waste Landfill)
49350 N. I-94 Service Drive
Belleville, MI 48111
EPA ID # MID 048 090 633

☒ Michigan Recovery Systems, Inc.
(Solvent Recycling, Fuel Blending & Wastewater Treatment)
36345 Van Born Road
Romulus, MI 48174
EPA ID # MID 060 975 844

Generator Name Morey Corp. Generator USEPA ID No. ILD025415266

Generator Address 2659 Wisconsin Av. Downers Grove, IL. 60515

State Manifest No. MI 4901589 Manifest Doc. No. 01589

INSTRUCTIONS

- In Column 1 identify all USEPA hazardous waste codes that apply to this waste shipment.
- In Column 2, choose the appropriate treatability group: Non-Wastewater (NWW) or Wastewater (WW).
- In Column 3, enter the appropriate Subcategory, if applicable, and also enter "Contaminated Soil" or "Debris" if the waste will be treated using one of the alternative treatment technologies provided by 268.49(c) (soil) or 268.45 (debris).
- In Column 4, circle the letter of the appropriate paragraph from Pages 1-2 of this form.
- In Column 5, for F001-F005, F039, D001-D043, Debris & Contaminated Soil wastes, enter the Reference Number(s) from the EQ Resource Guide–LDR/UHC Constituent Table for any constituents subject to treatment in your waste stream.

Manifest Line Item #	1. USEPA HAZARDOUS WASTE CODE(S)	2. NWW or WW	3. SUBCATEGORY	4. HOW MUST THE WASTE BE MANAGED? (Circle one)	5. REFERENCE NUMBER(S) of Hazardous Constituents contained in the waste. Complete for F001-F005, F039, D001-D043, Soil & Debris wastes.
11.A	D001	☒ NWW ☐ WW	High TOC	(A) B C D E F G H I J K L M S	
11.B		☐ NWW ☐ WW		A B C D E F G H I J K L M S	
11.C		☐ NWW ☐ WW		A B C D E F G H I J K L M S	
11.D		☐ NWW ☐ WW		A B C D E F G H I J K L M S	

I hereby certify that all information submitted on this and all associated documents is complete and accurate to the best of my knowledge and information.

Generator Signature Phil Myer Title

Printed Name PHIL MYER Date 8.12.99

HOW MUST THE WASTE BE MANAGED?

MOR 000636

For S, circle the appropriate response for the 3 *italicized* options:

S. THIS CONTAMINATED SOIL *DOES / DOES NOT* (CIRCLE ONE) CONTAIN LISTED HAZARDOUS WASTE AND *DOES / DOES NOT* (CIRCLE ONE) EXHIBIT A CHARACTERISTIC OF HAZARDOUS WASTE AND *IS SUBJECT TO / COMPLIES WITH* (CIRCLE ONE) THE SOIL TREATMENT STANDARDS AS PROVIDED BY 268.49(c) OR THE UNIVERSAL TREATMENT STANDARDS. I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

A. THIS RESTRICTED WASTE REQUIRES TREATMENT TO THE APPLICABLE STANDARD. This waste must be treated to the applicable performance based treatment standard set forth in 40CFR Part 268 Subpart C, 268.32, Subpart D, 268.40 or RCRA Section 3004(d) prior to land disposal.

B. THIS HAZARDOUS DEBRIS IS SUBJECT TO THE ALTERNATIVE TREATMENT STANDARDS OF 40 CFR 268.45.

C. THIS RESTRICTED WASTE HAS BEEN TREATED TO THE PERFORMANCE STANDARDS. I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and base this certification upon my inquiry of those individuals immediately responsible for obtaining this information. I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR part 268 Subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

D. THIS RESTRICTED WASTE, FOR WHICH THE TREATMENT STANDARD IS EXPRESSED AS A SPECIFIED TECHNOLOGY, HAS BEEN TREATED BY THE SPECIFIED TECHNOLOGY. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

E. THIS RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT TREATMENT. I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

F. THIS RESTRICTED DEBRIS HAS BEEN TREATED IN ACCORDANCE WITH 40 CFR 268.45. I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making false certification, including the possibility of a fine and imprisonment.

G. THIS LAB PACK DOES NOT CONTAIN ANY WASTES IDENTIFIED AT APPENDIX IV TO PART 268. I certify under penalty of law that I personally have examined and am familiar with the waste and that the statement above is true and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification including possibility of fine or imprisonment.

H. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

I. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC AND BEEN TREATED FOR UNDERLYING HAZARDOUS CONSTITUENTS. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic, and that underlying hazardous constituents, as defined in 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting false certification, including the possibility of fine and imprisonment.

J. THIS RESTRICTED WASTE IS SUBJECT TO AN EXEMPTION FROM LAND DISPOSAL. *(Please include the date the waste is subject to the prohibitions in Column 5)* This waste is subject to an exemption from a prohibition on the type of land disposal method utilized for the waste (such as, but not limited to, a case-by-case extension under 40 CFR Part 268.5, an exemption under 40 CFR 268.6, or a nationwide capacity variance under 40 CFR 269 Subpart C)

K. THIS RESTRICTED WASTE WITH TREATMENT STANDARDS EXPRESSED AS CONCENTRATIONS IN THE WASTE PURSUANT TO 268.43, IF COMPLIANCE WITH THE TREATMENT STANDARDS IN SUBPART D OF THIS PART IS BASED IN PART OR IN WHOLE ON THE ANALYTICAL DETECTION LIMIT ALTERNATIVE IN 268.439(c). I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated in accordance with 40 CFR part 264, Subpart O, or 40 CFR part 265, Subpart O, or by combustion in fuel substitution units operating in accordance with the applicable technical requirements, and I have been unable to detect that nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

L. THIS DECHARACTERIZED WASTE CONTAINS UNDERLYING HAZARDOUS CONSTITUENTS THAT REQUIRE FURTHER TREATMENT TO MEET UNIVERSAL TREATMENT STANDARDS. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristics. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

M. THIS WASTE HAS BEEN TREATED IN ACCORDANCE WITH THE REQUIREMENTS OF 40 CFR 268.40 TO REMOVE THE HAZARDOUS CHARACTERISTIC AND THE UNDERLYING HAZARDOUS CONSTITUENTS, AS DEFINED IN 268.2(i) HAVE BEEN TREATED ON-SITE TO MEET THE 268.48 UNIVERSAL TREATMENT STANDARDS. I certify under penalty of law that the above is true. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

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SECTION I

manufacturer : Moline Paint Manufacturing Co.
address : 5400 23rd Avenue
Moline, IL 61265

telephone# : (309) 762-7546
emergency# : (309) 762-7546

- H M I S -

HEALTH	: 2*
FLAMMABILITY	: 3
REACTIVITY	: 0
PERSONAL PROTECT.	: I

product class: ALKYD
mfg. code id : 11-N103A
trade name : 1E-2493A MOJAVE BROWN LEAD & CHROME FREE ENAMEL

(HAZARD RATING : 0=least, 1=slight, 2=moderate, 3=high, 4=extreme, *=chronic)
(I = safety glasses, gloves, combination dust and vapor respirator)

SECTION II-A HAZARDOUS COMPONENTS

no.	component	CAS#	% by wt.	SARA 313	vapor pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	MINERAL SPIRITS	64742-47-8	20 - 25	NO	1.90	1.00
2	ALIPHATIC PETROLEUM DISTILLATES	64742-89-8	15 - 20	NO	15.00 (@ 38 C)	0.90
3	IRON OXIDE	20344-49-4	5 - 10	NO	N/A	N/A
4	ISOBUTYL ALCOHOL	78-83-1	1 - 5	NO	9.00	1.70 (@ 51 C)
5	TALC	14807-96-6	1 - 5	NO	N/A	N/A
6	TITANIUM DIOXIDE	13463-67-7	1 - 5	NO	N/A	N/A
7	ZINC OXIDE	1314-13-2	1 - 5	YES	N/A	N/A
8	2-BUTOXYETHANOL	111-76-2	1 - 5	YES	0.60	1.10
9	1-METHOXY-2-PROPANOL	107-98-2	1 - 5	NO	12.50 (@ 25 C)	1.60
10	ZINC	7440-66-6	1 - 5	YES	N/A	N/A
11	1-METHOXY-2-PROPANE ACETATE	108-65-6	1 - 5	NO	3.70	1.50 (@ 200 C)
12	IRON OXIDE	1309-37-1	1 - 5	NO	N/A	N/A

None of the components of this product are recognized as carcinogenic by NTP, OSHA, or IARC.
This product may contain trace amounts of chemicals known to the state of California to cause cancer, birth defects or other reproductive harm (Proposition 65).

(N/A = not applicable)

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

no.	OSHA PEL/TWA	OSHA PEL/CEILING	ACGIH TLV/TWA	ACGIH TLV/STEL	MFG PEL/TWA	MFG PEL/CEILING
1	100 ppm (AS STODDARD SOLVENT)		100 ppm (AS STODDARD SOLVENT)		N/E	N/E
2	400 ppm	N/E	300 ppm	N/E	350 mg/M3 (ASHLAND-NIOSH)	
3	10 mg/m3	N/E	N/E	N/E	N/E	N/E
4	100 ppm	N/E	50 ppm	N/E	N/E	N/E
5	20 mppcf	N/E	2 mg/m3 Resp. Dust	N/E	N/E	N/E
6	15 mg/m3	N/E	10 mg/m3 Total Dust	N/E	N/E	N/E
7	10 mg/m3 Total Dust	N/E	10 mg/m3 Total Dust	N/E	N/E	N/E
8	25 ppm (SKIN) FINAL	N/E	25 ppm (SKIN)	N/E	N/E	N/E
9	100 ppm FINAL	N/E	100 ppm	150 ppm	N/E	N/E
10	N/E	N/E	5 mg/m3	N/E	N/E	N/E
11	N/E	N/E	N/E	N/E	N/E	N/E
12	10 mg/m3 as Dust	N/E	10 mg/m3 Nuisance Dust	N/E	N/E	N/E

The dried film of this product is hazardous when removed by sanding, grinding, or welding.
(SKIN) absorption may contribute to the overall exposure to this material. Take appropriate measures to prevent skin contact.

(N/E = not established)

SECTION III PHYSICAL DATA

boiling point	: not established	% volatile by volume	:	70.36	(Theoretical)
evaporation rate	: < 1 (ether = 1)	% volatile by weight	:	52.38	(Theoretical)
vapor density	: > 1 (air = 1)	weight per gallon	:	8.79	(Theoretical)

SECTION IV HEALTH INFORMATION

EYE CONTACT
PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE EYES. EXPOSURE MAY CAUSE CORNEAL INJURY. PRODUCT VAPORS AND/OR MISTS MAY ALSO BE IRRITATING TO THE EYES.

SKIN CONTACT
BASED ON THE PRESENCE OF COMPONENT 8 PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED CONTACT MAY CAUSE DAMAGE TO THE SKIN. BASED ON THE PRESENCE OF COMPONENTS 8, 9 AND11 ABSORPTION THROUGH THE SKIN MAY RESULT IN SYMPTOMS OF EXPOSURE AS THOSE DESCRIBED FOR INHALATION AND INGESTION. PROLONGED OR REPEATED CONTACT MAY RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN DERMATITIS.

INHALATION
EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

INGESTION
MODERATELY TOXIC. BASED ON THE PRESENCE OF COMPONENT 8 INGESTION MAY CAUSE RED BLOOD CELL HEMOLYSIS LEADING TO KIDNEY AND LIVER DAMAGE. SMALL AMOUNTS OF THE LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY RESULT IN SEVERE LUNG DAMAGE. INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

SIGNS AND SYMPTOMS
SYMPTOMS OF EYE IRRITATION INCLUDE PAIN, TEARING, REDDENING AND SWELLING. SYMPTOMS OF SKIN IRRITATION INCLUDE REDDENING, SWELLING, RASH AND REDNESS. SYMPTOMS OF RESPIRATORY IRRITATION INCLUDE RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. SYMPTOMS OF GASTROINTESTIONAL IRRITATION INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CENTRAL NERVOUS SYSTEM DEPRESSION MAY BE EVIDENCED BY HEADACHE, DIZZINESS, NAUSEA AND SYMPTOMS OF INTOXICATION; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. SYMPTOMS OF CHRONIC OVEREXPOSURE INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED CENTRAL NERVOUS SYSTEM FUNCTIONS FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
BASED ON THE PRESENCE OF COMPONENTS 8, 9 AND11 CHRONIC OVEREXPOSURE MAY CAUSE INJURY TO THE KIDNEYS AND LIVER. BASED ON THE PRESENCE OF COMPONENT 8 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE RED BLOOD CELLS. BASED ON THE PRESENCE OF COMPONENTS 8 AND 9 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE LUNGS. BASED ON THE PRESENCE OF COMPONENT 6 CHRONIC OVEREXPOSURE TO TiO2 DUST MAY CAUSE SLIGHT. LUNG FIBROSIS. BASED ON THE PRESENCE OF COMPONENT 5 CHRONIC OVEREXPOSURE TO TALC DUST MAY CAUSE SCARRING OF THE LUNGS. BASED ON THE PRESENCE OF COMPONENT 3 CHRONIC OVEREXPOSURE TO PRODUCT DUST MAY PRODUCE A BENIGN PNEUMOCONIOSIS TERMED 'SIDEROSIS'.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN. SEEK PROMPT MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING SPONTANEOUSLY OCCURS, KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. SINCE ASPIRATION INTO THE LUNGS CAN CAUSE VERY SERIOUS, PERMANENT DAMAGE, THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY A PHYSICIAN. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

>> COMPONENTS 1 AND 2 MAY CAUSE SEVERE, PERMANENT DAMAGE IF ASPIRATED AND VOMITING SHOULD NOT BE INDUCED.

SECTION VI FIRE AND EXPLOSION HAZARDS

flammability classification - OSHA : FLAMMABLE LIQUID - CLASS IB
- DOT : FLAMMABLE LIQUID
flash point : 68 degrees F. (Theoretical)

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
WARNING. FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT HELMET, FACE SHIELD, BUNKER COAT, GLOVES, RUBBER BOOTS, AND A POSITIVE PRESSURE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION VII REACTIVITY

STABILITY : STABLE HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
AVOID OXIDIZING MATERIALS. BASED ON THE PRESENCE OF COMPONENT 8 AVOID STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS - AT LEAST 10 AIR CHANGES PER HOUR ARE RECOMMENDED FOR GOOD GENERAL ROOM VENTILATION. IF EXPOSURE EXCEEDS THE PEL/TLV, USE THE APPROPRIATE NIOSH-APPROVED RESPIRATOR.

PROTECTIVE CLOTHING
WEAR SAFETY GLASSES, GOGGLES, OR A SPLASH SHIELD TO PREVENT EYE CONTACT. CONTACT LENSES SHOULD NOT BE WORN. WEAR APPROPRIATE GLOVES AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

WASTE DISPOSAL
OBSERVE ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING PROPER DISPOSAL.

SECTION X ADDITIONAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS, AND FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER POSSIBLE SOURCES OF IGNITION PRIOR TO USE AND UNTIL VAPORS ARE GONE. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM HANDLING SITE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS, EVEN IF EMPTY, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, OR WELD NEAR CONTAINERS.

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, WE MAKE NO WARRANTY, EXPRESSED OR IMPLIED, REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

Morey Corp.

SECTION I

manufacturer : Moline Paint Manufacturing Co.
address : 5400 23rd Avenue
Moline, IL 61265

telephone# : (309) 762-7546
emergency# : (309) 762-7546

- H M I S -

HEALTH	: 2*
FLAMMABILITY	: 3
REACTIVITY	: 0
PERSONAL PROTECT.	: I

product class: ALKYD
mfg. code id : 11-C106A
trade name : CATERPILLAR YELLOW PAINT

(HAZARD RATING : 0=least, 1=slight, 2=moderate, 3=high, 4=extreme, *=chronic)
(I = safety glasses, gloves, combination dust and vapor respirator)

SECTION II-A HAZARDOUS COMPONENTS

no.	component	CAS#	% by wt.	SARA 313	vapor pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	XYLENE	1330-20-7	25 - 30	YES	6.60	1.10
2	IRON OXIDE	20344-49-4	10 - 15	NO	N/A	N/A
3	LIGHT AROMATIC NAPHTHA	64742-95-6	10 - 15	NO	2.60	0.90
4	ETHYLBENZENE	100-41-4	5 - 10	YES	5.40	1.00
5	TITANIUM DIOXIDE	13463-67-7	5 - 10	NO	N/A	N/A
6	HEAVY AROMATIC NAPHTHA	64742-94-5	1 - 5	NO	<3.00 (@ 25 C)	0.80
7	MINERAL SPIRITS	64742-47-8	1 - 5	NO	1.90	1.00
8	TRIMETHYLBENZENE	25551-13-7	1 - 5	YES	N/A	N/A
9	HYDROTREATED HEAVY NAPHTHA	64742-48-9	1 - 5	NO	<10.00 (@ 25 C)	0.70

None of the components of this product are recognized as carcinogenic by NTP, OSHA, or IARC.
This product may contain trace amounts of chemicals known to the state of California to cause cancer, birth defects or other reproductive harm (Proposition 65).

(N/A = not applicable)

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

no.	OSHA PEL/TWA	OSHA PEL/CEILING	ACGIH TLV/TWA	ACGIH TLV/STEL	MFG PEL/TWA	MFG PEL/CEILING
1	100 ppm; 150 ppm STEL	N/E	100 ppm, 434 mg/m3	150 ppm, 651 mg/m3	N/E	N/E
2	10 mg/m3	N/E	N/E	N/E	N/E	N/E
3	N/E	N/E	N/E	N/E	50 ppm (EXXON)	N/E
4	100 ppm; 125 ppm STEL	N/E	100 ppm, 434 mg/m3	125 ppm, 543 mg/m3	N/E	N/E
5	15 mg/m3	N/E	10 mg/m3 Total Dust	N/E	N/E	N/E
6	N/E	N/E	N/E	N/E	100 ppm (EXXON)	N/E
7	100 ppm (AS STODDARD SOLVENT)		100 ppm (AS STODDARD SOLVENT)		N/E	N/E
8	25 ppm	N/E	25 ppm	N/E	N/E	N/E
9	500 ppm (AS STODDARD SOLVENT)		100 ppm (AS STODDARD SOLVENT)		300 ppm (EXXON)	N/E

The dried film of this product is hazardous when removed by sanding, grinding, or welding.

(N/E = not established)

SECTION III PHYSICAL DATA

boiling point	: not established	% volatile by volume	:	65.84	(Theoretical)
evaporation rate	: < 1 (ether = 1)	% volatile by weight	:	51.24	(Theoretical)
vapor density	: > 1 (air = 1)	weight per gallon	:	9.27	(Theoretical)

SECTION IV HEALTH INFORMATION

EYE CONTACT
PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE EYES. PRODUCT VAPORS AND/OR MISTS MAY ALSO BE IRRITATING TO THE EYES.

SKIN CONTACT
BASED ON THE PRESENCE OF COMPONENTS 3 AND 6 PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED CONTACT MAY CAUSE DAMAGE TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN DERMATITIS. BASED ON THE PRESENCE OF COMPONENTS 3 AND 6 CONTACT MAY RESULT IN A PRONOUNCED PHOTOSENSITIZATION EFFECT.

INHALATION
EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

INGESTION
SLIGHTLY TOXIC. SMALL AMOUNTS OF THE LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY RESULT IN SEVERE LUNG DAMAGE. INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

SIGNS AND SYMPTOMS
SYMPTOMS OF EYE IRRITATION INCLUDE PAIN, TEARING, REDDENING AND SWELLING. SYMPTOMS OF SKIN IRRITATION INCLUDE REDDENING, SWELLING, RASH AND REDNESS. SYMPTOMS OF RESPIRATORY IRRITATION INCLUDE RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. SYMPTOMS OF GASTROINTESTIONAL IRRITATION INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CENTRAL NERVOUS SYSTEM DEPRESSION MAY BE EVIDENCED BY HEADACHE, DIZZINESS, NAUSEA AND SYMPTOMS OF INTOXICATION; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. SYMPTOMS OF CHRONIC OVEREXPOSURE INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED CENTRAL NERVOUS SYSTEM FUNCTIONS FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
BASED ON THE PRESENCE OF COMPONENT 9 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE KIDNEYS. BASED ON THE PRESENCE OF COMPONENT 5 CHRONIC OVEREXPOSURE TO TiO2 DUST MAY CAUSE SLIGHT LUNG FIBROSIS. BASED ON THE PRESENCE OF COMPONENT 2 CHRONIC OVEREXPOSURE TO PRODUCT DUST MAY PRODUCE A BENIGN PNEUMOCONIOSIS TERMED 'SIDEROSIS'.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN. SEEK PROMPT MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING SPONTANEOUSLY OCCURS, KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. SINCE ASPIRATION INTO THE LUNGS CAN CAUSE VERY SERIOUS, PERMANENT DAMAGE, THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY A PHYSICIAN. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

>> COMPONENTS 1, 3, 4, 6, 7, 8 AND 9 MAY CAUSE SEVERE, PERMANENT DAMAGE IF ASPIRATED AND VOMITING SHOULD NOT BE INDUCED.

SECTION VI FIRE AND EXPLOSION HAZARDS

flammability classification - OSHA : FLAMMABLE LIQUID - CLASS IB
- DOT : FLAMMABLE LIQUID
flash point : 50 degrees F. (Theoretical)

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
WARNING. FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT HELMET, FACE SHIELD, BUNKER COAT, GLOVES, RUBBER BOOTS, AND A POSITIVE PRESSURE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION VII REACTIVITY

STABILITY : STABLE HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
AVOID OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS - AT LEAST 10 AIR CHANGES PER HOUR ARE RECOMMENDED FOR GOOD GENERAL ROOM VENTILATION. IF EXPOSURE EXCEEDS THE PEL/TLV, USE THE APPROPRIATE NIOSH-APPROVED RESPIRATOR.

PROTECTIVE CLOTHING
WEAR SAFETY GLASSES, GOGGLES, OR A SPLASH SHIELD TO PREVENT EYE CONTACT. CONTACT LENSES SHOULD NOT BE WORN. WEAR APPROPRIATE GLOVES AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

WASTE DISPOSAL
OBSERVE ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING PROPER DISPOSAL.

SECTION X ADDITIONAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS, AND FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER POSSIBLE SOURCES OF IGNITION PRIOR TO USE AND UNTIL VAPORS ARE GONE. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM HANDLING SITE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS, EVEN IF EMPTY, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT,DRILL, GRIND, OR WELD NEAR CONTAINERS.

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.

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THE MOREY CORPORATION

M.S.D.S. BINDER

Morey Corporation Chemical Inventory by Product Name

Acti-Brite
Acid Cleaner
3880 Adhesive Elect. Cond.
Air Dry Enamel (Glyptal)
Air Lube
Alkyd Resin Solution - Glyptal
Aluminum Alloys
Alloy Steel
Ammonium Hydroxide - (Liquid Mask)
Bow Electronics Solders - 5-09/01
BE Series Baking Epoxy Ink
Bobbing Compound
Brass
Bronze
BSC - 93 - PC
Carbon Steel
Castle Metals - variety
Cathydraulic Oil (Hydo) SAE 10W (rec. 10-09-01)
Catalyst 23 LV (Rec. 9/26/01)
Cleaner 320
Copper
Loctite ODC cleaner and degreaser - 20260
Chemask DA
Cho-Therm 1674 Solvent Based Silicone
Conductive Adhesive- Rec; 6-08-01
CSL 588 Electronic Grade Sealant/Adhesive
Cylesstic TK 460 Lubricating Oil
DBE Solvent
Dow Corning High Vacuum Grease
Dow Corning (4) Electrical Insulating Compound
Dow Corning (R) 340 Heat Sink Compound
Dry Lube Aerosol Lubricant 2W757-BT.F.E.(rec.9-20-01)
E-341 FR Black Epoxy Resin
Eccobond A-401-37
Eccogel 1265 Clear, Part A
Eccogel 1265 Part B
Electro wash PX (Red. 10-08-01)
Eccostrip 93 Organic Solvent
Elastomeric Rubber Flange Sealant
Epoxy Color Paste Black
Foille Plus Medicated First Aid Spray

Flange sealant 509 850 c
Flexible Anaerobic Gasket Flange Sealant
Flux Core Solder 245
Hi-Grade #3592 Flux
Gasoline (Lead Free)
GE Silicones
Grainger Stock No.. 4ZF13-Rec 6-15-01
High Temperature Flange SLT Anaerobic 300ML
Humiseal Type 1A33
Humiseal Type Thinner 521
Hysol 7804 Polyamide Hot Melt Adhesive
Isopropyl Alcohol (Rec. 9-26-01)
Isopropanol, Anhydrous (Alcohol)
Kleenox "P" Solder Oxide Reducing Powder (rec10-15-01)
Koki JS - 3000 Flux
Liquid Silicone Rubber
Lite Tak (R) 375 Surface Curing UV Adhesive
Lite Tak (R) 3751 Adhesive
Loctite (R) 509 Gasket Eliminator Sealant
Loctite (R) 712 Accelerator Tak Pak (R)
Loctite 4471 instant adhesive prism
Loctite 5900 (R) Flange Sealant (Rec. 10/12/01)
Locquic Primer N
Locquic (R) Primer T 7471
Lonco SLS 65 Flux (Rec. 9-20-01)
Low Breakloose PST 250ML Tube Anaerobic
Lubriplate DS-ES Lubricating Grease
McLube 1775x Fluoropolymer/Organic Resin
McLube 2003 Fluoropolymer/Dispersion
Medical Device Adhesive Light Curing -UV Adhesive 3201
Mobil Vacuum Pump Oil
Mobil Vactra Oil N. 2 - Rec. 6-14-01
Mojave Brown Enamel 1E1950E
Multi-Cleaner #2 Glass & Surface Cleaner
Multi-Blend #5 Neutral Cleaner
Multi-Clean #7 Spray & Wipe Degreaser
Oatey Cleaner (Methyl Ethyl Ketone and Acetone)
Omegabond 101 Epoxy (Part A)
Orange Industrial Lube 390
Orange Turbine Oil 150 R&O
Paint (Caterpillar Yellow)
Panasert MP Grease - Rec. 6/04/01
PC-101 Protective Coating
Pc-101 Thinner
PD860002Sp, PD 860002SA and PD 860002S SMT Adhesive

PD944 Surface Mount Adhesive
Permabond epoxy adhesive
Petroleum Hydrocarbon (Kerosene)
Petroleum Solvent
Phenolphthalein Solution 0.1%
Phenolphthalein Indicator Solution 5g/1
Poly Prep Primer
Polyethylene Glycol Monolauryloxy (Nu-Kote)
Prism (R) 460
Removable Threadlocker 242
Loctite 271 - Threadlocker
Loctite 290 Threadlocker Wicking Grade 29005
Nickel
Restech Polyol 309
Restech Activator 142
Retaining Compound 620 High Temperature Anaerobic
RE 180 Screen Ink Thinner (9/28/00)
RE - 187 Thinner - Rec 6/18/01
RT-1 Epoxy Hardener
RTV 11 Silicone Rubber Compound
RTV 102 Silicone Rubber Compound
RTV 103 Silicone Rubber Sealant
RTV 108 Silicone Rubber Sealant
RTV 133 Silicone Rubber Sealant
RTV 160 Silicone Rubber Sealant
RTV 162 Silicone Rubber Sealant
SAE-30 Lubricating Oil
Shineline Multi-Surface Cleaner
5900 Silicone - Recl 6/25/01
Silicone Elastomer
Silastic(R) RTV Silicone Rubber Base
Silastic(R) RTV Silicone Rubber Curing Agent
Slide Eporease Aerosol
Sodium Hydroxide 8.00
SS4-M951K Solder Paste
Solventless Actvt. 1 Lt Cn
Solder Paste 63Sn/37PG (Rec. 9-20-01)
Sn62 - Solder (Rec. 9/26/01)
Sn63 - Solder (Rec. 10-03-01)
Solvent Based Coating Material
Sparkle Glass Cleaner
Static - Free Hand Guard Lotion
Statguard Static Dissipative Floor Finish
Stycast 1265 Part A Clear (rec.9/26/01)
Stycast 1265 Part B (rec.9/26/01)

Stycast 2651 MM White
Stycast 2651MM Unpigmented (9/26/01)
Stycast 2754, Part B
Stycast 2850FT Black (Rec. 9/26/01)
SU 100 Silicone Sealant/Adhesive Remover
Super Bonder (R) 496 Instant Adhesive
Super Bonder (R) 495 General Purpose Inst. Adhesive
Superset Thermoset Series Screen Ink - Rec 6/18/01
Tak Pak (R) 7452 Accelerator
Tak Pak (R) 382 Instant Adhesive
Thermally Conductive Adhesive - rec. 6-11-01
Three in One Oil
Thinner 425(rec, 9/26/01)
Thinner X732-10M
Tribol 930 High Temperature Chain Oil - Rec. 6-14-01
Tribol 930 lubricant - rec. 6-04-01
Turmofluid 40 B Lub.
WD-40 (Aliphatic Petroleum Distillates)
Xylene cas 1330-20-7
Zep Z-Green
Zep Big Orange

Fred Pfeiffer 10/29/01
Fred Pfeiffer - Safety Manager

All Flux, Thinner, Alcohol, PC-101 and Di Basic fluids are picked up by

Environmental
WASTE SERVICES, INC
Sam Erwin

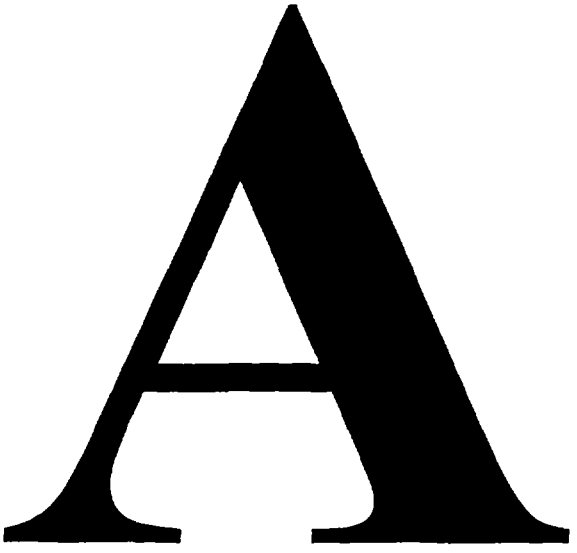
43 W 540 C Main Street Road Elburn, Illinois 60119
(630) 365-1100 FAX (630) 365-3112

since 1992 had as our Vendor.

Solder Dross is picked up by
action Materials in DeKalb area
Bob Chandler - #815-286-3584

10/29/01

THE MOREY CORPORATION



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100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

SURFACEMOUNT ADHESIVE

MATERIAL SAFETY DATA SHEET

MSDS

Heraeus Inc. Cermalloy Division
24 Union Hill Industrial Park
West Conshohocken, PA 19428

Office Telephone: (610)825-6050
Emergency Telephone: (800)255-3924
Date Prepared: 5/25/95
Date Revised: 6/27/96

Section 1: IDENTIFICATION

Product Name: PD944
CAS Registry Number: not applicable since product is a mixture.

Section 2: COMPONENT HAZARD DATA (3)

Hazardous Components		CAS No.	Exposure Limits
epoxy	35-45%	25068-38-6	not established
thinner	10-20%	26761-45-5	not established
hardener	25-35%	134091-76-2	not established
pigment	1-3%	71566-54-6	not established
silica, amorphous	5-15%	7631-86-9	10mg/M3 ACGIH (1)

NFPA rating: health 1, fire 1, reactivity 1

(1) TLV is very unlikely to be reached since material is in the paste form; hence no airborne particles. Provide adequate ventilation in the firing room to remove any evolved fumes.
(2) Supplementary data on lead attached if applicable.
(3) Per 29 CFR 1910 the mixture has not been tested as a whole. All hazardous components which comprise >=1% of the mixture (0.1% if carcinogenic) are listed. Percentages of individual components are not listed as this information is considered a Trade Secret; it is not required that it be disclosed.

Section 3: PHYSICAL DATA

Appearance and Odor: Physical State - thick paste
Color - red
Odor -mild
Initial Boiling Point of Organic Mixture: (>400 ^{o}F)
Specific Gravity: 1
Vapor Pressure (Estimated for mixture, 20°C): N/AP
Vapor Density (Air = 1): N/AP
Evaporation Rate
(Estimated for mixture, n-butyl acetate = 1,20^{o}C): N/AP
Solubility in water: insoluble

Section 4: FIRE, REACTIVITY, AND EXPLOSION HAZARD DATA
Flash Point (Most flammable solvents): (>200 ^{O}F)
Autoignition Temperature (Most Flammable Solvents):N/AV
Flammable Limits in Air (Most Flammable Solvent):N/AV
Extinguishing Media: Water Fog, Alcohol Foam, Dry Chemical
Special Fire Fighting Procedures: Cool exposed containers with water. When fighting use NIOSH approved self-contained breathing apparatus with full face piece operated in positive pressure mode, as evolved fumes are toxic and cause respiratory irritation.
Unusual Fire and Explosion Hazards: Store at ambient temperature away from open flame or sparks.
Stability: The material is stable under normal use conditions. Avoid temperatures > 40oC and moisture.
Incompatibility: Will not react with water. Avoid mixing with strong oxidizing agents, acids, and caustics.
Hazardous Decomposition Products: Combustion produces carbon monoxide, carbon dioxide, and various hydrocarbons.
Hazardous Polymerization: Will not occur.
Section 5: Health Hazards of Components *
OSHA Permissible Exposure Limit: Not Established for Mixture

Components listed as carcinogenic by NTP, IARC, or OSHA: None

Primary Routes of Entry: inhalation, skin, eye,ingestion.

ROUTE EXPOSURE	ACUTE & CHRONIC SYSTEMS	MEDICAL CONDITIONS AGGRAVATED	EMERGENCY FIRST AID
Inhalation	Irritant	Unknown	Remove to fresh air. If breathing difficult give oxygen. If breathing has stopped, start artificial respiration.
Skin Contact	Irritant	Unknown	Remove contaminated clothing and launder before reuse. Wash thoroughly with soap and water.
Eye Contact	Moderate	Unknown	Flush with running water for 15 mins. lifting upper and lower lids.

Ingestion	Irritation of the GI system	Unknown	Drink large quantities of water

Other health information:

epoxy: LD50 oral rat: >2000mg/kg

thinner: ingestion of large quantities (1% of diet) of this product produced body weight changes in experimental animals and in the liver and kidney. Levels of 0.5% and 1.0% wt in the diet also caused changes and reduced erythrocyte count and hematocrit. If ingested, do not induce vomiting. Drinke water and get medical attention.

hardener: oral LD50 (rats) <3000 mg/Kg
dermal: LD50 (rabbits) >3000 mg/kg

* If necessary, copies of toxicology studies provided to HICD by the manufacturers of the above hazardous components can be supplied. Synergistic or additive effects of the above chemicals are unknown, as are the effects of exposure to these chemicals in addition to others present in the workplace.

** In all cases keep individuals warm and quiet and get medical attention.

Section 6: PERSONAL PROTECTION AND CONTROLS

Personal Protection: Avoid prolonged skin contact.

Respiratory: Not required if local exhaust is satisfactory. Ten (10) air changes per hour are recommended. If overexposure occurs, use NIOSH-OSHA approved air supply respirator suitable for organic vapors. Administrative or engineering controls should be implemented to reduce exposure .

Eye: Chemical splash goggles or OSHA approved glasses.

Skin: Solvent resistant glove (polyurathane, vinyl)

Engineering Controls: Recommended ventilation, provide sufficient mechanical (general or local exhaust) ventilation to maintain concentrations below TLV -10 air changes per hour.

Hygienic Practices: Prevent eye contact with glasses or goggles, minimize skin contact, use with adequate ventilation to minimize inhalation of vapor. Do not smoke or eat in work areas. Wash hands thoroughly prior to smoking or eating.

Section 7: STORAGE, SPILL, AND DISPOSAL

Special storage conditions: Keep containers closed and sealed when not in use. Steps to be taken in case material is released or spilled:

Clean spill with disposable paper towels (wear rubber gloves) and wash area with soap and water.

Waste Disposal Method: Dispose in accordance with all local, state and federal regulations.

EPA Waste Class: Residual

Section 8: TRANSPORTATION
DOT ID No.: not regulated
DOT hazard class: not regulated
Proper shipping name: adhesive- not regulated
Section 9: REFERENCES
This MSDS is compilation of information supplied in the MSDS's obtained from the manufacturers of the chemicals present in this product. Also, 29 CFR.1210 was consulted for TLV information.

*** This information is for guidance, and is furnished without warranty of any kind. It is a compilation of data believed to be reliable, but Heraeus Incorporated, Cermalloy Division assumes no obligation or liability for its completeness or accuracy.

Rec by [illegible] 5/12/99

MATERIAL SAFETY DATA SHEET

AS-3

(Prepared According To 29 CFR 1910.1200)

Effective Date - 08-04-97

SECTION 1 - PRODUCT IDENTIFICATION

Product Name: LIME & SCALE REMOVER
Supplier's Name: UNISOURCE WORLDWIDE, INC
Supplier's Address: POST OFFICE BOX 958
VALLEY FORGE, PA
19482

Chemical Family: ACID CLEANER
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, UN3264, PGII (CONTAINS PHOSPHORIC ACID)

SECTION 2 - INGREDIENTS

CHEMICAL NAME	OSHA/PEL	ACGIH/TLV	CAS NO.
PHOSPHORIC ACID	N.E.	1 MG/M3	7664-38-2
HYDROXYACETIC ACID	N.E.	N.E.	79-14-1

SECTION 313 - SUPPLIER NOTIFICATION
THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372:

"CAS #"	CHEMICAL NAME	% BY WEIGHT
7664-38-2	PHOSPHORIC ACID	12

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL

SECTION 3 - PHYSICAL DATA

Specific Gravity: 1.086
Solubility in Water: 100% SOLUBLE
Physical Description: CLEAR LIQUID
Odor: CHARACTERISTIC ACID ODOR
Boiling Point: > 212 F
Vapor Pressure (mmHg): 22.0

SECTION 4 - FIRE AND EXPLOSION DATA

Flash Point (Method Used): NONE
Extinguishing Media: AS REQUIRED BY SURROUNDING FIRE
Special Fire Fighting Procedures: WEAR SELF-CONTAINED FULL-FACE BREATHING APPARATUS

Unusual Fire and Explosion Hazards: COULD REACT WITH METALS TO GENERATE FLAMMABLE HYDROGEN GAS.

SECTION 5 - REACTIVITY DATA

Stability: STABLE
Conditions to Avoid: EXTREME TEMPERATURES
Polymerization: WILL NOT OCCUR
Conditions to Avoid: NONE
Incompatability (Materials to Avoid): BASES, METALS, OXIDIZERS
Hazardous Decomposition Products: H2, CO2, CO

SECTION 6 - STORAGE AND HANDLING INFORMATION

Precautions to be Taken in Handling and Storage:
STORE IN COOL, DRY PLACE. KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN

SECTION 7 - HEALTH HAZARDS AND FIRST AID

Effects of Overexposure:
SEVERITY OF INJURY DEPENDS LARGELY ON PRODUCT CONCENTRATION AND DURATION OF EXPOSURE. IMMEDIATE ACTION IS NECESSARY TO LIMIT SEVERITY OF INJURY. CAN CAUSE MINOR IRRITATION TO SEVERE BURNS AND TISSUE DAMAGE TO EXPOSED AREAS OF BODY.

Other Precautions:
CORROSIVE LIQUID. AVOID SKIN CONTACT.

Carcinogenicity:
NTP: NO
IARC: NO
OSHA: NO

First Aid Procedures

Skin:
REMOVE CONTAMINATED CLOTHING AND IMMEDIATELY WASH EXPOSED AREA WITH WATER FOR 15 MINUTES. GET MEDICAL ATTENTION IF NECESSARY.

Eyes:
FLUSH EYES IMMEDIATELY WITH LARGE AMOUNT OF WATER FOR 15 MINUTES, LIFTING THE EYELIDS OCCASIONALLY. GET MEDICAL ATTENTION AT ONCE.

Inhalation:
MOVE PERSON TO FRESH AIR. IF BREATHING STOPS, ADMINISTER ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion:
GIVE LARGE QUANTITIES OF WATER THEN SEVERAL GLASSES OF MILK. DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 8 - PERSONAL PROTECTION INFORMATION

Respiratory Protection: ONLY W/O ADEQUATE VENTILATION
Ventilation: GENERAL EXHAUST
Protective Gloves: RUBBER GLOVES
Eye Protection: SAFETY GOGGLES
Other Protective Equipment: AS REQUIRED TO LIMIT SKIN CONTACT. WASH HANDS THOROUGHLY AFTER USE.

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SECTION 9 - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:
CONTAIN LARGE SPILLS AND PUMP TO RECOVER. SMALL SPILLS CAN BE MOPPED UP AND RECOVERED. CONTAMINATED AREA SHOULD BE NEUTRALIZED.

Waste Disposal Methods:
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

Infotrac Emergency Phone: 1-800-535-5053 CODE-AB

Disclaimer: Unisource Worldwide, Inc. and the manufacturer believe that the information contained on this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of date of publication. They are not necessarily all inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements.

ACTI-BRITE

Material Safety Data Sheet

SECTION I - COMPANY IDENTIFICATION

PRODUCT: ACTI-BRITE

CAT. NO.: AB-1, AB-5, AB-55

MANUFACTURED BY:
Virginia KMP Corporation
4100 Platinum Way
Dallas, Texas 75237

TELEPHONE NUMBERS:
Office: 1-(214) 330-7731
Emergency Only: 1-(800) 424-9300

SECTION II - HAZARDOUS INGREDIENTS

OSHA Hazardous Components (29 CFR 1910.1200)		EXPOSURE LIMITS: 8 HR. TWA OSHA PEL		ACGIH TLV
Phosphoric acid (CAS# 7664-38-2)		1 mg/m³		1 mg/m³
Hydrofluoric acid (CAS# 7664-39-3)	STEL	3 mg/m³	STEL	3 mg/m³
		3 ppm (F)	CL	3 ppm (F)
	STEL	6 ppm (F)		

SECTION III - HAZARDS IDENTIFICATIONS

EMERGENCY OVERVIEW: DANGER! Corrosive to all body tissues. Avoid contact with skin or eyes. Harmful if inhaled or swallowed.

POTENTIAL HEALTH EFFECTS:

INHALATION: Inhalation of vapor or mist is corrosive to respiratory tract. Symptoms include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

EYE CONTACT: Liquid or vapors are corrosive to eyes. Immediate irritation followed by destruction of tissue.

SKIN CONTACT: This material is corrosive to all body tissues. Full extent of damage may not be apparent for 12 - 24 hours after exposure. Severe burns are slow healing. Gangrene may follow damage.

INGESTION: Corrosive, moderately toxic, causes nausea, vomiting, loss of consciousness.

CHRONIC Effects: Damage to kidneys and liver (phosphoric acid). Changes in bones or joints (hydrofluoric acid).

NOTE:

CARCINOGENICITY: LISTED IN NTP? No IARC? No OSHA Regulated? No

SECTION IV - FIRST AID MEASURES

INHALATION: Remove victim to fresh air and, if needed, immediately begin artificial respiration. Give oxygen if breathing is labored. Get emergency medical help. Contact a physician immediately.

EYE CONTACT: Flush eyes with water for 15 minutes. Get medical attention.

SKIN CONTACT: Flush with water or soap and water for 15 minutes or until all traces have been removed. Seek medical attention if symptoms develop and persist.

INGESTION: Do not induce vomiting. Rinse mouth out with water. Get immediate medical attention.

SECTION V - FIRE FIGHTING MEASURES

FLASHPOINT (TEST METHOD): None
FLAMMABLE LIMITS: LOWER: NA UPPER: NA
AUTOIGNITION TEMPERATURE: NA

GENERAL HAZARD: Toxic fumes produced in fire.

FIRE FIGHTING INSTRUCTIONS: Approach fire from upwind side. Avoid breathing smoke, fumes, mist, or vapors on the downwind side. Firefighters wear protective clothing and self contained breathing apparatus.

EXTINGUISHING MEDIA: Dry powder, carbon dioxide (CO_2), water fog or spray.

HAZARDOUS COMBUSTION PRODUCTS: Smoke, irritating vapors, toxic fumes of PO_x, and corrosive F fumes, CO, CO_2.

SECTION VI - ACCIDENTAL RELEASE MEASURES

LAND SPILL: Emergency response coordinator must have mandated training. Eliminate all ignition sources. SMALL SPILLS: Pick up with absorbent materials and place in non-leaking containers; seal tightly for proper disposal or reuse. LARGE SPILLS: Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels.

WATER SPILL: Notify proper authorities.

Clean up leaks/spills immediately to prevent soil or water contamination.

SECTION VII - HANDLING AND STORAGE

HANDLING: Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in section IV. Launder contaminated clothing before reuse.

STORAGE: Store away from food stuffs, alkaline materials.

ACTI-BRITE

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation recommended.
PERSONAL PROTECTION: If TLV is exceeded wear NIOSH approved respirator. Use heavy rubber type gloves, full face shield and boots, aprons, drench showers, eye wash as needed for protection against spills and/or splashes.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE: ND
SPECIFIC GRAVITY (H_2O=1): 1.15
SOLUBILITY IN WATER: Complete
pH: <2.0
BOILING POINT: 212 F
APPEARANCE & ODOR: Pink liquid, pungent odor.
VAPOR DENSITY (Air=1): >1
EVAPORATION RATE (BuAc=1): >1
VOC: 0%
FREEZING POINT: ND

SECTION X - STABILITY AND REACTIVITY

STABILITY: Stable.
CONDITIONS TO AVOID: High temperatures.
MATERIALS TO AVOID: Alkaline materials, may react with metals to produce hydrogen gas.
HAZARDOUS DECOMPOSITION PRODUCTS: Corrosive F fumes, toxic PO_x fumes, from combustion - smoke, CO, CO_2.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION XI - TOXICOLOGICAL INFORMATION

Phosphoric Acid	LDLo:	220 mg/kg	(unr - man)
	LD50:	1530 mg/kg	(oral - rat)
	LD50:	2740 mg/kg	(skin - rat)
Hydrofluoric Acid	LCLo:	50 ppm / 30 M	(inh - human)
	LC50:	966 ppm / 1 hr	(inh - rat)
	TCLo:	100 mg/m^3	(inh - human) NOSE,EYE, PUL

SECTION XII - ECOLOGICAL INFORMATION

Harmful to aquatic life in very low concentrations.

Phosphoric Acid	138 ppm / 24 hr / mosquito fish / TLm / fresh water
Hydrofluoric Acid	60 ppm / fish / lethal / fresh water

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose as hazardous waste. Classification and documentation is required before disposal. Follow all local, state and federal regulations.

SECTION XIV - TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Corrosive liquid, Acidic, Inorganic, n.o.s. (contains phosphoric acid, hydrofluoric acid), 8, UN3264, PG II

HAZARD CLASS: 8
IDENTIFICATION NUMBER: UN3264
DOT Emergency Guide #: 59
Reportable Quantity (RQ): 65 gallons (hydrofluoric acid)
International: Corrosive liquid, Acidic, Inorganic, n.o.s. (contains phosphoric acid, hydrofluoric acid), 8, UN3264, PG II, IMDG 8147-1

SECTION XV - REGULATORY INFORMATION

TSCA (Toxic Substance Control Act): Components of this product are listed on the TSCA Inventory.
CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): Reportable quantity is 65 gallons (hydrofluoric acid). Co local authorities for other reporting requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act):

Section 302	Threshold Planning Quantity is 65 gallons (hydrofluoric acid)		
Section 313	Hydrogen Floride	(CAS# 7664-39-9)	8 - 15%
	Phosphoric Acid	(CAS# 7664-38-2)	5 - 10%

CALIFORNIA PROPOSITION 65: Not listed.

SECTION XVI - OTHER INFORMATION

State Right-to-Know Programs: MA, NJ, PA

NFPA Ratings
Health: 4
Flammability: 0
Reactivity: 1
HMIS Protective Equipment: X See your supervisor

MOR 000651

Prepared by: Virginia KMP Corporation revised 9/27/96

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Virginia KMP. The data on this sheet related only to specific material designated here in. Virginia KMP assumes no legal responsibility for use or reliance upon these data.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077
Product Type: Conductive Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Rec. TAP 3/19/01

Ingredients	CAS No.	%
SILVER*	7440-22-4	50-70
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	1-10
Amine hardener	Proprietary	1-5
HARDENER	Proprietary	1-5
Carbitol acetate	112-15-2	1-5

* This component is listed as a SARA Section 313 Toxic Chemical.

The following numbers have been used to register components of this product as trade secrets for the State of New Jersey:
NJ 06-070-1067-5041P
NJ 06-070-1067-5042P
NJ 06-070-1067-5090P
NJ 06-070-1067-5091P
NJ 06-070-1067-5092P

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILVER	0.1 mg/m3 TWA	0.01mg/m3 TWA	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: May irritate eyes, skin, and gastrointestinal tract. Prolonged or repeated exposure may cause allergic skin reaction. Prolonged expoxure to silver may cause argyria which is a pigmentation of skin and other body tissue.

Primary Routes of Entry: Inhalation, ingestion, eyes, skin.

Signs and Symptoms of Exposure: Inhalation may produce allergic reactions in some individuals. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Eye contact may cause severe irritation, burning sensation, blurred vision. Skin contact may produce allergic reaction in some individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
SILVER	ALG EYE IRR RES SKI	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	No Data	NO	NO	NO
Amine hardener	No Data	NO	NO	NO
HARDENER	No Data	NO	NO	NO
Carbitol acetate	CNS IRR KID	NO	NO	NO

Abbreviations

ALG Allergen
EYE Eyes
KID Kidney
SKI Skin
CNS Central nervous system
IRR Irritant
RES Respiratory

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4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Seek medical attention immediately.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing, wash immediately

4. FIRST AID MEASURES (continued)

	with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, obtain medical attention.
Eye Contact:	Flush thoroughly with water. If irritation persists, obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method:Pensky-Martens Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Use self-contained breathing supply.
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Take up with an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 80°F. Refrigerated storage (-40°F) is recommended to extend shelf life
(Contact Loctite Customer Handling:	Service 1-800-243-4874 for shelf life information) Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged inhalation of mists or vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Wear chemical splash goggles.
Skin:	Wear solvent resistant gloves.
Ventilation:	Provide sufficient local exhaust ventilation to maintain exposure below TLV(s).
Respiratory	If the TLV of the product is exceeded, a mechanical or self contained breathing appartus is advised.
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver liquid\paste
Odor:	Faint epoxy
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Not available
Specific Gravity	2.44
Volatile Organic Compound (EPA Method 24)	3.04 %; 74.26 grams/liter
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Amines, aldehydes

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Do not landfill. Dispose of commercial material and empty containers through a licensed/permitted disposal contractor.

EPA Hazardous Waste Number: D011 / TCLP hazardous when disposed of per 40 CFR 261.24 (Silver).

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
epichlorohydrin

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2*
- Flammability Hazard: 1
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Gary Pierson
Title: Health and Safety Specialist
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0005

ALIPHATIC DIBASIC ESTERS

(SEE DIBASIC ESTER **[DBE]**)

Rec 3/8/01

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE: November 25, 1985

REVISED: October 1, 1997

For Information or In An Emergency Call: (847) 455-7111

Manufacturer's Name

Various

Product Name / Trade Name

Aluminum Alloys
Aluminum Alloys Containing Lead

Common Name / Grade

1XXX thru 7XXX Series
Leaded 2011 & 6262

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Aluminum (Al)	7429-90-5	80-99.7	15	10 (Total Dust)
Alloying Elements				
Copper (Co)	7440-50-8	<10	1	1 (Dust & Mist)
Magnesium (Mg)	1309-48-4	<10	15	10 (As Magnesium Oxide Fume)
Zinc (Zn)	1314-13-2	<10	5	5 (As Zinc Oxide Fume)
Cobalt (Co)	7440-48-4	<2	0.1	0.02 (Dust & Fume)
Iron (Fe)	7439-89-6	<2	10	5 (As Iron Oxide)
Manganese (Mn)	7439-96-5	<2	5	0.2
Silicon (Si)	7440-21-3	<2	15	10 (Total Dust)
Tin (Sn)	7440-31-5	<2	2	2
Chromium (Cr)	7440-47-3	<.5	0.5	.5
Nickel (Ni)	7440-02-0	<.5	1	0.5
Leaded Alloys 2011 & 6262				
Lead (Pb)	7439-92-1	<1	.05	0.05 (Dust & Fume)

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Material Is (At Normal Conditions)

Solid

Appearance and Odor

Silver-Metallic, Odorless

Melting Point (Base Metal)

440 - 1220º F

Specific Gravity

>2

Extinguishing Media

Dry Powder (Class D) or Sand

Special Firefighting Procedures

Do not use water or halogen on dust fires.

Unusual Fire and Explosion Hazards

Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive mixtures.
Molten may explode on contact with water.

Stability

Stable

Incompatability (Materials to Avoid)

Anhydrous Bromine. Also see NFPA #491M

Conditions to Avoid

See Special Precautions. See Fire and Explosion Section.

Hazardous Decomposition Products

See Special Precautions. See Fire and Explosion Section.

MOR 000656

CM 0629-F

Rec. 3/8/19

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE
November 25, 1985
REVISED
October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

Manufacturer's Name
Various

Product Name / Trade Name	Common Name / Grade
Alloy Steel - HR & CR Alloy Leaded Steel	Alloy Steel i.e. 4130, 4140, 4340, 8620 Alloy Leaded i.e. 86L20

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Iron (Fe)	7439-89-6	86-99	10	5 (As Iron Oxide)
Alloying Elements				
Nickel (Ni)	7440-02-0	<5	1	0.5
Chromium (Cr)	7440-47-3	<5	0.5	.5
Silicon (Si)	7740-2l-3	<5	l5	l0 (Total Dust)
Manganese (Mn)	7439-96-5	<2	5	0.2
Carbon (C)	7440-44-0	<2	N.E.	3.5 (As Carbon Black)
Molybdenum (Mo)	7439-98-7	<2	15	10 (Insoluble Compound)
Vanadium (V)	7440-62-2	<2	0.5	.05 (Respirable Dust)
Aluminum (Al)	7429-90-5	<2	l5	10 (Total Dust)
Sulfur (S)	7704-34-9	<2	13	5 (As SO_2)
Phosphorus (P)	7723-l4-0	<1	.1	.1 (Yellow)
Bismuth (Bi)	7440-69-9	<1	N.E.	N.E.
Copper (Cu)	7440-50-8	<1	1	1 (Dust & Mist)
Leaded Alloy				
Lead (Pb)	7439-92-1	<1	.05	0.05

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Material Is (At Normal Conditions)	Appearance and Odor
Solid	Gray-Black, Odorless
Melting Point (Base Metal)	**Specific Gravity**
>2500º F	Approximately 7

Extinguishing Media
NA

Special Firefighting Procedures
Steel products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards
NA

MOR 000658

Stability	Incompatability (Materials to Avoid)
Stable	Reacts with strong acids to produce hydrogen gas.

Conditions to Avoid
NA

Hazardous Decomposition Products
Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining.
Refer to ANSI Z49.1

THE MOREY CORPORATION

B

MOR 000660

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

RIO GRANDE
7500 Bluewater Rd. NW
Albuquerque, NM 87121-1962
(800) 443-6794

Rec. 7/22/99

Material Safety Data Sheet

Material/Trade Name: Bobbing Compound

MSDS Code: RIO-008

SECTION I PRODUCT/SUPPLIER INFORMATION

Material/Trade Name: Bobbing Compound

Synonyms: Mixture

Stock Number(s): 331-500

Emergency Telephone Number: (800) 255-3924
Nonemergency Health & Safety Information: (505) 237-2463
DATE PREPARED: 01/26/96
Based on Manufacturer's MSDS: 09/12/94

FLAMMABILITY: 0 **HEALTH:** 2 **REACTIVITY:** 0

SECTION II INGREDIENT/EXPOSURE LIMIT INFORMATION

Chemical Component	%	CAS No.	TLV	PEL	REL
Crystalline Quartz Silica	70-80	14808-60-7	0.1 mg/m³(RF)	10mg/m³(RD) / %SiO2+2 / 30mg/m³ / %SiO2+2(TP)	0.05 mg/m³ (L.F.C.,hr)
Mixture of Fatty Acid & Petroleum Wax	20-25	UNKNOWN	N.E.	N.E.	N.E.
Monazo Dyes Tuff	<1	UNKNOWN	N.E.	N.E.	N.E.

RF=Respirable Fraction, RD=Respirable Dust, hr=10hr TWA, L.F.C.=Lowest Feasible Concentration, TP=Total Particulate (Dust), N.E.=None Established (Exposure Limit)

SECTION III PHYSICAL PROPERTIES

Vapor Pressure (mm Hg): Not Available
Vapor Density (Air = 1): Not Available
Solubility in Water: Negligible
Appearance: Yellow solid bar
Odor: Mild fatty odor
Melting Point: 125°F (52°C)

Specific Gravity: >1.6
Boiling Point: Not Available
Evaporation Rate: Not Available
Volatility (%): Not Available
pH: Not Available

SECTION IV FIRE AND EXPLOSION DATA

Flash Point: 350°F (177°C)
Auto Ignition Temperature: Not Available

Flammable Limits: **LEL:** Unknown **UEL:** Unknown

EXTINGUISHING MEDIA: Carbon Dioxide, dry chemical, or foam

Special Fire Fighting Procedures: Fire fighters should wear full turnout gear and pressure-demand self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: None Known

SECTION V REACTIVITY DATA

Stable? Yes **Conditions to Avoid:** High temperatures

Incompatibility (Materials to Avoid): Strong oxidizers

Hazardous Decomposition Products: Oxides of carbon, nitrogen

Hazardous polymerization may occur? No **Conditions to Avoid:** None Known

7500 Bluewater Rd. NW
Albuquerque, NM 87121-1962
(800) 443-6766

Material Safety Data Sheet
Material/Trade Name: Bobbing Compound

MSDS Code: RIO-008

SECTION VI HEALTH HAZARD DATA

Primary Routes of Exposure: Inhalation, eye and skin contact

Acute signs and Symptoms of Overexposure: Material is not considered an inhalation hazard as supplied, but dust generated during buffing contains silica. Irritating to the eyes, skin and mucous membranes of the respiratory tract. Contact with molten material can cause severe burns.

Chronic Signs and Symptoms of Overexposure: Prolonged inhalation of silica dust may cause Silicosis, a fibrotic progressive lung disease charactorized by loss of lung capacity. Symptoms characteristic of this condition include coughing, difficulty breathing, wheezing, and repeated non-specific chest illness.

Carcinogenicity? Yes	NTP	IARC	ACGIH	OSHA	PROP65
Crystalline Quartz Silica	AHC	PC2A	No	No	C

AHC=Anticipated Human Carcinogen, PC2A=Probably Carcinogenic to Humans (Group 2A), C=Known in the state of California to be a Carcinogen

Conditions That May Increase Overexposure Potential: Any condition which creates a respirable dust. When using compound for buffing, proper ventilation should be used and appropriate protective equipment worn.

Medical Conditions Generally Aggravated by Exposure: Respiratory disease, damaged skin

FIRST AID PROCEDURES:

Eye Contact:	Flush contaminated eye(s) with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention immediately if irritation persists or if injury has occurred.
Skin Contact:	Wash area with soap and water. Seek medical attention if irritation develops or persists.
Inhalation:	Remove victim to fresh air. If breathing has stopped, properly trained personnel should begin artificial respiration or cardiopulmonary resuscitation (CPR) and medical assistance should be obtained immediately.
Ingestion:	Seek medical attention immediately. DO NOT INDUCE VOMITING.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

Actions to Take for Spills: Provide adequate ventilation. Avoid breathing dust by dampening material with water, scoop or sweep up and place in approved containers. Do not flush to sewers o water ways.

Waste Disposal: Dispose of via a licensed firm in accordance with federal, state and local regulations (see EPA 40 CFR 261).

Precautions to be Taken in Handling and Storage: Store in a cool, dry, well ventilated area away from heat, and out of the sun, as product may melt. Observe all safeguards for container residue until cleaned or destroyed. Store in area where animals cannot get access to since pets, especially dogs, like to eat tallow based compounds.

Community Right-to-Know Requirements: None Known

SECTION VIII EMPLOYEE PROTECTION MEASURES

Ventilation: Local ventilation is preferred to meet TLV requirements. General ventilation is acceptable, if exposure is maintained below TLV.

Respiratory Protection: When airborne concentrations exceed TLV or are unkown, use a NIOSH/MSHA approved respirator for particulates in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

Eye Protection: Face shelld is recommended.

Protective Gloves: Cotton or leather gloves are recommended. Use heat resistant gloves when handling molten material.

7500 Bluewater Rd. NW
Albuquerque, NM 87121-1962
(800) 443-6766

Material Safety Data Sheet
Material/Trade Name: Bobbing Compound

MSDS Code: RIO-008

SECTION VIII EMPLOYEE PROTECTION MEASURES (continued)

Other Protective Equipment: Long sleeved shirt or coveralls

Work/Hygiene Practices: Eyewash station and safety shower should be available in areas of use. Wash thoroughly after handling product.

The information herein is given in good faith, but no warranty, express or implied, is made.

rio grande
ALBUQUERQUE

Material Safety Data Sheet
Material/Trade Name: Golden Glo Rouge
Stock Number: 331-071

Section VI Health Hazard Data

Primary Routes of Exposure: None known

Acute Signs and Symptoms of Overexposure: None known

Chronic Signs and Symptoms of Overexposure: None known

Carcinogenicity? No Listed in: Not listed

Medical Conditions Generally Aggravated by Exposure: None known

First-Aid Procedures

Eye: Hold eyelids open and flush eyes for 15 minutes with large quantities of water. Seek medical attention immediately.

Skin: Wash area with soap and water. Remove contaminated clothing. Seek medical attention.

Inhalation: Remove victim to fresh air. Restore breathing if necessary. Seek medical attention immediately.

Ingestion: Seek medical attention immediately.

Section VII Precautions for Safe Handling and Use

Actions to Take for Spills: Sweep up any material.

Waste Disposal: Dispose of in accordance with local, state and federal regulations.

Precautions to be Taken in Handling and Storage: Store away from extreme heat.

Other Precautions: None known

Section VIII Employee Protection Measures

Ventilation: Local ventilation is preferred to meet TLV requirements. General ventilation is acceptable, if exposure is maintained below TLV.

Respiratory Protection: If irritation occurs appropriate respiratory protection should be worn.

Eye Protection: Safety goggles Protective Gloves: Rubber gloves
Other Protective Equipment: None known
Work/Hygiene Practices: Eyewash station and safety shower should be available in areas of use. Wash thoroughly after handling product.

The information herein is given in good faith, but no warranty, express or implied, is made.

Rec. 3/8/01

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE
November 25, 1985
REVISED
October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

Manufacturer's Name
Various

Product Name / Trade Name
Brass

Common Name / Grade
Half Hard, Soft, Shim, HR Naval, Muntz
Free Cutting Leaded

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Copper (Cu)	7440-50-8	60-70	1	1 (Dust & Mist)
Alloying Elements				
Zinc (Zn)	1314-13-2	30-40	5	5 (As Zinc Oxide Fume)
Tin (Sn)	7440-31-5	<1	2	2
Free Cutting Leaded				
Lead (Pb)	7439-92-1	<4	.05	0.05

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Material Is (At Normal Conditions)
Solid

Appearance and Odor
Gold/Yellow Colored, Odorless

Melting Point (Base Metal)
>1600º F

Specific Gravity
> 8

Extinguishing Media
NA

Special Firefighting Procedures
Steel products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards
Dust hazard exists under favoring conditions of small particle size.
Dispersion in air and strong ignition source may result in an explosion.

MOR 000665

Stability
Stable

Incompatability (Materials to Avoid)
Mercury, Ammonia, Acetylene, Acids

Conditions to Avoid
Exposure during storage to strong acids, bases or oxidizing agents.

Hazardous Decomposition Products
Toxic gases, aerosols, and vapors may be released in a fire involving copper alloys if fumes of other compounds or other contacting materials are involved.

Product
Brass

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ **Inhalation** ☒ **Skin Contact** ☐ **Skin Absorption** ☐ **Eye Contact** ☒ **Ingestion**

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of copper, zinc and lead may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenzalike symptoms.

Inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage and reproductive effects.

Suspected Cancer Agent? __X__ NO: This product's ingredients are not found in the lists below.
_____ YES: ____ Federal OSHA ____ NTP ____ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

MOR 000666

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

Rec. 3/8/01 SGP

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

ISSUE DATE
November 25, 1985

REVISED
October 1, 1997

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

For Information or In An Emergency
Call: (847) 455-7111

Manufacturer's Name
Various

Product Name / Trade Name	*Common Name / Grade*
Bronze	Silicon Bronze, Leaded Bronze, Aluminum Bronze

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Copper (Cu)	7440-50-8	70-99	1	1 (Dust & Mist)
Alloying Elements				
Nickel (Ni)	7440-02-2	0-14	1	0.5
Aluminum (Al)	7429-90-5	0-14	15	10 (Total Dust)
Iron (Fe)	7439-89-6	<5	10	5 (As Iron Oxide)
Silicon (Si)	7740-21-3	<4	15	10 (Total Dust)
Manganese (Mn)	7439-96-5	<4	5	0.2
Cobalt (Co)	7440-48-4	<2	0.1	0.02 (Dust & Fume)
Tin (Sn)	7440-31-5	<1	2	2
Zinc (Zn)	1314-13-2	<1	5	5 (As Zinc Oxide Fume)
Leaded Alloys				
Lead (Pb)	7439-92-1	<1	.05	0.05

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Material Is (At Normal Conditions)	Appearance and Odor
Solid	Red-Gold Metallic, Odorless
Melting Point (Base Metal)	**Specific Gravity**
>1700º F	> 7

Extinguishing Media
NA

Special Firefighting Procedures
Products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards
Dust hazards exist under favoring conditions of small particle size.
Dispersion in air and strong ignition source may result in an explosion.

MOR 000667

Stability	Incompatability (Materials to Avoid)
Stable	Mercury, Ammonia, Acetylene

Conditions to Avoid
Exposure during storage to strong acids, bases or oxidizing agents.

Hazardous Decomposition Products
Toxic gases, aerosols and vapors may be released in a fire involving copper alloys if fume of other compounds or other contacting materials are involved.

Product
Bronze

Section 6: Health Hazard Data

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ Inhalation ☒ Skin Contact ☐ Skin Absorption ☐ Eye Contact ☒ Ingestion

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of copper and lead may cause metal fume fever characterized by a metallic taste in the mouth, dryness of the throat and influenzalike symptoms.

Inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage and reproductive effects.

Nickel is listed in the 3rd Annual Report on Carcinogens as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitis, inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs.

Recent epidemiological studies of workers melting and working alloys containing nickel/chromium have found no increased risk of cancer.

Suspected Cancer Agent? _____ NO: This product's ingredients are not found in the lists below.
__X__ YES: ____ Federal OSHA __X__ NTP ____ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Section 7: Spill or Leak Procedures

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Section 8: Special Protection

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section 9: Special Precautions

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

MOR 000668

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

N/A - Not Applicable

MATERIAL SAFETY DATA SHEET

(Prepared according to 29 CFR 1910, 1200)

Effective Date: 2/01/91

SECTION 1 - PRODUCT IDENTIFICATION

Product Name: BSC-93-PC

Chemical Family: Colloids

Supplier's Name: OFNA EBVIRONMENTAL PRODUCTS

Formula: Trade Secret

Phone Number: 714-631-3707

Supplier's Address: 729 W. 16TH ST STE A-3, COSTA MESA, CA 92627

NPCA Hazardous Materials Rating Identification System

4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

Health	0
Flammability	0
Reactivity	0
Special Protection	0

SECTION 2 - INGREDIENTS

CHEMICAL NAME:	CAS NO.	WT.%	PEL	TWA-TLV	STEL-TLV	CARCINOGEN
Contains no hazardous components Under Current OSHA definitions. Complies with OSHA's 29 CRF 1910. 1200 "Trade Secrets"		N/A	N/A.	N/A	N/A	N/A

SECTION 3 - PHYSICAL DATA

Boiling Range: 212°
Specific Gravity: 1.02
Vapor Pressure: Same as water
Vapor Density: Same as Water
pH: 9.0 to 9.5
Solubility in Water: Complete
Evaporation Rate: 1.0
Melting Point: N/A
Physical Description: Slightly viscous amber color solution, light citrus odor.

SECTION 3 - PHYSICAL DATA

Flash Point (Method Used): None
Upper Explosive Limit: None
Extinguishing Media: Non-Combustible Liquid
Special Fire Fighting Procedures: None
Unusual Fire & Explosion Hazards: None

SECTION 5 - REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur

Incompatibility (Materials to Avoid): Strong oxidizers, acids, heat over 250°

Hazardous Decomposition Products: None Known

SECTION 6 - STORAGE & HANDLING INFORMATION

Precautions to be Taken in Handling and Storage:

Store tightly closed container in a dry area at temperatures between 40 - 120°F. Keep product out of eyes. Keep out of the reach of children. Clothing or shoes which become saturated with substance should not be reworn until thoroughly cleaned. Local, state, federal laws apply.

SECTION 7 - HEALTH HAZARDS AND FIRST AID

Effects of Overexposure: There are no known effects from over-exposure to this product. However, practice of good industrial hygiene exposure to any chemical should be kept to a minimum.

Carcinogenicity: N/A
NTP: N/A
IARC Monographs: N/A
OSHA Regulated: N/A

None of the ingredients are listed as carcinogens by IARC, NTP, OSHA

Medical Conditions: None

Generally Aggravated by Exposure: None Known

First Aid Procedures:

Skin: Flush with water. Seek medical attention if irritation persists.

Eyes: Flush with large quantities of water, occasionally lifting upper and lower lids. Seek medical attention if irritation persists.

Inhalation: N/A

Ingestion: Drink plenty of water. Seek medical attention if irritation persists.

MOR 000669

SECTION 8 - SPECIAL PROTECTION INFORMATION

Respiratory Protection: No special requirements.

Protective Gloves: Recommended, but not necessary.

Other Protective Equipment: No special measures are required.

Ventilation: Standard. If vapors are detected, ventilate work area by opening windows and using exhaust fans

Eye Protection: No Special Measures Required.

SECTION 9 - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Absorb spill with inert absorbent material. Pick up and place residue in a suitable waste container, or, if permitted, flush into sewer. Thoroughly rinse spill area with water.

Waste Disposal Method: Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be drummed and taken to a chemical or industrial landfill or rinse into sewers. Local, state and federal laws apply

A = Not Applicable (Prepared According to 29 CFR 1910.1200) Effective Date: 06/93

SECTION 1 - PRODUCT IDENTIFICATION

duct Name: BSC-93-DG Chemical Family: Colloids

pplr Name: OFNA EVIRONMENTAL PRODUCTS GROUP

ppliers Address: 729 W. 16TH ST STE. A-3 COATA MESA, CA 92627

Formula: Trade Secret

Phone Number: 714-631-3707

Emergency Telephone:

NPCA Hazardous Materials Rating Identification System

4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

Health	0
Flammability	0
Reactivity	0
SpecialProtection	0

SECTION 2 - INGREDIENTS

EMICAL NAME:	CAS NO.	WT.%	PEL	TWA-TLV	STEL-TLV	CARCINOGEN
ıtains no hazardous components		N/A	N/A	N/A	N/A	N/A

der Current OSHA definitions.

mplies with OSHA's 29 CRF 1910. 1200 "Trade Secrets"

SECTION 3 - PHYSICAL DATA

ing Range: 212°F
c: Pressure: Same as Water
8.5
poration Rate: 1.0
sical Description: Slightly Viscous

Specific Gravity: 1.02
Vapor Density: Same as Water
Solubility in Water: Complete
Melting Point: N/A

SECTION 3 - PHYSICAL DATA

Flash Point (Method Used): None
Upper Explosive Limit: None
Extinguishing Media: Non Combustible Liquid
Special Fire Fighting Procedures: None
Unusual Fire & Explosion Hazards: None

SECTION 5 - REACTIVITY DATA

bility: Stable
Hazardous Polymerization: Will not occur

mpatibility (Materials to Avoid): Strong oxidizers, acids, heat over 250°

ards ecomposition Products: Carbon Dioxide, Carbon Monooxide, Oxides of Nitrogen

SECTION 6 - STORAGE & HANDLING INFORMATION

Precautions to be Taken in Handling and Storage:

Store tightly closed container in a dry area at temperatures between 40 - 120°F. Keep product out of eyes. Keep out of the reach of children. Clothing or shoes which become saturated with substance should not be reworn until thoroughly cleaned. Local, state, federal laws apply.

SECTION 7 - HEALTH HAZARDS AND FIRST AID

cts of Overexposure: There are no known effects from overexposure to this product. However, practice good industrial hygiene, posure to any chemical should be kept to a minimum.

inogenicity: N/A NTP: N/A

C Monographs: N/A OSHA Regulated: N/A

e of the ingredients are listed as carcinogens by IARC, NTP, OSHA

cal Conditions Generally Aggravated by Exposure: None Known

First Aid Procedures:

Skin: Flush with water. Seek medical attention if irritation persists.

Eyes: Flush with large quantities of water, occasionally lifting upper and lower lids. Seek medical attention if irritation persists.

Inhalation: N/A

Ingestion: Drink plenty of water. Seek medical attention if irritation persists.

SECTION 8 - SPECIAL PROTECTION INFORMATION

iratory Protection: No special requirements.

ctive Gloves: Recommended, but not necessary.

Protective Equipment: No special measures are required.

Ventilation: Standard. If vapors are detected, ventilate work area by opening windows and using exhaust fans.

Eye Protection: No special measures required.

SECTION 9 - SPILL OR LEAK PROCEDURES

to be Taken In Case Material Is Released or Spilled: Absorb spill ıon absorbent material. Pick-up and place residue in a suitable cor r or, if permitted, flush into sewer. Thoroughly rinse rea with water.

Waste Disposal Method: Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be drummed and taken to a chemical or industrial landfill or rinsed into sewers. Local, state, and federal laws apply.

THE MOREY CORPORATION

C

MOR 000671

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

Rec. 3/8/01 [illegible]

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE
November 25, 1985

REVISED
October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

[illegible]

Manufacturer's Name
Various

Product Name / Trade Name
Carbon Steel - HR & CR
Leaded Carbon

Common Name / Grade
Carbon Steel i.e. A36, 1018, 1010, 1040
Pressure Vessel Quality
Leaded Carbon i.e. 10L42

[illegible]

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Iron (Fe)	7439-89-6	97-99	10	5 (As Iron Oxide)
Alloying Elements				
Manganese (Mn)	7439-96-5	<2	5	0.2
Carbon (C)	7440-44-0	<2	N.E.	3.5 (As Carbon Black)
Aluminum (Al)	7429-90-5	<1	15	10 (Total Dust)
Phosphorus (P)	7723-14-0	<1	.1	.1 (Yellow)
Sulfur (S)	7704-34-9	<1	13	5 (As SO_2)
Silicon (Si)	7740-21-3	<1	15	10 (Total Dust)
Vanadium (V)	7440-62-2	<1	0.5	.05 (As Vanadium Pentoxide Respirable Dust)
Colombian (Cb)	7440-03-1	<1	N.E.	N.E.
Bismuth (Bi)	7440-69-9	<1	N.E.	N.E.
Lead Carbon i.e. 10L42				
Lead (Pb)	7439-92-1	<1	.05	0.05

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

[illegible]

Material Is (At Normal Conditions)
Solid

Appearance and Odor
Gray-Black, Odorless

Melting Point (Base Metal)
>2500° F

Specific Gravity
Approximately 7

[illegible]

Extinguishing Media
NA

Special Firefighting Procedures
Steel products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards
NA

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[illegible]

Stability
Stable

Incompatability (Materials to Avoid)
Reacts with strong acids to produce hydrogen gas.

Conditions to Avoid
NA

Hazardous Decomposition Products
Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining.
Refer to ANSI Z49.1

Product
Carbon

Section III - Health Hazard Data

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ Inhalation ☒ Skin Contact ☐ Skin Absorption ☐ Eye Contact ☒ Ingestion

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese and lead may cause metal fume fever characterized by a metallic taste in the mouth and irritation of the throat and influenza-like symptoms.

Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

Inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage and reproductive effects.

Suspected Cancer Agent? __X__ NO: This product's ingredients are not found in the lists below.
_____ YES: ____ Federal OSHA ____ NTP ____ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Section IV - Spill or Leak Procedures

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Section V - Special Protection

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section VI - Special Precautions

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

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The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

CATERPILLAR

Rec. 10/9/01

Search Again
Print Cover Page

MSDS Number:
1002
Product Name:
CAT HYDRAULIC OIL (HYDO) SAE 10W
Manufacturer:
MOBIL OIL
Part Number(s):
1195141 1195142
1195143 1214044
1556216 2010776
2P9063 7X7613
7X7860 7X7861
7X7862 8C9926
8T9578 8T9579
8T9580 8T9581
9X2013 9X2014
9X6171 9X6172
9X6173 9X6468
9X8532 9X8533

24-hour Emergency Contacts:

Rocky Mountain Poison Center
Denver, Colorado
(800) 458-5924 toll free U.S. & Canada
(303) 893-1322

Swiss Toxicological Information Centre
Zurich, Switzerland
++ 41 (0) 1 251 51 51

If you have questions about Caterpillar Material Safety Data Sheets, please contact:

Gina Staniszewski
Caterpillar Inc.
100 NE Adams Street Peoria, IL USA 61629-3350
(309) 675-5182 phone
(309) 494-1462 fax
e-mail: msds@cat.com

MOR 000674

MOR 000675

CAT HYDRAULIC OIL (HYDO) SAE 10W

MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CAT HYDRAULIC OIL (HYDO) SAE 10W
SUPPLIER: MOBIL OIL CORP.
NORTH AMERICA MARKETING AND REFINING
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Emergency (call collect):	609-737-4411	
Product and MSDS Information:	800-662-4525	856-224-4644
CHEMTREC:	800-424-9300	202-483-7616

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:

This product is not formulated to contain ingredients which have exposure limits established by U.S. agencies. It is not hazardous to health as defined by the European Union Dangerous Substances/Preparations Directives. See Section 15 for a regulatory analysis of the ingredients.

See Section 15 for European Label Information.

See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.
EFFECTS OF OVEREXPOSURE: No significant effects expected.
EMERGENCY RESPONSE DATA: Brown Liquid. Note: Pressurized mists may form a flammable mixture. DOT ERG No. - NA

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.
SKIN CONTACT: Wash contact areas with soap and water. High pressure accidental injection through the skin requires immediate medical attention for possible incision, irrigation and/or debridement.
INHALATION: Not expected to be a problem.
INGESTION: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, seek medical attention.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Note: Pressurized mists may form a flammable mixture. Flash Point C(F): > 200(392) (ASTM D-92). Flammable limits - LEL: NA, UEL: NA.
NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides.

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.
ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering storm sewers or drains and contact with soil.
PERSONAL PRECAUTIONS: See Section 8

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

HANDLING: High pressure injection under the skin may occur due to the rupture of pressurized lines. Always seek medical attention.
STORAGE: Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.
RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.
EYE PROTECTION: Normal industrial eye protection practices should be employed.
SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.
EXPOSURE LIMITS: This product does not contain any components which have recognized exposure limits. However, a exposure limit of 5.00 mg/m3 is suggested for oil mist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid
COLOR: Brown
ODOR: Mild
ODOR THRESHOLD-ppm: NE
pH: NA
BOILING POINT C(F): > 316(600)
MELTING POINT C(F): NA
FLASH POINT C(F): > 200(392) (ASTM D-92)
FLAMMABILITY: NE
AUTO FLAMMABILITY: NE
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: < 0.1
VAPOR DENSITY: > 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.88-0.91
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: 38.7
VISCOSITY AT 100 C, cSt: 6.5
POUR POINT C(F): < -30(-22)

(Section continued next page)

FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: NE
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.
EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.
SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.
OTHER ACUTE TOXICITY DATA: The acute toxicological results summarized above are based on testing of representative Mobil products.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Representative Mobil formulations have been tested at the Mobil Environmental and Health Sciences Laboratory by dermal applications to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations, including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

Dermal exposure of pregnant rats to representative formulations did not cause adverse effects in either the mothers or their offspring.

(Section continued next page)

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as the Mobil Modified Ames Test and IP-346.

---SENSITIZATION (SUMMARY)---

Representative Mobil formulations have not caused skin sensitization in guinea pigs.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: This product is expected to be inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. It is not expected to be toxic to aquatic organisms.

Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

15. REGULATORY INFORMATION

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, AICS, MITI, and DSL.

EU Labeling: EU labeling not required.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

This product contains the following SARA (313) Toxic Release Chemicals:

CHEMICAL NAME	CAS NUMBER	CONC.
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1.29%

The following product ingredients are cited on the lists below:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (0.14%)	7440-66-6	22
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP) (1.29%)	68649-42-3	18, 20, 21, 22, 24, 25

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK

(Section continued next page)

5=NTP SUS 10=OSHA Z 15=TSCA 12b 20=IL RTK 25=PA RTK
26=RI RTK

Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: HYDRAULIC OIL

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

Please call the Customer Response Center on 800-662-4525 for formulation disclosure.

****
For Internal Use Only: MHC: 1* 1* NA 1* 1*, MPPEC: A, TRN: 478909-00, ELIS: 400222, CMCS97: 971670, REQ: US - MARKETING, SAFE USE: L
EHS Approval Date: 13FEB2001
****

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Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. Mobil assumes no responsibility for accuracy of information unless the document is the most current available from an official Mobil distribution system. Mobil neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

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SAFETY DATA

EMERSON & CUMING, INC.
77 .AGON COURT
WOBURN, MASSACHUSETTS 01888

RECEIVED
OCT 26 1995
THE MOREY CORP.

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY: CHEMTREC USA: 1-800-424-9300
INTERNATIONAL: 202/483-7616(COLLECT)

SECTION 1 IDENTIFICATION

PRODUCT NAME: CATALYST 23LV

General Chemical Description: Aliphatic Amine

SECTION 2 INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Polyoxypropylene Polyamine	50 - 60%	NE	NE
Polyglycol Diamine	40 - 50%	NE	NE

SECTION 3 PHYSICAL DATA

Boiling Point (Degree F): >480
Vapor Pressure (mm Hg @ 25°C): < 0.001
Percent Volatiles by Weight: ND
Specific Gravity (water = 1): 1.00
Solubility in Water: Soluble
Vapor Density: Heavier than air
Appearance and Odor: Amber liquid, amine odor

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):
>200 (PMCC)

Flammable Limits:
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

MOR 000683

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

,pecial Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases, epoxides.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, oxides of nitrogen, amines and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with epoxies or exposure to incompatible substances.

SECTION 6 RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

CATALYST 23LV

SECTION 7 HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to to use.

Personal Protection:
This product can cause eye burns. Prevent eye contact through the use of a face shield used in conjunction with either splash-proof chemical goggles or chemical safety glasses. This product can cause skin burns and may cause allergic skin responses. Components of this product may also be absorbed through the skin. Wear appropriate protective gloves, a proper chemical-resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing.

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respiratory disorders.

Eye Contact:
Contains materials corrosive to the eyes; may cause burns and possible corneal injury. Permanent impairment of vision or blindness may occur.

Skin Contact:
Contains materials corrosive to the skin; may cause severe burns and blistering. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals. May be harmful if absorbed through the skin.

MOR 000685

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.nhalation:
Vapors may cause irritation, nausea, and headaches.

Ingestion:
Harmful if swallowed. May cause burns to the mouth and upper gastro-intestinal tract.

Chronic Health Effects:
None known

SECTION 9 FIRST AID PROCEDURES:

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Immediately flush the affected area of the skin with plenty of water, while removing contaminated clothing or shoes. Follow by thoroughly washing with soap and water. Avoid scrubbing, as this action could increase skin absorption and worsen the effect of chemical contact. Get immediate medical attention. Do not reuse contaminated clothing until properly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
DO NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10 ADDITIONAL INFORMATION

TSCA Status:
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

MOR 000686

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

CATALYST 23LV

Special Notes:

Date Prepared: 4/21/93
Document No.: 600441
Revision Information: Format upgrade

Supersedes: 8/9/88
Prepared by: David Haas

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m3 = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

MOR 000687

SAFETY INFORMATION: (617)861-9600

ADDITIONAL MSDS: (617)828-3300

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT PART NUMBER: 8000034
DESCRIPTION: 320 CLEANER

COMPANY:
Markem Corporation
150 Congress Street
Keene, NH 03431

EMERGENCY RESPONSE NUMBERS:
Transportation:
United States: (800) 424-9300
International: (703) 527-3887(collect)
Product Safety and Environmental:
(603) 352-1130

2. HAZARDOUS INGREDIENTS

COMPONENT	CAS #	PCT(WT)
ETHYL ACETATE	141-78-6	30-60
ISOPROPYL ALCOHOL	67-63-0	30-60

Exposure and physical property information is presented in Section 9.
If the total percentage is less than 100, the balance of this product is not considered to be hazardous as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS RATING SYSTEM
Health: 1
Flammability: 3
Reactivity: 0
Protection: X

NFPA RATING SYSTEM
Health: 1
Flammability: 3
Reactivity: 0

POTENTIAL HEALTH CONSIDERATIONS

LIKELY ROUTES OF ENTRY:
Ingestion; Inhalation; Absorption; Contact

TARGET ORGANS:
Respiratory Tract; Eyes; Kidneys; Nervous System;

POTENTIAL IMMEDIATE EFFECTS FROM OVEREXPOSURE

EYE CONTACT
Can cause minor irritation, tearing and reddening.

SKIN CONTACT
Can cause minor skin irritation, defatting, and dermatitis.

SKIN ABSORBTION
Minimal hazard in normal industrial use.

3. HAZARDS IDENTIFICATION (Cont.)

INHALATION
Can cause respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

INGESTION
Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

POTENTIAL LONG-TERM EFFECTS FROM OVEREXPOSURE:

CANCER INFORMATION
None of the substances have been shown to cause cancer.
Not a carcinogen according to NTP, IARC or OSHA.
A4 - Not classifiable as a human carcinogen

REPRODUCTIVE SYSTEM INFORMATION
None of the substances have been shown to cause reproductive system disorders.

ADDITIONAL HEALTH HAZARD INFORMATION
No information available.

MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY OVEREXPOSURE
No data found

CHEMICAL INTERACTIONS
No information found.

4. FIRST AID MEASURES

EYE CONTACT
Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Get immediate medical attention.

SKIN CONTACT
Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

INHALATION
Remove to fresh air. If not breathing, perform rescue breathing and, if available, have a trained person administer oxygen.
Get medical attention immediately.

INGESTION
Emergency personnel should be contacted immediately and be provided with this MSDS. For ingestion of small quantities of chemicals, the risk associated with inducing vomiting usually exceeds the poisoning risk.

Get medical attention immediately. Drink 2 glasses of water. Contact a poison information service. Stomach evacuation may be appropriate, as recommended by

4. FIRST AID MEASURES (Cont.)

medical professionals, only if a significant quantity of the materials has been ingested. Stomach evacuation should only be carried out by trained and properly equipped medical personnel.

5. FIRE FIGHTING MEASURES

FLAMMABILITY DATA

FLASH POINT: 26 F

EXPLOSIVE/FLAMMABILITY LIMITS ESTIMATED FROM INGREDIENTS:

LOWER LIMIT: 2.0 %

UPPER LIMIT: 12.0 %

AUTOIGNITION TEMPERATURE ESTIMATED FROM INGREDIENTS:

750 F

GENERAL HAZARDS

Vapors may be ignited by heat, sparks, flames or other sources of ignition giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Container may explode in heat of fire. Empty container may still contain residual material that can ignite and/or result in an explosion. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty container to heat, flame, sparks, static electricity, or other sources of ignition.

EXTINGUISHING MEDIA

Use alcohol foam, carbon dioxide (CO2) or dry chemical. Water may not be effective to extinguish fire. Use water spray to cool fire-exposed containers and to protect personnel.

FIRE FIGHTING INSTRUCTIONS

Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location. Heat may build pressure and rupture closed containers, spreading fire and increasing risk of burns or injuries. Water may be ineffective in firefighting due to low flash point and limited miscibility with water. Flammable/combustible components of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling. Even if material is water soluble, it may not be practical to extinguish fire by water dilution. Notify authorities if liquid enters sewers or other public waters.

HAZARDOUS COMBUSTION PRODUCTS

carbon dioxide; carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES

Shut off ignition sources; smoking, flames or other sources of ignition must not be permitted in the area. Small Spills: Take up with sand or other noncombustible absorbent material and put into properly labeled containers for disposal. Large Spills: Dike ahead of liquid spill area to minimize migration and vapor generation. Ventilate the area. Get professional help from outside

6. ACCIDENTAL RELEASE MEASURES (Cont.)

contractors, the fire department or your trained spill brigade.

HEALTH CONSIDERATIONS AND PROTECTIVE EQUIPMENT

Follow personal protective equipment recommendations found in this MSDS.

7. HANDLING AND STORAGE

HANDLING
Avoid contact with material, avoid breathing vapors, use only in a well ventilated area, use bonding and grounding when transferring this material.

STORAGE
Store in a cool dry ventilated location, away from oxidizers, heat, flame or other incompatible conditions. Keep container(s) closed if possible.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS
Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep exposure to airborne contaminants below the TLV, PEL, or other recommended exposure limit and/or maintain operator comfort. These controls should be explosion-proof when exhausting flammable vapors.
Facilities storing or using this material should be equipped with an eyewash and safety shower.

RESPIRATORY PROTECTION
If air monitoring indicates airborne concentrations at or above the limits, or symptoms of inhalation over-exposure occur, a respiratory protection program may be required. Engineering controls to reduce the exposure below acceptable limits are usually preferable to a respirator program.

EYE PROTECTION
Chemically resistant safety glasses with side shields must be worn when handling this product. Further eye protection such as chemical splash goggles and/or face shield must be worn when the possibility exists for eye contact due to splashing or spraying liquid or airborne particles. Contact lenses should not be worn. An eye wash station should be available.

SKIN PROTECTION
Depending upon conditions of use, wear protective gloves and other protective equipment. Inspect gloves for chemical break-through and replace as needed. Clean equipment thoroughly after each use.
Appropriate gloves to be used for MARKEM products that are mixtures have not been determined. Glove type(s) for ingredients present at 10% or more (if known) are:
Nitrile; Neoprene; Natural rubber

9. PHYSICAL AND CHEMICAL PROPERTIES - PRODUCT MIXTURE

APPEARANCE:	Liquid
COLOR:	Colorless to slightly pale
ODOR:	Strong solvent
SPECIFIC GRAVITY(g/ml):	0.83
PERCENT VOLATILE:	100
VOC CONTENT:	Not Determined
VAPOR PRESSURE (mmHg):	10-100
BOILING PT OR RANGE:	Not determined
pH:	ND
VISCOSITY:	ND
VAPOR DENSITY:	Heavier than air
FREEZING POINT:	ND
EVAPORATION RATE:	2-10 (n-Butyl acetate = 1)

9.1 EXPOSURE, PHYSICAL AND CHEMICAL PROPERTIES FOR INGREDIENTS

COMPONENT	TLV	PEL	STEL
ETHYL ACETATE	400 ppm	400 ppm	NE
ISOPROPYL ALCOHOL	400 ppm	400 ppm	500 ppm

COMPONENT	SPECIFIC GRAVITY g/ml	EVAP RATE N-BUTYL ACETATE=1	WATER SOL %	VAPOR PRES mmHg
ETHYL ACETATE	0.881	3.9	8%	74
ISOPROPYL ALCOHOL	0.783	1.44	100	33

10. STABILITY AND REACTIVITY

STABILITY
Stable under normal conditions.

CONDITIONS TO AVOID
Elevated temperatures in combination with sparks, open flames, or other sources of ignition.

INCOMPATIBILITY
Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
carbon dioxide; carbon monoxide

11. TOXICOLOGICAL INFORMATION

Ethyl acetate:
LC50 (rat): 16000 ppm (6-hour exposure).
LC50 (mouse): 44000 mg/m3 (12200 ppm) (3-hour exposure).
LD50 (oral, rat): 11.3 mL/kg (10200 mg/kg).

11. TOXICOLOGICAL INFORMATION (Cont.)

LD50 (oral, rat): 5600 mg/kg.
LD50 (oral, mouse): 4100 mg/kg.
LD50 (oral, rabbit): 4900 mg/kg.
LD50 (oral, guinea pig): 5500 mg/kg.
LD50 (dermal, rabbit): Greater than 20 mL/kg (18000 mg/kg).
Isopropyl alcohol:
LD50 (rat, oral): 4.42 - 5.84 g/kg
LD50 (mouse, oral): 4.8 g/kg
LD50 (rabbit, oral): 7.9 g/kg
LD50 (rabbit, dermal): 13 g/kg

12. ECOLOGICAL INFORMATION

Ethyl acetate:
LC50 Pimephales promelas (fathead minnow) 230 mg/l/96 hr.
If released into water ethyl acetate will be lost primarily by evaporation (half-life 10 hr in a typical river) and biodegradation.
Bioconcentration in fish will be insignificant.
In the atmosphere, ethyl acetate will react with photochemically produced hydroxyl radicals (half-life 8.3 days). A few percent an hour will disappear under photochemical smog situations.
2-Propanol:
LC50 Pimephales promelas (fathead minnows) 11,830 mg/l/1 hr, 11,160 mg/l/24 hr 11,130 mg/l/48 hr, 72 hr, 96 hr,
When released into water, isopropanol will volatilize and biodegrade.
In the atmosphere it will photodegrade primarily by reaction with hydroxyl radicals with a half-life of one to several days.

13. DISPOSAL CONSIDERATIONS

POTENTIAL EPA WASTE CODE(S):
D001; F003

DISPOSAL
Dispose of by incineration or waste water treatment following Federal, State, Local or Provincial regulations.

14. TRANSPORT INFORMATION, DOT and IATA:

DOT AND IATA: FLAMMABLE LIQUID, N.O.S., (ISOPROPANOL, ETHYL ACETATE), 3, UN1993, PGII
LABEL REQUIRED: FLAMMABLE LIQUID

15. REGULATORY INFORMATION

Those ingredients appearing on the following list that do not appear in Section 2 are present at <0.1% for carcinogens, <1% for other hazardous substances, or are not considered hazardous in this product.

CERCLA: The following components have CERCLA reportable quantities:

CAS NUMBER	CHEMICAL NAME
141-78-6	ETHYL ACETATE

SARA TITLE III: The following components are listed under Section 313:

CAS NUMBER	CHEMICAL NAME
67-63-0	ISOPROPYL ALCOHOL

WHMIS: The following components are WHMIS Workplace Hazardous Materials:

CAS NUMBER	CHEMICAL NAME
141-78-6	ETHYL ACETATE
67-63-0	ISOPROPYL ALCOHOL

TSCA: All chemicals in this product are on the USEPA TSCA 8(b) inventory.

TSCA: The following components are subject to TSCA 12(b) regulations:

CAS NUMBER	CHEMICAL NAME
141-78-6	ETHYL ACETATE
67-63-0	ISOPROPYL ALCOHOL

RCRA: The following components are subject to RCRA land disposal restrictions:

CAS NUMBER	CHEMICAL NAME
141-78-6	ETHYL ACETATE

16. OTHER INFORMATION

MSDS prepared by Richard C. Berry

Rec. 10/5/00 SP

MATERIAL SAFETY DATA SHEET

(COMPLIES WITH 29CFR 1910.1200)

SECTION I - CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Identity (As Used on Label and List): *Multi-Clean #2 Glass & Surface Cleaner*
Product Class: General purpose water-based cleaner
Emergency Telephone Number: 800-255-3924
Telephone Number for Information: 651-481-1900
Manufacturer's Name and Address:
Multi-Clean®, A Division of Minuteman International, Inc.
600 Cardigan Road
Shoreview, MN 55126

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity):

Chemical	Common Name(s)	%
A	Propylene glycol methyl ether CAS #107-98-2	10 - 30
B	Propylene glycol n-butyl ether CAS #5131-66-8	3 - 7
C	Surfactant (proprietary)	1 - 5
D	Water CAS #7732-18-5	60 - 100

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odor: Blue liquid, mild odor.
Primary Hazards: Combustible, irritant.

Potential Health Hazards

Route(s) of Entry: **Skin Absorption:** X **Ingestion:** **Inhalation:** X
Eye: May cause irritation on contact.
Skin: May cause irritation on prolonged or repeated contact.
Ingestion: May be harmful if swallowed.
Inhalation: Overexposure to vapors may be harmful.
Signs and Symptoms of Exposure: *Excessive exposure may cause headaches or narcotic effects.*
Carcinogenicity: **NTP?** No **IARC Monographs?** No
OSHA Regulated? No
Target Organ (s): Skin, eyes, liver and kidneys.
Medical Conditions Generally Aggravated by Exposure: N. Av.
Health Hazards, Chronic: N. Av.

SECTION IV - FIRST AID MEASURES

Emergency and First Aid Procedures:
If Swallowed: Drink two glasses of water and call a physician immediately. **Eye Contact:** Flush eyes with running water for at least 15 minutes. If irritation persists, obtain medical attention. **Skin Contact:** Flush thoroughly with cool water. Remove and wash contaminated clothing before reuse.
Sources Used: Raw material data, general toxicology from the trade for similar products.

SECTION V - FIRE FIGHTING MEASURES

Flammability: Combustible **Autoignition Temperature:** N. Av.
Flash Point (method used): 147°F closed cup
Flammable Limits: N. Av. LEL N Av. UEL N. Av.
Extinguishing Media

Water?	**Foam?**	**Water Fog?**
Alcohol Foam? X	**CO_2?** X	**Dry Chemical?** X
Vaporizing Liquid?	**Other?**	

Special Fire Fighting Procedures: Water hose stream may spread fire. Use water spray to keep containers cool.
Unusual Fire and Explosion Hazards: Vapors are heavier than air and may travel over distances to ignition sources (heat, flames, sparks, pilot lights, etc) where ignition may occur. Ground all equipment.
TDG Flammability Classification: Unknown
Sensitivity to Mechanical Impact: None
Sensitivity to Static Discharge: N. Av.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled:
Extinguish all sources of possible ignition (flames, sparks, pilot lights, etc.) and provide ventilation. For large spills, dike and contain spill with inert material (sand, earth, etc.). Collect spill with absorbent material (example; floor-dri). For small spills, wipe up spill with mop or rag. Dispose of or treat mop or rag properly to avoid fire.

SECTION VII - HANDLING AND STORAGE

Precautions to be Taken in Handling and Storing:
Do not store near heat, sparks or flame.
Other Precautions: Keep out of reach of children. Keep from freezing.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Types): Not required. Avoid breathing spray mist.
Ventilation: **Local Exhaust:** Not required **Special:** Not required
Mechanical (General): As required to keep vapor level below TLVs and PELs (Section XI) **Other:** Not required
Protective Gloves: Natural rubber or synthetic.
Eye Protection: Approved safety goggles or glasses. **Footwear:** Not required
Other Protective Clothing or Equipment: Not required
Work/Hygienic Practices: Do not contaminate food or beverages with cleaning chemicals.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: *Approximately 212°F (100°C)* **pH:** 10.9
Specific Gravity (H20) = 1: 1.005 **% Volatile:** > 95
Vapor Density (Air = 1): > 1 **Odor Threshold:** N. Av.
Evaporation Rate (Butyl Acetate = 1): N. Av. **Oil/Water Distribution Coefficient:** N. Av.
Solubility in Water: Complete
Vapor Pressure (MM HG): N. Av.
Melting Point: N. Ap.

SECTION X - STABILITY AND REACTIVITY

Stability: **Unstable:** **Stable:** X
Conditions to Avoid: N. Ap.
Incompatibility (materials to avoid): Oxidizing material
Hazardous Decomposition or By-products: N. Av.
Hazardous Polymerization: **May occur:** **Will not occur:** X
Conditions to Avoid: N. Ap.

SECTION XI - TOXICOLOGICAL INFORMATION

Chemical	OSHA PEL	ACGIH TLV	Recom.	LD50	LC50
A	100 ppm	100 ppm	N. Av.	6,600 mg/kg (rat, oral)	> 200 mg/l (rat, 1 hr.)
B	None	None	N. Av.	3,300 mg/kg (rat, oral)	N. Av.
C	None	None	N. Av.	3,400 mg/kg (rat, oral)	N. Av.
D	None	None	N. Av.	N. Av.	N. Av.

Teratogen, Mutagen, Reproductive Toxin Status: No conclusive data available.
Toxicologically Synergistic Products: N. Av.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicological Information: N. Av.
Chemical Fate Information: N. Av.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Dispose of spilled material in accordance with local, state and federal regulations. Waste from normal cleaning procedures may be sewered, depending on the materials and/or contaminates being cleaned as well as state, federal and local sewer commission regulations.
RCRA Hazard Class: N. Av.

SECTION XIV - TRANSPORT INFORMATION

Shipping Classification: Compound, cleaning liquid, NOI.
UN Number: N. Ap.
Packing Group: N. Ap.

SECTION XV - PREPARATION DATA

Prepared By: James Tracy
Telephone Number: 651-481-1900
Date: 1/99

SECTION XVI - REGULATORY INFORMATION

US Federal Regulations
TSCA Status: All ingredients listed.
CERCLA Reportable Quality: N. Av.
SARA Title III
Section 302 Extremely Hazardous Chemicals: None
Section 311/312 Hazard Category: Immediate health, chronic health, fire.
Section 313 Toxic Chemicals: None
State Regulations
NOTICE STATE OF CALIFORNIA
Warning: This product may contain chemicals known to the State of California to cause cancer or reproductive defects as trace impurities in the standard industrial materials used in the manufacture of this product.
International Regulations
WHMIS Controlled Product Hazard Class: B3, D2 B

SECTION XVII - OTHER INFORMATION

None

N. Ap. - Not Applicable; N.Av. - Not Available

NFPA SYSTEM

1 A. Health Hazard 2 A. Fire Hazard 0 A. Reactivity Hazard

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Rec. 10/5/00

MATERIAL SAFETY DATA SHEET

(COMPLIES WITH 29CFR 1910.1200)

SECTION I - CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Identity (As Used on Label and List): Multi-Blend #5 Neutral Cleaner
Product Class: General purpose water-based cleaner
Emergency Telephone Number: 800-255-3924
Telephone Number for Information: 612-481-1900
Manufacturer's Name and Address:
Multi-Clean®, A Division of Minuteman International, Inc.
600 Cardigan Road
Shoreview, MN 55126

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity):

Chemical	Common Name(s)	%
A	Surfactant (proprietary)	10 - 30
B	Water CAS #7732-18-5	60 - 100

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview
Appearance and Odor: Blue liquid, floral aroma.
Primary Hazards: Non-hazardous in normal use.
Potential Health Hazards
Route(s) of Entry: Skin Absorption: Ingestion: Inhalation:
Eye: May cause irritation on contact.
Skin: May cause irritation on contact.
Ingestion: May be harmful if swallowed.
Inhalation: No hazardous vapors.
Signs and Symptoms of Exposure: May cause irritation on direct contact.
Carcinogenicity: NTP? No IARC Monographs? No
OSHA Regulated? No
Target Organ (s): No additional data
Medical Conditions Generally Aggravated by Exposure: N. Av.
Health Hazards, Chronic: N. Av.

SECTION IV - FIRST AID MEASURES

Emergency and First Aid Procedures:
If Swallowed: Drink water in large amounts and call a physician immediately. Never give anything by mouth to an unconscious person. **Eye Contact:** Flush eyes with running water for at least 15 minutes. If irritation persists, obtain medical attention. **Skin Contact:** Flush thoroughly with cool water. Remove and wash contaminated clothing before reuse.
Sources Used: Raw material data, general toxicology from the trade for similar products.

SECTION V - FIRE FIGHTING MEASURES

Flammability: No Autoignition Temperature: N. Ap.
Flash Point (method used): None
Flammable Limits: N. Ap. LEL UEL
Extinguishing Media N. Ap.
Water? Foam? Water Fog?
Alcohol Foam? CO_2? Dry Chemical?
Vaporizing Liquid? Other?
Special Fire Fighting Procedures: N. Ap.
Unusual Fire and Explosion Hazards: N. Av.
TDG Flammability Classification: Non-flammable
Sensitivity to Mechanical Impact: None
Sensitivity to Static Discharge: None

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled:
Dike and contain spill with inert material (sand, earth, etc). Collect spill with mop, absorbent material (example: floor-dri) or vacuum. Thoroughly rinse affected area with water.

SECTION VII - HANDLING AND STORAGE

Precautions to be Taken in Handling and Storing:
Normal care in handling and storage.
Other Precautions: Keep out of reach of children. Keep from freezing.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Types): Not required
Ventilation: Local Exhaust: Not required Special: Not required
Mechanical (General): Normal good ventilation sufficient.
Other: Not required
Protective Gloves: Natural rubber or synthetic.
Eye Protection: Approved safety goggles or glasses. **Footwear:** Not required
Other Protective Clothing or Equipment: Not required
Work/Hygienic Practices: Do not contaminate food or beverages with cleaning chemicals.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Approximately 212°F **pH:** 7
Specific Gravity (H20) = 1: 1.00 **% Volatile:** > 60
Vapor Density (Air = 1): N. Av. **Odor Threshold:** N. Av.
Evaporation Rate (Butyl Acetate = 1): N. Av. **Oil/Water Distribution Coefficient:** N. Av.
Solubility in Water: Complete
Vapor Pressure (MM HG): N. Av.
Melting Point: N. Ap.

SECTION X - STABILITY AND REACTIVITY

Stability: Unstable: Stable: X
Conditions to Avoid: N. Ap.
Incompatibility (materials to avoid): N. Av.
Hazardous Decomposition or By-products: N. Av.
Hazardous Polymerization: May occur: Will not occur: X
Conditions to Avoid: N. Ap.

SECTION XI - TOXICOLOGICAL INFORMATION

Chemical	OSHA PEL	ACGIH TLV	Recom.	LD50	LC50
A	None	None	N. Av.	N. Av.	N. Av.
B	None	None	N. Av.	N. Av.	N. Av.

Teratogen, Mutagen, Reproductive Toxin Status: No
Toxicologically Synergistic Products: N. Av.

SECTION XII - ECOLOGICAL INFORMATION

Biodegradation Properties: Main component (A): Biodegraded to > 99% per SDA semi-continuous sludge test.
Ecotoxicological Information: Main component (A): LC50 (48 hr., daphnia magna) 6.2 mg/l
Chemical Fate Information: N. Av.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Dispose of spilled material in accordance with local, state and federal regulations. Waste from normal cleaning procedures may be sewered, depending on the materials and/or contaminates being cleaned as well as state, federal and local sewer commission regulations.
RCRA Hazard Class: None

SECTION XIV - TRANSPORT INFORMATION

Shipping Classification: Compound, cleaning liquid, N.O.I.
UN Number: N. Ap.
Packing Group: N. Ap.

SECTION XV - PREPARATION DATA

Prepared By: Mark Levitt
Telephone Number: 612-481-1900
Date: 7/18/97

SECTION XVI - REGULATORY INFORMATION

US Federal Regulations
TSCA Status: All ingredients listed.
CERCLA Reportable Quality: None
SARA Title III
Section 302 Extremely Hazardous Chemicals: None
Section 311/312 Hazard Category: None
Section 313 Toxic Chemicals: None
State Regulations
NOTICE STATE OF CALIFORNIA
Warning: This product may contain chemicals known to the State of California to cause cancer or reproductive defects as trace impurities in the standard industrial materials used in the manufacture of this product.
International Regulations
WHMIS Controlled Product Hazard Class: N. Ap.

SECTION XVII - OTHER INFORMATION

None

N. Ap. - Not Applicable; N.Av. - Not Available

NFPA SYSTEM

1 A. Health Hazard 0 A. Fire Hazard 0 A. Reactivity Hazard

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CONFORMAL COATING

(SEE **PC-101**)

Rec. 3/8/01

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE
November 25, 1985
REVISED
October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

Manufacturer's Name
Various

Product Name / Trade Name	Common Name / Grade
Copper - CR & HR Copper Leadtex Sheet	Copper Sheet, Oxygen Free, Hard Drawn Electrolytic Tough Pitch

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg ... ³)
Base Metal				
Copper (Cu)	7440-50-8	>99.9	1	1 (Dust & Mist)
Trace Less Than .1%				
Phosphorus (P)	7723-14-0	<0.1	0.1	0.1 (Yellow)
Antimony (Sb)		<0.1	0.5	0.5
Selenium (Se)		<0.1	0.2	0.2
Bismuth (Bi)	7440-69-9	<0.1	N.E.	N.E.
Coating - Leadtex				
Lead (Pb)	7439-92-1	15 lbs/100 sq ft	.05	0.05 (Dust & Fume)

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Material Is (At Normal Conditions)	Appearance and Odor
Solid	Copper Metallic, Odorless
Melting Point (Base Metal)	**Specific Gravity**
>1800º F	> 8

Extinguishing Media
NA

Special Firefighting Procedures
Products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards
Dust hazard exists under favoring conditions of small particle size.
Dispersion in air and strong ignition source may result in an explosion.

MOR 000698

Stability	Incompatability (Materials to Avoid)
Stable	Mercury, Ammonia, Acetylene, Acids

Conditions to Avoid
Exposure during storage to strong acids, bases or oxidizing agents.

Hazardous Decomposition Products
Toxic gases, aerosols and vapors may be released in a fire involving copper alloys if fumes of other compounds or other contacting materials are involved.

Product
Copper

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ Inhalation ☒ Pb Skin Contact ☐ Skin Absorption ☐ Eye Contact ☒ Pb Ingestion

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of copper and lead may cause metal fume fever characterized by a metallic taste in the mouth and irritation of the throat and influenzalike symptoms.

Inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage and reproductive effects.

Suspected Cancer Agent? _X_ NO: This product's ingredients are not found in the lists below.
_____ YES: ___ Federal OSHA ___ NTP ___ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

MOR 000699

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

CYANOACRYLATE

(SEE **SUPERGLUE**)

THE MOREY CORPORATION

D

MOR 000701

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

MSDS: 78597 ITEM: 2W757 DROP LOCATION: P3-236

ORDER: 0083498305

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

****
MATERIAL SAFETY DATA SHEET - 78597

Associated Grainger Items

2W757

2W757

TMC NUMBER 1300116

B2W757

81 80

MANUFACTURER'S NAME
DISTRIBUTED BY
W. W. GRAINGER
CHICAGO, IL 60069

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
30-MAR-98

INFORMATION TELEPHONE NO.
(800) 240-0248

2W757
DRY LUBE.

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER
B2W757

HMIS CODES
HEALTH: 2
FLAMMABILITY: 4
REACTIVITY: 0

PRODUCT NAME
2W757-B T.F.E. DRY LUBE

PRODUCT CLASS
AEROSOL LUBRICANT

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT / CAS NO.	% BY WT	ACGIH TLV	OSHA PEL	UNITS	V.
PROPANE 74-98-6	13		1000	PPM	760
BUTANE 106-97-8	13	800	800	PPM	760
ENTANE 142-82-5	57 STEL	400 500	400 500	PPM PPM	50
-PROPANOL 67-63-0	16 STEL	400 500	400 500	PPM PPM	33

W757

SECTION III - PHYSICAL DATA

PRODUCT WEIGHT: 5.53 LB./GAL. EVAPORATION RATE: FASTER THAN ETHER

SPECIFIC GRAVITY: 0.67 VAPOR DENSITY: HEAVIER THAN AIR

BOILING POINT: LT 0 -212 F. MELTING POINT: N.A.

VOLATILE VOLUME: 99% SOLUBILITY IN WATER: N.A.

VOLATILE WEIGHT: 98.05% (LESS FEDERALLY EXEMPT SOLVENTS)

HMIS: 3 4 0

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	LEL	UEL
PROPELLANT LT 0 F.	1.1	12.7

EXTINGUISHING MEDIA:

CARBON DIOXIDE, DRY CHEMICAL, FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS: ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTRE HEAT. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS. DURING EMERGENCY CONDITIONS OVEREXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEA HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION.

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIV IF WATER IS USED, FOG NOZZLES ARE PREFERABLE. WATER MAY BE USED TO COOL CLO CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOS WHEN EXPOSED TO EXTREME HEAT.

SECTION V - HEALTH HAZARD DATA

ROUTES OF EXPOSURE: EXPOSURE MAY BE BY INHALATION AND/OR SKIN OR EYE CONTAC DEPENDING ON CONDITIONS OF USE. TO MINIMIZE EXPOSURE, FOLLOW RECOMMENDATION FOR PROPER USE, VENTILATION, AND PERSONAL PROTECTIVE EQUIPMENT.

ACUTE HEALTH HAZARDS:

EFFECTS OF OVEREXPOSURE: IRRITATION OF EYES, SKIN AND RESPIRATORY SYSTEM. M CAUSE NERVOUS SYSTEM DEPRESSION. EXTREME OVEREXPOSURE MAY RESULT IN UNCONSCIOUSNESS AND POSSIBLY DEATH.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: HEADACHE, DIZZINESS, NAUSEA, AND LOSS O COORDINATION ARE INDICATIONS OF EXCESSIVE EXPOSURE TO VAPORS OR SPRAY MISTS

REDNESS AND ITCHING OR BURNING SENSATION MAY INDICATE EYE OR EXCESSIVE SKIN EXPOSURE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE GENERALLY RECOGNIZED.

26759

EMERGENCY AND FIRST AID PROCEDURES:

IF INHALED: IF AFFECTED, REMOVE FROM EXPOSURE. RESTORE BREATHING. KEEP WARM QUIET.

IF ON SKIN: WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE RE-USE.

IF IN EYES: FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDI ATTENTION.

IF SWALLOWED: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DO NOT INDUCE VOMITING. GIVE CONSCIOUS PATIENT SEVERAL GLASSES OF WATER. SEEK MEDI ATTENTION.

CHRONIC HEALTH HAZARDS:

NO INGREDIENT IN THIS PRODUCT IS AN IARC, NTP OR OSHA LISTED CARCINOGEN.

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WIT PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE.

CONDITIONS TO AVOID: NONE KNOWN.

INCOMPATIBILITY: NONE KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS: BY FIRE: CARBON DIOXIDE, CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: REMOVE ALL SOURC OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT.

WASTE DISPOSAL METHOD: WASTE FROM THIS PRODUCT MAY BE HAZARDOUS AS DEFINED UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261.

WASTE MUST BE TESTED FOR IGNITABILITY TO DETERMINE THE APPLICABLE EPA HAZAR WASTE NUMBERS.

DO NOT INCINERATE. DEPRESSURIZE CONTAINER. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING POLLUTION.

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SECTION VIII - PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE: USE ONLY WITH ADEQUATE VENTILATION. AVOID BREATHING VAPOR AND SPRAY MIST. AVOID CONTACT WITH SKIN AND EYES. WASH HAND AFTER USING.

VENTILATION: LOCAL EXHAUST PREFERABLE. GENERAL EXHAUST ACCEPTABLE IF THE EXPOSURE TO MATERIALS IN SECTION II IS MAINTAINED BELOW APPLICABLE EXPOSURE LIMITS. REFER TO OSHA STANDARDS 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION: IF PERSONAL EXPOSURE CANNOT BE CONTROLLED BELOW APPLICABLE LIMITS BY VENTILATION, WEAR A PROPERLY FITTED ORGANIC VAPOR/ PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA FOR PROTECTION AGAINST MATERI IN SECTION II.

PROTECTIVE GLOVES: NONE REQUIRED FOR NORMAL APPLICATION OF AEROSOL PRODUCTS WHERE MINIMAL SKIN CONTACT IS EXPECTED. FOR LONG OR REPEATED CONTACT, WEAR CHEMICAL RESISTANT GLOVES.

EYE PROTECTION: WEAR SAFETY SPECTACLES WITH UNPERFORATED SIDESHIELDS.

SECTION IX - PRECAUTIONS

DOL STORAGE CATEGORY: 1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP AWAY FROM HEAT, SPARK AND OPEN FLAME. VAPORS WILL ACCUMULATE READILY AND MAY IGNITE EXPLOSIVELY.

DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA VENTILATED - DO NOT SMO EXTINGUISH ALL FLAMES, PILOT LIGHTS, AND HEATERS - TURN OFF STOVES, ELECTRI TOOLS AND APPLIANCES, AND ANY OTHER SOURCES OF IGNITION.

CONSULT NFPA CODE. USE APPROVED BONDING AND GROUNDING PROCEDURES.

CONTENTS UNDER PRESSURE. DO NOT PUNCTURE, INCINERATE, OR EXPOSE TO TEMPERAT ABOVE 120 F. HEAT FROM SUNLIGHT, RADIATORS, STOVES, HOT WATER, AND OTHER HE *SOURCES COULD CAUSE CONTAINER TO BURST. DO NOT TAKE INTERNALLY. KEEP OUT OF* REACH OF CHILDREN.

OTHER PRECAUTIONS: INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.

SECTION X - OTHER REGULATORY INFORMATION:

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION:

CAS NO.	CHEMICAL/COMPOUND	% BY WT	% ELEMENT

NO INGREDIENTS IN THIS PRODUCT ARE SUBJECT TO SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION.

24757

CALIFORNIA PROPOSITION 65:
WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA T CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

TSCA CERTIFICATION: ALL CHEMICALS IN THIS PRODUCT ARE LISTED, OR ARE EXEMPT FROM LISTING, ON THE TSCA INVENTORY.

THE ABOVE INFORMATION PERTAINS TO THIS PRODUCT AS CURRENTLY FORMULATED, AND BASED ON THE INFORMATION AVAILABLE AT THIS TIME. ADDITION OF REDUCERS OR OT ADDITIVES TO THIS PRODUCT MAY SUBSTANTIALLY ALTER THE COMPOSITION AND HAZAR OF THE PRODUCT. SINCE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL, WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND ASSUME NO LIABILITY IN CONNECTION WITH USE OF THIS INFORMATION.

DBE SOLVENT

MATERIAL SAFETY DATA SHEET

MATERIAL IDENTIFICATION

DBE

MSDS NUMBER : 6020CR
CORPORATE NUMBER : DU000276

Revision Date : 21-Sep-92
Date Printed : 06-Nov-92

MANUFACTURER/DISTRIBUTOR
Du Pont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS
PRODUCT INFORMATION : 1-800-231-0998
TRANSPORT EMERGENCY : CHEMTREC: 1-800-424-9300
MEDICAL EMERGENCY : 1-800-441-3637

CHEMICAL FAMILY : ALIPHATIC DIBASIC ACID ESTERS

TRADE NAMES / SYNONYMS
ALIPHATIC DIBASIC ESTERS - DBE
DIBASIC ESTER

DU PONT REGISTRY NUMBER: DP53-60-5
FORMULA : CH3OOC(CH2)n-COOCH3, n=2,3 and 4
MOLECULAR WEIGHT : Avg. 159
TSCA INVENTORY STATUS : Reported/Included
NPCA-HMIS RATINGS : Health: 2 Flammability: 1 Reactivity: 0
Personal Protection rating to be supplied by user depending on use conditions.

COMPONENTS

Material	CAS Number	%
DIMETHYL GLUTARATE	1119-40-0	55-75
DIMETHYL ADIPATE	627-93-0	10-25
DIMETHYL SUCCINATE	106-65-0	19-26
METHANOL	67-56-1	<0.2

PHYSICAL DATA

Boiling Point	: 196 to 225 deg C (385 to 437 deg F)
Vapor Pressure	: 0.2 mm Hg at 20 deg C (68 deg F)
Melting Point	: ~-20 deg C (~-4.0 deg F)
Evaporation Rate	: <0.1 (Butyl Acetate = 1.0)
Water Solubility	: 5.3 WT % at 20 deg C (68 deg F)
Odor	: Sweet
Form	: Liquid
Color	: Colorless
Specific Gravity	: 1.092 at 20 deg C (68 deg F)
Odor Threshold	: 0.1 ppm 100% and 0.01 ppm 50% of the test panel detected it.

HAZARDOUS REACTIVITY

Instability	: Stable.
Incompatibility	: Incompatible with strong oxidants, acids, and alkalies.
Decomposition	: Decomposes with heat.
Polymerisation	: Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point	: 100 deg C (212 deg F)
Method	: TCC
Autoignition	: 370 deg C (698 deg F)

Explosive Limits in Air, % by Volume

LEL	: 0.9
UEL	: 8.0

FIRE AND EXPLOSION HAZARDS

Vapor forms explosive mixture with air. Hazardous gases/vapors produced in fire are carbon monoxide.

EXTINGUISHING MEDIA

Water Spray. Foam. Dry Chemical.

Carbon Dioxide (CO2).

SPECIAL FIRE FIGHTING INSTRUCTIONS

Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

Keep personnel removed and upwind of fire.

HEALTH HAZARD INFORMATION

The mixture may cause skin, eye and upper respiratory tract irritation.

ANIMAL DATA:

Inhalation 4-hour LC50:		>11 mg/L in rats
Inhalation 1-hour LC50:		>10.7 mg/L in rats
Oral LD50	:	8,191 mg/kg in rats
Skin absorption LD50	:	>2,250 mg/kg in rabbits

Mixed dibasic esters is a mild to severe skin irritant and a moderate eye irritant, but is not a skin sensitizer in laboratory animals. Instillation of various volumes into the eye caused transient corneal opacity and corneal anaesthesia.

Upper respiratory tract irritation and transient corneal opacity were observed in animals following a single inhalation exposure. Repeated inhalation exposures caused decreased weight gain and liver weights, and generation of olfactory epithelium (nasal tissue). A single dose to animals by skin contact, ocular instillation or inhalation exposure caused a transient increase in the distance from the cornea to the anterior surface of the lens. The material does not produce genetic damage in animals or bacterial cell cultures, but was positive in one mammalian cell culture study. Animal testing indicates that this material does not have developmental or reproductive effects.

HUMAN HEALTH EFFECTS:

Contact with skin may cause skin irritation with discomfort or rash. Eye contact may cause eye irritation with discomfort, tearing or blurring of vision. Some individuals who have been overexposed by inhalation or skin contact have experienced blurry vision. Inhalation overexposure may cause irritation of the upper respiratory system.

The mechanism of blurred vision in humans is unknown. It is possible that some symptoms of pre-existing eye diseases could be aggravated by overexposure to this material.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

DBE

AEL * (Du Pont): 1.5 ppm, 10 mg/m3 - 8 Hr TWA
This limit is for DBE.

(HEALTH HAZARD INFORMATION - Continued)

TLV (ACGIH) : None Established
PEL (OSHA) : None Established

OTHER APPLICABLE EXPOSURE LIMITS

METHANOL

AEL * (Du Pont): 200 ppm - 8 & 12 Hr. TWA - Skin
TLV (ACGIH) : 200 ppm, 262 mg/m3 - 8 Hr TWA
STEL 250 ppm, 328 mg/m3 - Skin
PEL (OSHA) : 200 ppm, 260 mg/m3 - 8 Hr TWA
STEL 250 ppm, 325 mg/m3 - Skin

* AEL is Du Pont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SAFETY PRECAUTIONS

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

FIRST AID

INHALATION

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water or activated charcoal slurry. Never give anything by mouth to an unconscious person. Call a physician.

NOTE:

To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5 mL/kg, or 350 mL for an average adult.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Keep container tightly closed. Do not mix with strong oxidants, acids, or alkalies.

Use with sufficient ventilation to keep employee exposure to airborne concentrations below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles when the possibility exists for eye contact due to splashing or spraying of material.

RESPIRATORS

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

PROTECTIVE CLOTHING

Wear impervious clothing, such as gloves, apron, boots or whole bodysuit made from butyl rubber, as appropriate.

DISPOSAL INFORMATION

AQUATIC TOXICITY

Dibasic Esters
96-hour LC50, fathead minnows : 18-24 mg/L
48-hour LC50, Daphnia magna : 112-150 mgL

Dimethyl Glutarate
96-hour LC50, bluegill sunfish: 30.9 mg/L

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Recover free liquid for reuse or reclamation. Recover undamaged and minimally contaminated material for reuse or reclamation. Soak up with sawdust, sand, oil dry or other absorbent material.

(DISPOSAL INFORMATION - Continued)

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State, and local regulations. Recover nonusable free liquid and dispose of in an approved and permitted incinerator or in an approved and permitted biological treatment system. Recover contaminated water and dispose of in an approved and permitted biological treatment system or in an approved and permitted deepwell. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Do not flush to surface water or sanitary sewer system.

SHIPPING INFORMATION

Shipping Containers
- Tank Car - 170,000 lbs
- Tank Truck - 42,000 lbs
- Steel Drums - 485 lbs

NOT REGULATED AS A HAZARDOUS MATERIAL BY THE DOT, IMO, OR IATA.

STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed.

TITLE III HAZARD CLASSIFICATIONS

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

LISTS:

Extremely Hazardous Substance -No
CERCLA Hazardous Substance -No
Toxic Chemical -No

CANADIAN WHMIS CLASSIFICATION:

D2B

ADDITIONAL INFORMATION AND REFERENCES

The hydrogen cyanide concentration in DBE is so low as to be toxicologically insignificant when DBE is used as a solvent. However, when DBE is chemically reacted with alcohols, and methanol is recovered from that reaction and purified for reuse by distillation, concentration of highly volatile impurities such as hydrogen cyanide to toxicologically significant levels can occur in the waste stream from this process. Processors using DBE as a raw material should be aware of this potential hazard.

Responsibility for MSDS : W. J. Brock
Du Pont Chemicals
P. O. Box 80709, Chestnut Run
Wilmington, DE 19880-0709
302-999-4946

# Indicates updated section.

End of MSDS

Rec. 10/5/00

MATERIAL SAFETY DATA SHEET

(COMPLIES WITH 29CFR 1910.1200)

SECTION I - CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Identity (As Used on Label and List): Multi-Clean #7 Spray & Wipe Degreaser
Product Class: Water-based floor finish stripper
Emergency Telephone Number: 800-255-3924
Telephone Number for Information: 612-481-1900
Manufacturer's Name and Address:
Multi-Clean®, A Division of Minuteman International, Inc.
600 Cardigan Road
Shoreview, MN 55126

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity):

Chemical	Common Name(s)	%
A	*Dipropylene glycol methyl ether* CAS #34590-94-8	10 - 30
B	*Sodium metasilicate* CAS #6834-92-0	3 - 7
C	Sodium carbonate CAS #497-19-8	3 - 7
D	Surfactant (proprietary)	1 - 5
E	Surfactant (proprietary)	1 - 5
F	Surfactant (proprietary)	1 - 5
G	Propylene glycol n-butyl ether CAS #5131-66-8	1 - 5
H	Water CAS #7732-18-5	60 - 100

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview
Appearance and Odor: Scarlet liquid, floral/solvent aroma.
Primary Hazards: Corrosive

Potential Health Hazards
Route(s) of Entry: Skin Absorption: X Ingestion: Inhalation: X
Eye: May cause chemical burns on contact.
Skin: May cause chemical burns on contact.
Ingestion: May be harmful if swallowed.
Inhalation: No hazardous vapors.
Signs and Symptoms of Exposure: Eye Contact: Possible burning, tearing, redness and corneal damage. Skin Contact: Possible slippery feeling, redness, swelling and burns. Symptoms may be delayed.
Carcinogenicity: NTP? No IARC Monographs? No
OSHA Regulated? No
Target Organ (s): Eyes, skin and mucous membranes.
Medical Conditions Generally Aggravated by Exposure: N. Av.
Health Hazards, Chronic: N. Av.

SECTION IV - FIRST AID MEASURES

Emergency and First Aid Procedures:
For Eye Contact: Immediately flush eyes with sanitary eye wash solution or running water for at least 15 minutes. Obtain medical attention. Continue to flush eyes until medical attention arrives. **If Swallowed:** Do not induce vomiting. Drink two glasses of water, follow with orange juice and immediately call a physician. **For Skin Contact:** Flush thoroughly with cool water. Remove and wash contaminated clothing before reuse. Never give anything by mouth to an unconscious person.
Sources Used: Raw material data, general toxicology from the trade for similar products.

SECTION V - FIRE FIGHTING MEASURES

Flammability: No **Autoignition Temperature:** N. Ap.
Flash Point (method used): None
Flammable Limits: N. Ap. LEL UEL
Extinguishing Media N. Ap.
Water? Foam? Water Fog?
Alcohol Foam? CO_2? Dry Chemical?
Vaporizing Liquid? Other?
Special Fire Fighting Procedures: N. Ap.
Unusual Fire and Explosion Hazards: N. Av.
TDG Flammability Classification: Non-flammable
Sensitivity to Mechanical Impact: None
Sensitivity to Static Discharge: None

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Released or Spilled:
Dike and contain spill with inert material (sand, earth, etc). Collect spill with mop, absorbent material (example: floor-dri) or vacuum. Thoroughly rinse affected area with water.

SECTION VII - HANDLING AND STORAGE

Precautions to be Taken in Handling and Storing:
Normal care in handling and storage.
Other Precautions: Keep out of reach of children. Keep from freezing.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Types): Not required
Ventilation: Local Exhaust: Not required Special: Not required
Mechanical (General): As required to keep vapor levels below TLV & PEL, listed in Section XI. Other: Not required
Protective Gloves: Natural rubber or synthetic.
Eye Protection: Approved safety goggles or shield. **Footwear:** Rubber footwear.
Other Protective Clothing or Equipment: Not required
Work/Hygienic Practices: Do not contaminate food or beverages with cleaning chemicals.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Approximately 212°F (100°C) **pH:** 13 - 14
Specific Gravity (H20) = 1: 1.07 **% Volatile:** 60 - 100
Vapor Density (Air = 1): N. Av. **Odor Threshold:** N. Av.
Evaporation Rate (Butyl Acetate = 1): N. Av. **Oil/Water Distribution Coefficient:** N. Av.
Solubility in Water: Complete
Vapor Pressure (MM HG): N. Av.
Melting Point: N. Ap.

SECTION X - STABILITY AND REACTIVITY

Stability: Unstable: Stable: X
Conditions to Avoid: N. Ap.
Incompatibility (materials to avoid): N. Av.
Hazardous Decomposition or By-products: N. Av.
Hazardous Polymerization: May occur: Will not occur: X
Conditions to Avoid: N. Ap.

SECTION XI - TOXICOLOGICAL INFORMATION

Chemical	OSHA PEL	ACGIH TLV	Recom.	LD50	LC50
A	100 ppm (skin)	100 ppm (skin)	N. Av.	> 5 ml/kg (rat)	N. Av.
B	None	None	C2 mg/M3	800 mg/kg (rat, oral)	N. Av.
C	N. Ap.	N. Ap.	N. Av.	4,000 mg/kg (rat, oral)	N. Av.
D	None	None	N. Av.	1,300 mg/kg (rat, oral)	> 200 mg/l (rat, oral)
E	None	None	N. Av.	N. Av.	N. Av.
F	None	None	N. Av.	2,500 mg/kg (rat, oral)	N. Av.
G	None	None	N. Av.	3,300 mg/kg (rat, oral)	N. Av.
H	None	None	N. Av.	N. Av.	N. Av.

Teratogen, Mutagen, Reproductive Toxin Status: No
Toxicologically Synergistic Products: N. Av.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicological Information: N. Av.
Chemical Fate Information: N. Av.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Dispose of spilled material in accordance with local, state and federal regulations. Waste from normal cleaning procedures may be sewered, depending on the materials and/or contaminates being cleaned as well as state, federal and local sewer commission regulations.
RCRA Hazard Class: DOO2, characteristic corrosive.

SECTION XIV - TRANSPORT INFORMATION

Shipping Classification: 8, corrosive liquid, N.O.S. (Containing sodium metasilicate)
UN Number: 1760
Packing Group: II

SECTION XV - PREPARATION DATA

Prepared By: Mark Levitt
Telephone Number: 612-481-1900
Date: 1/5/96

SECTION XVI - REGULATORY INFORMATION

US Federal Regulations
TSCA Status: All ingredients listed.
CERCLA Reportable Quality: N. Av.
SARA Title III
Section 302 Extremely Hazardous Chemicals: None
Section 311/312 Hazard Category: Immediate health, chronic health
Section 313 Toxic Chemicals: None
State Regulations
NOTICE STATE OF CALIFORNIA
Warning: This product may contain chemicals known to the State of California to cause cancer or reproductive defects as trace impurities in the standard industrial materials used in the manufacture of this product.
International Regulations
WHMIS Controlled Product Hazard Class: E

SECTION XVII - OTHER INFORMATION

None

N. Ap. - Not Applicable; N.Av. - Not Available

NFPA SYSTEM

2 *A. Health Hazard* 0 *A. Fire Hazard* 0 *A. Reactivity Hazard*

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. MINUTEMAN INTERNATIONAL, INC. ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO VENDEES, USERS OR THIRD PARTIES CAUSED BY THE MATERIAL. SUCH VENDEES OR USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.

Rec. 8/16 SP

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (517) 496-5900
Customer Service: (517) 496-6000
Product Disposal Information: (517) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01015443 *Revision Date: 2000/05/31*

Generic Description: Silicone compound
Physical Form: Paste
Color: White
Odor: Odorless
NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Comments:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable - Solid
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since some silicone materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Dow Corning Corporation, (517) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	No special protection needed.
Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

Precautionary Measures: Avoid eye contact. Use reasonable care.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	White
Odor:	Odorless
Specific Gravity @ 25°C:	2.0
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	0 g/l
pH:	Not determined.
Volatile Content:	0.00 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION

Acute Toxicology Data for Product

Complete information is not yet available.

Component Toxicology Information

Complete information is not yet available.

Special Hazard Information on Components

No known applicable information.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

No specific information is available.

Environmental Effects

No specific information is available.

Fate and Effects in Waste Water Treatment Plants

No specific information is available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (517) 496-6315, if additional information is required.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (ICAO)

Not subject to ICAO regulations.

Call Dow Corning Transporation, (517) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances:

None.

Section 304 CERCLA Hazardous Substances:

CAS Number	Wt %	Component Name
1314-13-2	69.0	Zinc

Section 312 Hazard Class:

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals:

CAS Number	Wt %	Component Name
1314-13-2	69.0	ZINC (FUME OR DUST)

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 340 HEAT SINK COMPOUND

Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number:	Wt %	Component Name
1314-13-2	> 60.0	ZINC OXIDE FUME

New Jersey

CAS Number:	Wt %	Component Name
1314-13-2	> 60.0	Zinc oxide
63148-62-9	30.0 - 60.0	Polydimethylsiloxane

Pennsylvania

CAS Number	Wt %	Component Name
1314-13-2	> 60.0	Zinc oxide (ZnO)
63148-62-9	30.0 - 60.0	Polydimethylsiloxane

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

Tmc # 1162943

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Dow Corning Corporation
South Saginaw Road
Midland, Midland 48686

24 Hour Emergency Telephone: (517) 496-5900
Customer Service: (517) 496-6000
Product Disposal Information: (517) 496-6315
CHEMTREC: (800) 424-9300

MSDS No.: 01903128 Revision Date: 2000/02/07

Generic Description: Inorganic compound
Physical Form: Grease
Color: Translucent white
Odor: Some odor
NFPA Profile: Health 0 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

None present. This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact may cause temporary redness and discomfort.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: No significant effects expected from a single short-term exposure.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.

Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye:	Immediately flush with water.
Skin:	No first aid should be needed.
Inhalation:	No first aid should be needed.
Oral:	No first aid should be needed.
Comments:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point:	212 °F / 100 °C Closed Cup
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.
Extinguishing Media:	On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO_2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards:	None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up:	Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since some silicone materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Local, state, and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Dow Corning Corporation, (517) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. None. Avoid eye contact.

Use reasonable care and store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

There are no components with workplace exposure limits.

Engineering Controls

Local Ventilation:	None should be needed.
General Ventilation:	Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	No special protection needed.
Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment for Spills

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator:	No respiratory protection should be needed.
Precautionary Measures:	Avoid eye contact. Use reasonable care.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

Comments: None.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Grease
Color:	Translucent white
Odor:	Some odor
Specific Gravity @ 25°C:	> 1
Viscosity:	Not applicable.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION

Acute Toxicology Data for Product

Complete information is not yet available.

Component Toxicology Information

No known applicable information.

Special Hazard Information on Components

No known applicable information.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

No specific information is available.

Environmental Effects

No specific information is available.

Fate and Effects in Waste Water Treatment Plants

No specific information is available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (517) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

Air Shipment (ICAO)

Not subject to ICAO regulations.

Call Dow Corning Transporation, (517) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances:

None.

Section 304 CERCLA Hazardous Substances:

None.

Section 312 Hazard Class:

Acute: No
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals:

None present or none present in regulated quantities.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

CAS Number	Wt %	Component Name
7631-86-9	7.0 - 13.0	SILICA, AMORPHOUS

New Jersey

DOW CORNING

DOW CORNING CORPORATION
Material Safety Data Sheet

DOW CORNING(R) 4 ELECTRICAL INSULATING COMPOUND

CAS Number	Wt %	Component Name
68037-74-1	> 60.0	Dimethyl, methyl silicone resin
7631-86-9	7.0 - 13.0	SILICA, AMORPHOUS FUMED
70131-67-8	5.0 - 10.0	Dimethyl siloxane, hydroxy-terminated

Pennsylvania

CAS Number	Wt %	Component Name
68037-74-1	> 60.0	Dimethyl, methyl silicone resin
7631-86-9	7.0 - 13.0	Silica
70131-67-8	5.0 - 10.0	Dimethyl siloxane, hydroxy-terminated

16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark

DOW CORNING 3140

(SEE **RTV**)

Rec 9/9/99 Used by BJH as mold release.

0017190439 MATERIAL SAFETY DATA SHEET (MSDS) 2W757

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET 78597

2W757

B2W757

01 08

MANUFACTURER'S NAME — EMERGENCY TELEPHONE NO.

Mfd. for GRAINGER by Specialty Div. — (216) 292-7400

31500 Solon Road

Solon, OH 44139

DATE OF PREPARATION — INFORMATION TELEPHONE NO.

03-FEB-94 — (800) 240-0248

Section I -- PRODUCT IDENTIFICATION

PRODUCT NUMBER — * - Trade Mark

B2W757

PRODUCT NAME

2W757-B T.F.E. DRY LUBE

PRODUCT CLASS

Aerosol Lubricant

Section II -- HAZARDOUS INGREDIENTS

INGREDIENT / CAS No.	% by WT	ACGIH TLV	OSHA PEL	UNITS	V.P.
Propane 74-98-6	12		1000	PPM	760.00
2-Methylpropane 75-28-5	15	Not Established			760.00
Heptane 142-82-5	60	400 STEL 500	400	PPM	50.00
2-Propanol 67-63-0	11	400 STEL 500	400	PPM	33.00

Section III -- PHYSICAL DATA

PRODUCT WEIGHT -- 5.44 lb./gal. — EVAPORATION RATE -- Faster than Ether

SPECIFIC GRAVITY -- 0.66 — VAPOR DENSITY -- Heavier than Air

BOILING POINT -- <0 -212 F — MELTING POINT -- N.A.

VOLATILE VOLUME -- 99 % — SOLUBILITY IN WATER -- N.A.

VOLATILE WEIGHT -- 98.11 % (less Federally Exempt Solvents)

HMIS -- 3 4 0

Section IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	LEL	UEL
Propellant < 0 F	1.1	12.7

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Isolate from heat, electrical equipment, sparks, and open flame.
Closed containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII -- PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section IX -- PRECAUTIONS

DOL STORAGE CATEGORY

1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V -- HEALTH HAZARD DATA

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

ACUTE Health Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

If on SKIN: Wash effected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Never give anything by mouth to an unconscious person. DO NOT INDUCE VOMITING. Give several glasses of water. Seek medical attention.

CHRONIC Health Hazards

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen. Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver and urinary systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI -- REACTIVITY DATA

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Section VII -- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

0017198439 HAZARDOUS MATERIAL WARNING (HAZMAT) 2W757

When shipment is complete, retain for daily Hazmat audit.

GRAINGER SHIPPING INFORMATION

STOCK # : 2W757

MSDS # : 78597

FREIGHT CODE : 0800

DOT PROPER SHIP NAME : CONSUMER COMMODITY, ORM-D

UPS RESTRICTIONS : 20 LB. & UNDER REQUIRES 200 LB. BSC/32 ECT,
21 LB. & OVER REQUIRES 275 LB. BSC/44 ECT.

HAZARDOUS CLASS NUMBER :

UN ID # :

PACKING GROUP :

SHIPPING LABEL : ORM-D

:

LIMITED QUANTITY : N

CARTON INSTRUCTIONS : REPACK IN GRAINGER # CARTON

EXCEPTION :

DOT/UPS EXEMPTION NO. :

COMMENTS 1 : HAZARDOUS MATERIAL. DO NOT SHIP AIR!!

COMMENTS 2 :

SHIPPING PAPERS : AUTOMATED BILL OF LADING REQUIRED FOR TRUCK SHIPMENTS.

PLACARD OFFERED ? YES ( ) NO ( ) PLEASE MARK ONE

REG TO ACCOMPANY SHIPMENT

THE MOREY CORPORATION

E

MOR 000733

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

MATERIAL SAFETY DATA SHEET

Rev. 4/21/01

SECTION I

MANUFACTURER: GLYPTAL,INC.
305 EASTERN AVE
CHELSEA, MA 02150
TELEPHONE: 617-884-6918
PRODUCT CLASS: AIR DRY ENAMEL
CODE IDENTIFICATION: 1201
TRADE NAME: GLYPTAL

HMIS 2 3 0

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT BY WEIGHT	ACGIH TLV PPM	ACGIH TLV mg/cu.m.	OSHA PEL PPM	OSHA PEL mg/cu.m.
XYLENE	34.5	100		100	
CAS NUMBER 1330-20-7					
HMIS HEALTH=1 FLAMMABILITY=3 REACTIVITY=0					
XYLOL					
VM&P NAPTHA	5.6	300		300	
CAS NUMBER 8030-30-6					
HMIS HEALTH=2 FLAMMABILITY=3 REACTIVITY=0					
ALIPHATIC HYDROCARBON					
STODDARD SOLVENT	0.2	500			
CAS NUMBER 64741-41-9					
HMIS HEALTH=2 FLAMMABILITY=2 REACTIVITY=0					
HYDROCARBON MIXTURE					
IRON OXIDE	8.2				
CAS NUMBER 1309-382					
HMIS HEALTH=0 FLAMMABILITY=1 REACTIVITY=1					
FERRIC OXIDE					
HYDRATED MAGNESIUM SILICATE	16.9	20			
CAS NUMBER 14807-96-6					
HMIS HEALTH=2 FLAMMABILITY=0 REACTIVITY=0					
TALC					

Remaining 34.7 % is a non-hazardous alkyd resin.
VM&P (CAS# 8030-30-6). AGENCY OSHA.TYPE STEL. EXPOSURE LIMIT 400 PPM
N/A means NOT AVAILABLE N/EST MEANS NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
N/A MEANS NOT AVAILABLE NOT EST MEANS NOT ESTABLISHED

SECTION III - PHYSICAL DATA

BOILING RANGE: 250.0 TO 345.0 F VAPOR DENSITY: HEAVIER THAN AIR
EVAPORATION RATE: SLOWER THAN ETHER
PERCENT VOLATILE BY VOLUME: 56.5 VOC (less water): 3.98 LBS/GAL
WEIGHT PER GALLON:9.91 POUNDS
V.O.C. IS DETERMINED PER EPA REFERENCE METHOD 24 USING ASTM PROCEDURES D2369 D1475 AND D3960.
VAPOR PRESSURE: 5.79 MM/HG MELTING POINT: NOT APPLICABLE
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR: RED LIQUID WITH PAINT ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

OSHA CATEGORY: FLAMMABLE LIQUID

FLASH POINT: 72 F PENSKY MARTIN LEL: 1.0 UEL: N/A
EXTINGUISHING MEDIA:
Carbon dioxide, dry chemical or foam
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Pressure may build up in closed containers that are exposed to heat.
Solvent vapors are heavier than air and may travel a considerable

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distance along the ground to an ignition source and "flash back".

SPECIAL FIRE FIGHTING PROCEDURES:

Water may be ineffective, however, water may be used to cool closed containers that are exposed to heat. Firefighting personnel should wear self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SECTION II

PRIMARY ROUTE(S) OF ENTRY:

Inhalation and skin contact

EFFECTS OF OVEREXPOSURE:

Headache, nausea, dizziness, confusion, irritability.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Respiratory difficulties or preexisting skin sensitization.

CARCINOGENICITY:

None of the components of this product are reported carcinogens in A/C with OSHA, NTP, IARC and NIOSH.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. Administer artificial respiration or oxygen if breathing is difficult.

SKIN: Wash affected area with soap and water. Remove and launder contaminated clothing. Consult a physician if irritation persists.

EYES: Flush immediately with large amounts of water for at least 15 minutes. Take to a physician for medical treatment.

INGESTION: Call a physician immediately.

ACUTE: Skin and eye contact: Primary irritation.

CHRONIC: Xylene contained in this material has been found to cause the follo wing effects in laboratory animals:amenia,liver abnormalities,liver and eye damage.

Pre-Exiting liver and/or kidney disorders may be aggrevated by exposure to xylene. Reports have associated repeated and prolonged occupational overexpo sure to xylene with permanent brain and nervous system damage.

SECTION VI - REACTIVITY DATA

STABILITY: NORMAL STABLE

CONDITIONS TO AVOID:

None known

INCOMPATIBILITY (Materials to avoid)

Strong acids and bases

HAZARDOUS DECOMPOSITION PRODUCTS:

BY FIRE: Normal products of incomplete combustion.

HAZARDOUS POLYMERIZATION: DOES NOT OCCUR

CONDITIONS TO AVOID:

None known

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Provide adequate ventilation. Remove all possible ignition sources. Absorb and dispose using non-sparking tools.
Eliminate all sources of ignition. Evacuate unprotected personnel. Water spray may be used. To contain run-off, cover with an absorbent material and place in containers for proper disposal. Flush area with water to remove residue.

WASTE DISPOSAL METHOD:

Dispose in accordance with local applicable regulations.
Disposal of using an approved incineration process or in accordance with local, state, and federal regulations regarding health and pollution.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

In outdoor or open areas use Bureau of Mines approved mechanical filter respirator to remove solid airborne particulates of overspray. Indoors, where ventilation is inadequate. use Bureau of Mines

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approved chemical-mechanical respirators designed to remove both particulate and vapor.

VENTILATION:

PROTECTIVE GLOVES:

Recommended if skin contact is likely.

EYE PROTECTION:

Chemical splash goggles recommended if potential for splash or eye contact is likely.

OTHER PROTECTIVE EQUIPMENT:

Recommended as needed to avoid contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING OR STORING:

Store in a cool dry place away from heat, sparks and open flame. Keep containers closed and upright to prevent leakage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquid storeroom or cabinet. Metal containers should be grounded when transferring material from one container to another. Do not reuse product container for any purpose.

OTHER PRECAUTIONS:

PREPARED BY: TECHNICAL STAFF
REFERENCE DATE: JUNE 1997

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION ABOVE.

TO WHOM IT MAY CONCERN: EFFECTIVE JAN 1, 1989, WE ARE REQUIRED BY SARA TIT LE III SECTION 313 OF THE RIGHT TO KNOW LEGISLATION, TO INFORM YOU OF THE PERCENTAGE OF ANY INGREDIENT IN A PRODUCT WHICH IS IN THE 313 LIST OR AS AN LISTING AS A COMPONENT OF A MATERIAL WHICH IS IN A CATEGORY OF CHEMICAL LIST.

PRODUCT: 1201 GLYPTAL

34.5% XYLENE (CAS NUMBER 1330-20-7)

IF YOU WILL MULTIPLY YOUR TOTAL PURCHASES FROM US AS WELL AS FROM OTHER SU PPLIERS BY THE PERCENTAGE OF EACH INGREDIENT FOUND IN EACH PRODUCT AND IF THE TOTAL QUANTITY EXCEEDS THE REPORTABLE QUANTITY FOR THAT INGREDIENT YOU ARE REQUIRED TO FILE FORM R REPORTS.

SAFETY DATA

RECEIVED

EMERSON & CUMING, INC.
77 DRAGON COURT
WOBURN, MASSACHUSETTS 01888

OCT 26 1995

THE MOREY CORP.

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY: CHEMTREC USA: 1-800-424-9300 INTERNATIONAL: 202/483-7616(COLLECT)

SECTION 1 IDENTIFICATION

PRODUCT NAME: ECCOBOND A-401-37

General Chemical Description: Epoxy Adhesive

SECTION 2 INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Pigments			
Curing Agents			
Modifiers			
Total of the above:	< 11	NA	NA
Epoxy Resin	80-90%	NE	NE
Amorphous Fumed Silica	< 5%	6 mg/m3	10 mg/m3

SECTION 3 PHYSICAL DATA

Boiling Point (Degree °F): ND
Vapor Pressure (mm Hg @ 25°C): < 1
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): 1.20
Solubility in Water: ND
Vapor Density: ND
Appearance and Odor: Black liquid

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):
> 200

Flammable Limits:
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

MOR 000737

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Containers exposed to elevated temperatures for extended periods of time may result in spontaneous exothermic polymerization of material, possibly resulting in violent rupturing of sealed containers.

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Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion. Prolonged exposure to elevated temperatures may cause uncontrolled exothermic reactions resulting in decomposition and charring of the material. Fumes and vapors from the thermal and chemical decomposition may vary widely in composition and toxicity.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6 RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

MOR 000738

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Large Spills:

Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7 HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to to use.

Personal Protection:

This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:

Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:

Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

MOR 000739

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ECCOBOND A-401-37

SECTION 8 HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

SECTION 9 FIRST AID PROCEDURES:

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

MOR 000740

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Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate attention.

SECTION 10 ADDITIONAL INFORMATION

TSCA Status:
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Special Notes:

Date Prepared: 9/27/93 Supersedes: 3/12/90
Document No.: 167250 Prepared by: David Haas
Revision Information: Trade name change

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m3 = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

MOR 000741

SAFETY INFORMATION: (617)861-~~2600~~ 6600 ADDITIONAL MSDS: (617)828-3300

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SAFETY DATA

EMERSON AND CUMING, INC.
A .CE CO.
77 DRAGON COURT,
WOBURN, MA 01888

EMERGENCY/SAFETY INFORMATION: (617)935-4850
OR: (617)938-8630
ADDITIONAL MSDS: (617)828-3300
DOCUMENT NO.: 151745

SECTION I - IDENTIFICATION

PRODUCT NAME: ECCOGEL 1265 ~~Black~~, Part A

General Chemical Description: Epoxy Adhesive

SECTION II-INGREDIENTS

Hazardous Ingredients	% by Weight	Flash Point (°F)	Maximum Exposure Value (ppm) (8 hour time-weighted average) OSHA PEL	ACGIH TLV
Epichlorohydrin (CAS #: 106-89-8)*	< 5ppm	105	5 ppm	2 ppm

* A suspected carcinogen

Non-hazardous Ingredients	% by Weight
B. phenol A/Epichlorohydrin-based epoxy resin, pigments	100

SECTION III-PHYSICAL DATA

Boiling Point (°F): > 500°F
Vapor Pressure at 25°C: < 1 mm Hg
Volatiles (% by weight): Negligible
Appearance and Odor: Black liquid

Specific Gravity (water=1): 1.20
Solubility in water: Negligible
Vapor Density: Not Determined

MOR 000742

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----------SECTION IV-FIRE AND EXPLOSION HAZARD DATA----------

Flash Point (°F): 390 (Tag Closed Cup: ASTM D56)

Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazards: Toxic vapors may be evolved upon exposure to heat or open flame.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus.

----------SECTION V-REACTIVITY DATA----------

Product Stability: Product is stable; hazardous polymerization will not occur.

Incompatibilities: strong oxidizers, amines, amides, strong Lewis or mineral acids, thiosulfates, carboxylic acids, alcohol, mercaptans. Reaction with curing agents is exothermic;smoke or toxic fumes may be evolved if heat of reaction becomes excessive due to high curing temperature or curing of large masses of material.

Hazardous decomposition products:Carbon monoxide, carbon dioxide, oxides of nitrogen.

Conditions to avoid: Storage in open containers, intense heat or open flame, uncontrolled mixing with (or exposure to) incompatible substances (above)

MOR 000743

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SECTION VI-SPILL OR LEAK PROCEDURES

Handling Precautions: See section VIII

For small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers. Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

For large spills: Dike area to contain spilled material and to prevent runoff into drains, sewers, and other waterways. Shovel or pump to drum or salvage tank. Absorb residual material with sand, vermiculite, or other absorbent material. Scrape or shovel absorbed waste and absorbent into containers. Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

SECTION VII-SPECIAL PRECAUTIONS

Personal Protection: Avoid skin and eye contact. Wear gloves and protective clothing to prevent exposure. Protective eye goggles should be worn.

Storage: Store in cool, dry place; keep removed from any heat or open flame. Keep container closed when not in use.

Ventilation Requirements: Good general workplace ventilation is recommended. Flexible ductwork should extend to areas of high concentration to prevent local buildup of vapor. Provide special ventilation at elevated temperatures.

Flammability/ Explosion Precautions: Keep away from intense heat, open flames.

MOR 000744

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SECTION VIII-HEALTH HAZARD DATA

Effects of Acute Overexposure	Emergency First Aid Procedures
Inhalation	
Vapors at excessively high temperatures may produce irritation of nose and throat	Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing difficult. Get immediate medical attention.
Eye contact	
Irritation upon direct contact	Immediately flush eyes with water for 15 minutes; get medical attention
Skin contact	
Irritation upon direct contact. Prolonged exposure may result in skin sensitization	Remove contaminated clothing wash affected area with water.
Ingestion	
Harmful if swallowed	Dilute with large quantities water; induce vomiting only if victim is conscious and alert. Get immediate medical attention.

MOR 000745

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Effects of Chronic Overexposure:
It is very unlikely that normal work operations with this product could produce atmospheric epichlorohydrin concentrations approaching the OSHA limit. Nevertheless, you should be aware that ECH has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. An analysis of all the evidence to date (through 1979) in an ongoing epidemiology study of ECH workers has been reported to show "weak" evidence that exposure to ECH poses a cancer risk to humans.

MOR 000746

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SAFETY DATA

MSDS

EMERSON AND CUMING, INC.
A GRACE CO.
77 DRAGON COURT.
WOBURN, MA 01888

EMERGENCY/SAFETY INFORMATION: (617)935-4850
OR: (617)938-8630
ADDITIONAL MSDS: (617)828-3300

DATE PREPARED: 7/19/88
SUPERCEDES: 8/10/84
DOCUMENT NO.: 151739

SECTION I - IDENTIFICATION

PRODUCT NAME: ECCOGEL 1265 Part B

General Chemical Description: Aliphatic Amine blend

SECTION II-INGREDIENTS

Components	Percent by Weight	Maximum Exposure Limits (8 Hour Time-Weighted Average) OSHA PEL	ACGIH TLV
Polyoxypropylenediamine	100	Not Established	

SECTION III-PHYSICAL DATA

Boiling Point (°F): > 480
Vapor Pressure at 25°C: < 1 mm Hg
Volatiles (% by weight): Negligible
Appearance and Odor: Colorless to slightly yellow liquid, Strong Amine Odor

Specific Gravity (water=1): 0.98
Solubility in water: Completely miscible
Vapor Density: Heavier than air

MOR 000747

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ECCOGEL 1265 Part B

----------SECTION IV-FIRE AND EXPLOSION HAZARD DATA----------

Flash Point (°F): 330 (Pensky-Martens Closed Cup: ASTM D93)

Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazards: Toxic vapors may be evolved upon exposure to heat or open flame.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus.

----------SECTION V-REACTIVITY DATA----------

Product Stability: Product is stable; hazardous polymerization will not occur.

Incompatibilities: Strong oxidizers, peroxides epoxides, acids.

Hazardous decomposition products resulting from fire or uncontrolled exothermic reaction: Carbon monoxide, carbon dioxide, oxides of nitrogen.

Conditions to avoid: Storage in open containers, exposure to heat and/or open flame, uncontrolled mixing with (or exposure to) incompatible substances (above)

MOR 000748

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ECCOGEL 1265 Part B

SECTION VI-SPILL OR LEAK PROCEDURES

Note: Protective gloves, clothing, respiratory protection and chemical splash goggles must be worn during entire clean-up procedure.Cleanup of large spills should be done in accordance with the provisions of OSHA 29CFR 1910.120 ("Hazardous Waste Operations and Emergency Response").

For small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers.
Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways.
Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

For large spills: Turn on ventilation equipment to evacuate vapors from the area.Dike area to contain spilled material and to prevent runoff into drains, sewers, and other waterways.
Shovel or pump to drum or salvage tank.
Absorb residual material with sand, vermiculite, or other absorbent material.
Scrape or shovel absorbed waste and absorbent into containers.
Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways.
Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

SECTION VII-SPECIAL PRECAUTIONS

WARNING: Corrosive Material

Personal Protection: Do not get on skin, eyes, or clothing. Wear proper protective gloves, chemical splash goggles, and clothing to prevent exposure. Remove contaminated clothing and wash before reusing. Do not ingest or swallow this material.

Storage: Store in cool, dry place; keep removed from any heat or open flame.
Keep container closed when not in use.

Ventilation Requirements: Prevent breathing of vapors, mist, or spray. Use only with proper mechanical exhaust ventilation. Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits.

Flammability/ Explosion Precautions: Keep away from intense heat, open flames.

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The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

ECCOGEL 1265 Part B

SECTION VIII-HEALTH HAZARD DATA

WARNING: Corrosive material - contact with skin and eyes may cause burns.

Route of Exposure: Skin Contact/Absorption, Inhalation

Effects of Acute Overexposure	Emergency First Aid Procedures
Inhalation	
Inhalation of vapors may cause respiratory tract irritation.	Remove to fresh air. Give oxygen if breathing difficult; give artificial respiration if not breathing; get immediate medical attention.
Eye contact	
Very severe irritation upon contact; can cause permanent damage or blindness	Immediately flush eyes with water and continue flushing until medical attention is obtained
In contact	
Very severe irritation upon direct contact May cause burns and/or blistering Prolonged exposure may result in skin sensitization	Remove contaminated clothing under shower. Wash affected area thoroughly with water. Obtain medical attention if burns result.
Ingestion	
Harmful if swallowed	Dilute with large quantities of water- do not induce vomiting. Get immediate medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

MOR 000750

s based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the sults to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the nformation is in accordance with applicable federal, state or local laws and regulations.

GRACE **SAFETY DATA**

MERSON AND CUMING, INC.
.. GRACE CO.
77 DRAGON COURT,
WOBURN, MA 01888

EMERGENCY/SAFETY INFORMATION:(617)935-4850
OR:(617)938-8630
ADDITIONAL MSDS:(617)828-3300
DOCUMENT NO: 510131

SECTION I - IDENTIFICATION

PRODUCT NAME: ECCOSTRIP 93

General Chemical Description: Organic Solvent

SECTION II-INGREDIENTS

Hazardous Ingredients	% by Weight	Flash Point (°F)	Maximum Exposure Value (ppm) (8 hour time-weighted average) OSHA PEL	ACGIH TLV
Methylene Chloride (CAS #: 75-09-2)	> 70	Not Applicable	500 ppm	100 ppm
Phenol (CAS#:108-95-2)	5-10	175	5 ppm	Not Established
Formic Acid (CAS #: 64-18-6)	5-10	122	5 ppm	5 ppm

Non-hazardous Ingredients	% by Weight
Non-hazardous modifiers	< 10.0

SECTION III-PHYSICAL DATA

Boiling Point (°F): Not Determined
Vapor Pressure at 25°C: 40-50 mm Hg
Volatiles (% by weight): > 70
Appearance and Odor: Colorless to slightly yellow liquid Sharp odor

Specific Gravity (water=1): 1.30
Solubility in water: Slightly soluble
Vapor Density: Heavier than air

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ECCOSTRIP 93

----------SECTION IV-FIRE AND EXPLOSION HAZARD DATA----------

Flash Point (°F): Not Established

Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazards: Toxic vapors may be evolved upon exposure to heat or open flame.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus.

----------SECTION V-REACTIVITY DATA----------

Product Stability: Product is stable; hazardous polymerization will not occur.

Incompatibilities: zinc or tin metal.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, chlorine compounds. Exposure to high temperatures may generate HCL or phosgene.

Conditions to avoid: Storage in open containers, exposure to heat and/or open flame, uncontrolled mixing with (or exposure to) incompatible substances (above)

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ECCOSTRIP 93

----------SECTION VI-SPILL OR LEAK PROCEDURES----------

Corrosive Material Note: Protective gloves, clothing, respiratory protection and chemical splash goggles must be worn during entire clean-up procedure.NIOSH-approved respirators should be worn during clean-up of large spills.

For small spills: Turn on ventilation equipment to evacuate vapors from the area. Wipe up, or absorb with vermiculite or other absorbent material.
Collect waste in sealed containers.
Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways.
Spilled material and water rinses are classified as hazardous waste, and must be disposed of in accordance with current local, state, and federal regulations.

For large spills: Turn on ventilation equipment to evacuate vapors from the area.Dike area to contain spilled material and to prevent runoff into drains, sewers, and other waterways.
Shovel or pump to drum or salvage tank.
Absorb residual material with sand, verniculite, or other absorbent material.
Scrape or shovel absorbed waste and absorbent into containers.
Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways.
Spilled material and water rinses are classified as hazardous waste, and must be disposed of in accordance with current local, state, and federal regulations.

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THE MOREY CORP

----------SECTION VII-SPECIAL PRECAUTIONS----------

WARNING:: Corrosive Material

Personal Protection: Avoid skin and eye contact. Protective gloves and clothing, and eye goggles with side shields must be worn. Avoid breathing vapors. Use only with adequate ventilation.

Storage: Store in cool, dry place; keep removed from any heat or open flame. Keep container closed when not in use. Activated mixture can cause pressure build-up if stored in sealed containers. Containers for such mixtures should be loosely covered, not tightly sealed, in such manner as to permit venting and release of pressure during storage.

Ventilation Requirements: Flexible ductwork should extend to areas of high concentration to prevent local buildup of vapor. NIOSH-approved self-contained breathing apparatus should be used in the absence of mechanical ventilation when working with large quantities of material.

Flammability/ Explosion Precautions: Keep away from intense heat, open flames.

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02/09/1990 13:57 W.R. GRACE 06603540 P.03

SAFETY DATA

ECCOSTRIP 93

SECTION VIII-HEALTH HAZARD DATA

WARNING: Corrosive Material - contact with skin or eyes may result in burns. Contact with eyes may result in permanent damage or blindness.

Contains Phenol - toxic if Phenol is absorbed through skin

Contains Formic Acid. Toxic material - may be fatal if swallowed

Effects of Acute Overexposure	Emergency First Aid Procedures
Inhalation	
Vapors may cause nausea, headache, dizziness, narcosis, anaesthesia	Remove victim to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing difficult. Get immediate medical attention.
Overexposure to high concentrations may result in loss of consciousness	
Eye contact	
Very severe irritation upon contact; can cause permanent damage or blindness	Immediately flush eyes with water and continue flushing until medical attention is obtained
Skin contact	
Very severe irritation upon direct contact May cause burns and/or blistering	Remove contaminated clothing under shower. Wash affected area thoroughly with water. Obtain medical attention if burns result.
Ingestion	
Harmful if swallowed.	Dilute with water. Get immediate medical attention

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

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THE MOREY CORP

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Emerson & Cuming
a National Starch & Chemical Company

PMC = 1015300
Lot 222521 9-24-01

MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: CATALYST 23LV
General Chemical Description: Aliphatic Amine

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Hazardous Components	*% by Weight*	*OSHA PEL*	*ACGIH TLV*
Polyoxypropylene Polyamine	30-60%	NE	NE
Polyglycol Diamine	30-60%	NE	NE

SECTION 3: PHYSICAL DATA

Boiling Point (°F): >480
Vapor Pressure (mm Hg @ 25°C): <0.001
Percent Volatiles by Weight: ND
Specific Gravity (water = 1): 1.00
Solubility in Water: Soluble
Vapor Density: Heavier than air
Appearance and Odor: Amber liquid, strong amine odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
>200 (PMCC)

Flammable Limits
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility: Incompatible with strong oxidizers, acids, bases. Uncontrolled mixing with epoxides may result in hazardous exothermic polymerization, with possible evolution of smoke and toxic fumes.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, oxides of nitrogen, amines and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with epoxies or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7: HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause eye burns. Prevent eye contact through the use of a face shield used in conjunction with either splash-proof chemical goggles or chemical safety glasses. This product can cause skin burns and may cause allergic skin responses. Components of this product may also be absorbed through the skin. Wear appropriate protective gloves, a proper chemical-resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

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Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing.

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respiratory disorders.

Eye Contact:
Contains materials corrosive to the eyes; may cause burns and possible corneal injury. Permanent impairment of vision or blindness may occur.

Skin Contact:
Contains materials corrosive to the skin; may cause severe burns and blistering. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities. May be harmful if absorbed through the skin.

Inhalation:
Vapors may cause irritation, nausea, and headaches.

Ingestion:
Harmful if swallowed. May cause burns to the mouth and upper gastro-intestinal tract.

Chronic Health Effects:
None known

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Immediately flush the affected area of the skin with plenty of water, while removing contaminated clothing or shoes. Follow by thoroughly washing with soap and water. Avoid scrubbing, as this action could increase skin absorption and worsen the effect of chemical contact. Get immediate medical attention. Do not reuse contaminated clothing until properly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

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Ingestion:
DO NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 3 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: All components listed
Korean ECL: All components listed
Australian AICS: All components listed

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

D.O.T./IATA Information:
Polyamines, Liquid, Corrosive, N.O.S. (Polyglycoldiamines, Polyoxypropylene Polyamines); 8; UN2735; PG II

Date Prepared:	12/31/00	***Supersedes:***	12/31/98
Document No.:	600441	***Prepared by:***	David Haas
Revision Information:	Section 2 Component listing		
Website Identifier:	CAT 23LV - 600441		

Abbreviations:
NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
mppcf = Million Parts per Cubic Foot
STEL = Short Term Exposure Limit
f/cc = Fibers per Cubic Centimeter

SAFETY INFORMATION: (978)436-9781 ADDITIONAL MSDS: (781)828-3300

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Rec. 6/20/00 Stp

Emerson & Cuming
a National Starch & Chemical Company

TMC # 1280089
Black paste to mix with putty
10/4/11

MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: EPOXY COLOR PASTE BLACK
General Chemical Description: Epoxy Pigment Dispersion

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Components	*% by Weight*	*OSHA PEL*	*ACGIH TLV*
DGEBA Epoxy Resin	50-70%	NE	NE
Carbon Black	30-50%	3.5 mg/m3	3.5 mg/m3

SECTION 3: PHYSICAL DATA

Boiling Point (°F): ND
Vapor Pressure (mm Hg @ 25°C): Negligible
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): > 1.4
Solubility in Water: Insoluble
Vapor Density: Heavier than air
Appearance and Odor: Black paste, slight odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
> 200

Flammable Limits
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:

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The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Decomposition and combustion products may be toxic. Reaction with curing agents is exothermic; smoke or toxic fumes may be evolved if heat of reaction becomes excessive due to high curing temperatures or curing of large masses of material. See Section 5, "Hazardous Decomposition Products".

Special Firefighting Procedures:

Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

Product Stability:

Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:

Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, nitrogen compounds, phenols, aldehydes, acids, traces of cyanides and other organic substances may be formed during combustion.

Conditions to Avoid:

Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:

Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:

Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7: HANDLING PRECAUTIONS

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The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:

This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:

Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:

Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:

Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:

Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:

Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:

Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:

Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion:

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Harmful if swallowed.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

The International Agency for Research on Cancer (IARC) has classified free carbon black as a Class 2B carcinogen, in that there is sufficient evidence for carcinogenicity in animals (based on inhalation studies), but evidence for carcinogenicty in humans is nonexistent. Exposure to free carbon black, however, is unlikely, unless the cured product is machined or ground in such a manner to evolve dusts; or in spray applications where vapors or fumes containing carbon black may become airborne, thus creating potential for inhalation exposure.

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 2 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: All components listed
Korean ECL: All components listed
Australian AICS: All components listed

MOR 000762

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

D.O.T. Information:
Resin Compound, N.O.I. - Non-Regulated
Freight Code: 2015

Special Notes:

Date Prepared: 12/31/98 ***Supersedes:*** 2/14/97
Document No.: 510505 ***Prepared by:*** David Haas
Revision Information: Section 10

Abbreviations:
NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
mppcf = Million Parts per Cubic Foot
STEL = Short Term Exposure Limit
f/cc = Fibers per Cubic Centimeter

AFETY INFORMATION: (978)436-9781 ADDITIONAL MSDS: (781)828-3300

MOR 000763

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

SAFETY DATA

Emerson & Cuming Specialty Polymers
Div. of National Starch and Chemical Co.
55 Hayden Ave.
Lexington, Massachusetts 02173

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING
A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT,
NOTIFY: CHEMTREC USA: 1-800-424-9300
INTERNATIONAL: 202/483-7616(COLLECT)

SECTION 1 IDENTIFICATION

PRODUCT NAME: STYCAST 2754, PART B

General Chemical Description: Aliphatic Amine Blend

SECTION 2 INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Calcium Metasilicate	45 - 55%	15 mg/m3	10 mg/m3 (*)
Polyoxypropylene Polyamines	40 - 50%	NE	NE
Triethanolamine	2 - 5%	3.5 mg/m3	NE
n-Aminoethylpiperazine	1 - 2%	NE	NE

(*) Nuisance Particulate PEL/TLV

SECTION 3 PHYSICAL DATA

Boiling Point (Degree °F): ND
Vapor Pressure (mm Hg @ 25C): Negligible
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): 1.4 - 1.55
Solubility in Water: Partially Soluble
Vapor Density: Heavier than air
Appearance and Odor: White liquid, strong amine odor

MOR 000764

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STYCAST 2754, PART B

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):
>200, based on flash points of components

Flammable Limits:
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases, epoxides

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, oxides of nitrogen, and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with epoxies or exposure to incompatible substances.

MOR 000765

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SECTION 6 RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:

Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:

Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7 HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to to use.

Personal Protection:

This product can cause eye burns. Prevent eye contact through the use of a face shield used in conjunction with either splash-proof chemical goggles or chemical safety glasses. This product can cause skin burns and may cause allergic skin responses. Components of this product may also be absorbed through the skin. Wear appropriate protective gloves, a proper chemical-resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

MOR 000766

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Ventilation Recommendations and Respiratory Protection:

Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respiratory disorders.

Eye Contact:
Contains materials corrosive to the eyes; may cause burns and possible corneal injury. Permanent impairment of vision or blindness may occur.

Skin Contact:
Contains materials corrosive to the skin; may cause severe burns and blistering. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals. May be harmful if absorbed through the skin.

Inhalation:
Vapors may cause irritation, nausea, and headaches.

Ingestion:
Harmful if swallowed. May cause burns to the mouth and upper gastrointestinal tract.

Chronic Health Effects:
Exposure to the filler material listed in Section 2 is unlikely to occur unless the product is applied in a manner which results in the generation of mists or fumes, or when machining of the cured product results in generation of dust particles.

MOR 000767

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STYCAST 2754, PART B

SECTION 9 FIRST AID PROCEDURES:

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Immediately flush the affected area of the skin with plenty of water, while removing contaminated clothing or shoes. Follow by thoroughly washing with soap and water. Avoid scrubbing, as this action could increase skin absorption and worsen the effect of chemical contact. Get immediate medical attention. Do not reuse contaminated clothing until properly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
DO NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10 ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 3 Flammability: 1 Reactivity: 0

TSCA Status:
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Special Notes:

MOR 000768

Date Prepared: 1/19/96
Document No.: 152119
Revision Information: HMIS Rating

Supercedes: 10/29/92
Prepared by: David Haas

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m3 = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

SAFETY

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SAFETY DATA

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IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY: CHEMTREC USA: 1-800-424-9300
INTERNATIONAL: 202/483-7616(COLLECT)

SECTION 1 IDENTIFICATION

PRODUCT NAME: STYCAST 2754, PART A

General Chemical Description: Epoxy Resin

SECTION 2 INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Modifiers			
Additives			
Total of the above:	< 3%	NA	NA
Calcium Silicate	45 - 55%	15 mg/m3	10 mg/m3 (*)
Epoxy Resin	25 - 35%	NE	NE
Aliphatic Triglyceride Ether	10 - 15%	NE	NE
Elastomer-modified epoxy resin	5 - 10%	NE	NE
Aliphatic Glycidyl Ether	< 3%	NE	NE
n-Butyl Glycidyl Ether	< 3%	25 ppm	25 ppm
Carbon black	<0.2%	3.5 mg/m3	3.5 mg/m3

(*) Nuisance Particulate PEL/TLV

SECTION 3 PHYSICAL DATA

Boiling Point (Degree °F): ND
Vapor Pressure (mm Hg @ 25C): Negligible
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): 1.5 - 1.6
Solubility in Water: Insoluble
Vapor Density: Heavier tha air
Appearance and Odor: Black liquid

MOR 000769

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):
> 200

Flammable Limits:
Not established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, isocyanates, phenols, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

MOR 000770

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SECTION 6 RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:

Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:

Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7 HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to to use.

Personal Protection:

This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

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Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion:
Harmful if swallowed.

MOR 000772

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Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

Recent studies indicate that Butyl and Phenyl Glycidyl Ethers may induce mutagenic changes in laboratory animals. This has not been related to human exposures, however, good ventilation and industrial hygiene practices should be followed when handling compounds containing either BGE or PGE.

Products similar to the aliphatic gylcidyl ethers listed in Section II are reported to be mutagenic (causes genetic changes) in some laboratory animal tests.

Exposure to the filler material listed in Section 2 is unlikely to occur unless the product is applied in a manner which results in the generation of mists or fumes, or when machining of the cured product results in generation of dust particles.

The International Agency for Research on Cancer (IARC) has classified free carbon black as a Class 2B carcinogen, in that there is sufficient evidence for carcinogenicity in animals (based on inhalation studies), but evidence for carcinogenicty in humans is nonexistent. Exposure to free carbon black, however, is unlikely, unless the cured product is machined or ground in such a manner to evolve dusts; or in spray applications where vapors or fumes containing carbon black may become airborne, thus creating potential for inhalation exposure.

SECTION 9 FIRST AID PROCEDURES:

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

MOR 000773

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Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert.
Never give anything by mouth to a drowsy, unconscious, or convulsing person.
Get immediate attention.

SECTION 10 ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 2 Flammability: 1 Reactivity: 0

TSCA Status:
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Special Notes:

Date Prepared: 3/11/97 Supersedes: 1/19/96
Document No.: 152115 Prepared by: David Haas
Revision Information: Carbon black warnings

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m3 = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

MOR 000774

SAFETY INFORMATION: (617)402-9100 ADDITIONAL MSDS: (617)828-3300

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SAFETY DATA

EMERSON & CUMING, INC.
77 AGON COURT
WOBURN, MASSACHUSETTS 01888

OCT > 6 1995

THE MUREY CORP.

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY: CHEMTREC USA: 1-800-424-9300
INTERNATIONAL: 202/483-7616(COLLECT)

SECTION 1 IDENTIFICATION

PRODUCT NAME: STYCAST 2651MM ~~BLACK~~ WHITE

General Chemical Description: Epoxy Resin

SECTION 2 INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Calcium Carbonate	40-50%	15 mg/m3	10 mg/m3
Epoxy Resin	40-50%	NE	NE
• n-Butyl Glycidyl Ether	2-5%	25 ppm	25 ppm
Pigments	< 1%	NA	NA

SECTION 3 PHYSICAL DATA

Boiling Point (Degree °F): ND
Vapor Pressure (mm Hg @ 25°C): < 1
Percent Volatiles by Weight: < 3
Specific Gravity (water = 1): 1.60
Solubility in Water: Insoluble
Vapor Density: Heavier than air
Appearance and Odor: Black liquid

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):
> 200

Flammable Limits:
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

MOR 000775

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STYCAST 2651MM BLACK

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6 RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

MOR 000776

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STYCAST 2651MM BLACK

SECTION 7 HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to to use.

Personal Protection:

This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:

Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:

Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 HEALTH DATA

Routes of Exposure:

Skin and eye contact, inhalation of vapors.

MOR 000777

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

STYCAST 2651MM BLACK

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.
Recent studies indicate that Butyl and Phenyl Glycidyl Ethers may induce mutagenic changes in laboratory animals. This has not been related to human exposures, however, good ventilation and industrial hygiene practices should be followed when handling compounds containing either BGE or PGE.

SECTION 9 FIRST AID PROCEDURES:

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

MOR 000778

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate attention.

SECTION 10 ADDITIONAL INFORMATION

TSCA Status:
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Special Notes:

Date Prepared: 11/20/92 Supersedes: 3/29/89
Document No.: 150275 Prepared by: David Haas
Revision Information: Format upgrade

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m3 = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

MOR 000779

SAFETY INFORMATION: (617)861-9600 ADDITIONAL MSDS: (617)828-3300

The information contained herein is based upon data considered true and accurate. However, Grace makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Grace, Grace assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to Grace's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

Emerson & Cuming
a National Starch & Chemical Company

TMC# 10144124 9-2601

MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: STYCAST® 2651MM UNPIGMENTED
General Chemical Description: Epoxy Resin

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Components	***% by Weight***	***OSHA PEL***	***ACGIH TLV***
Calcium Carbonate	45-55%	15 mg/m3 (*)	10 mg/m3
DGEBA Epoxy Resin	40-50%	NE	NE
n-Butyl Glycidyl Ether	2-5%	50 ppm	25 ppm

(*) Total dust (5 mg/m3 respirable)

SECTION 3: PHYSICAL DATA

Boiling Point (°F): ND
Vapor Pressure (mm Hg @ 25°C): <0.1
Percent Volatiles by Weight: <3.0
Specific Gravity (water = 1): 1.50-1.65
Solubility in Water: Insoluble
Vapor Density: Heavier than air
Appearance and Odor: *Off-white liquid, mild odor*

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
>200

Flammable Limits
Not established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

MOR 000780

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions. Reaction with curing agents is exothermic; smoke or toxic fumes may be evolved if heat of reaction becomes excessive due to high curing temperatures or curing of large masses of material. See Section 5, "Hazardous Decomposition Products".

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

SECTION 7: HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

Recent laboratory studies on Salmonella bacterium (i.e. - Ames Test) indicated that Butyl Glycidyl Ether (BGE) may induce mutagenic changes, a possible precursor to cancer; However, subsequent laboratory cancer studies have shown no increase in carcinogenic potential resulting from BGE exposure.

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 2 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory. This product contains the following substances which are subject to TSCA subject to TSCA Section 12(b) Export notification requirements:

Diglycidyl Ether of Bisphenol A (1675-54-3)

MOR 000783

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: All components listed
Korean ECL: All components listed
Australian AICS: All components listed

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

D.O.T. Information:
Resin Compound, N.O.I. - Non-Regulated
Freight Code: 2015

Special Notes:

Date Prepared:	12/31/98	***Supersedes:***	1/18/96
Document No.:	150271	***Prepared by:***	David Haas
Revision Information:	Sections 2, 8, 10		

Abbreviations:
NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
mppcf = Million Parts per Cubic Foot
STEL = Short Term Exposure Limit
f/cc = Fibers per Cubic Centimeter

SAFETY INFORMATION: (978)436-9781 ADDITIONAL MSDS: (781)828-3300

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

JBC 10·5·01
1041411 223527

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MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: STYCAST® 1265, PART A CLEAR
General Chemical Description: Epoxy Resin

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Components	***% by Weight***	***OSHA PEL***	***ACGIH TLV***
DGEBA Epoxy Resin	>99%	NE	NE
Modifiers	<1%	NA	NA

SECTION 3: PHYSICAL DATA

Boiling Point (°F): >400
Vapor Pressure (mm Hg @ 25°C): Negligible
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): 1.1-1.2
Solubility in Water: Insoluble
Vapor Density: Heavier than air
Appearance and Odor: Clear liquid, slight odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
>200

Flammable Limits
Not established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions. Reaction with curing agents is exothermic; smoke or toxic fumes may be evolved if heat of reaction becomes excessive due to high curing temperatures or curing of large masses of material. See Section 5, "Hazardous Decomposition Products".

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Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7: HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the

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intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing.

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion:
Harmful if swallowed.

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 2 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory. This product contains the following substances which are subject to TSCA subject to TSCA Section 12(b) Export notification requirements:

Diglycidyl Ether of Bisphenol A (1675-54-3)

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: Not determined
Korean ECL: One component not listed
Australian AICS: All components listed

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

MOR 000788

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

D.O.T. Information:
Liquid Resin, N.O.I.- Non-Regulated
Freight Code: 2005

Special Notes:

Date Prepared:	12/31/98	***Supersedes:***	1/15/96
Document No.:	151731	***Prepared by:***	David Haas
Revision Information:	Sections 2, 10		

Abbreviations:

NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
mppcf = Million Parts per Cubic Foot
STEL = Short Term Exposure Limit
f/cc = Fibers per Cubic Centimeter

SAFETY INFORMATION: (978)436-9781 ADDITIONAL MSDS: (781)828-3300

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Emerson & Cuming
a National Starch & Chemical Company

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MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: STYCAST® 1265, PART B
General Chemical Description: Aliphatic Amine Blend

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Components	***% by Weight***	***OSHA PEL***	***ACGIH TLV***
Polyoxypropylene Polyamines	>90%	NE	NE
Modifiers	<1%	NA	NA

SECTION 3: PHYSICAL DATA

Boiling Point (°F): ND
Vapor Pressure (mm Hg @ 25°C): Negligible
Percent Volatiles by Weight: Negligible
Specific Gravity (water = 1): 0.99
Solubility in Water: Partially Soluble
Vapor Density: Heavier than air
Appearance and Odor: Water white liquid, strong amine odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
>200

Flammable Limits
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases. Uncontrolled mixing with epoxides may cause hazardous exothermic polymerization, possibly resulting in evolution of smoke and toxic fumes

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, oxides of nitrogen, and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with epoxies or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7: HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause eye burns. Prevent eye contact through the use of a face shield used in conjunction with either splash-proof chemical goggles or chemical safety glasses. This product can cause skin burns. Components of this product may also be absorbed through the skin. Wear appropriate protective gloves, a proper chemical resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing.

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respiratory disorders.

Eye Contact:
Contains materials corrosive to the eyes; may cause burns and possible corneal injury. Permanent impairment of vision or blindness may occur.

Skin Contact:
Contains materials corrosive to the skin; may cause severe burns and blistering.

Inhalation:
Vapors may cause irritation, nausea, and headaches.

Ingestion:
Harmful if swallowed. May cause burns to the mouth and upper gastro-intestinal tract.

Chronic Health Effects:
None Established

MOR 000792

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Immediately flush the affected area of the skin with plenty of water, while removing contaminated clothing or shoes. Follow by thoroughly washing with soap and water. Avoid scrubbing, as this action could increase skin absorption and worsen the effect of chemical contact. Get immediate medical attention. Do not reuse contaminated clothing until properly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
DO NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 3 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: All components listed
Korean ECL: All components listed
Australian AICS: All components listed

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

D.O.T. Information:
Polyamines, Liquid, Corrosive, N.O.S. (Polyoxypropylene Polyamines)
8; UN2735; PG III
Freight Code: 2611

Special Notes:

Date Prepared:	12/31/98	***Supersedes:***	6/26/97
Document No.:	151739	***Prepared by:***	David Haas
Revision Information:	Section 10		

MOR 000793

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Abbreviations:

NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
STEL = Short Term Exposure Limit
mppcf = Million Parts per Cubic Foot
f/cc = Fibers per Cubic Centimeter

SAFETY INFORMATION: (978)436-9781

ADDITIONAL MSDS: (781)828-3300

MOR 000794

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

TM: 1000135
Lot: 222520 9-24-01

Emerson & Cuming
a National Starch & Chemical Company

MATERIAL SAFETY DATA SHEET

EMERSON & CUMING
46 MANNING ROAD
BILLERICA, MASSACHUSETTS 01821

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, NOTIFY:
CHEMTREC USA: 800-424-9300
INTERNATIONAL: 202-483-7616 (COLLECT)

SECTION 1: IDENTIFICATION

Product Name: STYCAST® 2850FT BLACK
General Chemical Description: Epoxy Resin

SECTION 2: INGREDIENTS

		Exposure Guidelines	
Hazardous Components	***% by Weight***	***OSHA PEL***	***ACGIH TLV***
Mineral Filler, Modifiers			
DGEBA Epoxy Resin	10-30%	NE	NE
n-Butyl Glycidyl Ether	1-10%	50 ppm	25 ppm
Carbon Black	< 0.5%	3.5 mg/m3	3.5 mg/m3

Non-Hazardous Components	***% by Weight***
Mineral Filler, Modifiers	60-90%

SECTION 3: PHYSICAL DATA

Boiling Point (°F): ND
Vapor Pressure (mm Hg @ 25°C): < 0.1
Percent Volatiles by Weight: < 2
Specific Gravity (water = 1): 2.35 - 2.45
Solubility in Water: Insoluble
Vapor Density: Heavier than air
Appearance and Odor: Black liquid, mild odor

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F):
> 200

Flammable Limits
Not Established

Extinguishing Media:
Use carbon dioxide, dry chemical, foam, water fog.

MOR 000795

Unusual Fire or Explosion Hazard:

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions. Reaction with curing agents is exothermic; smoke or toxic fumes may be evolved if heat of reaction becomes excessive due to high curing temperatures or curing of large masses of material. See Section 5, "Hazardous Decomposition Products".

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5: REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6: RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills:
Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7: HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application,

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8: HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact:
Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation:
Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.
Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

Recent laboratory studies on Salmonella bacterium (i.e. - Ames Test) indicated that Butyl Glycidyl Ether (BGE) may induce mutagenic changes, a possible precursor to cancer; However, subsequent laboratory cancer studies have shown no increase in carcinogenic potential resulting from BGE exposure.

The International Agency for Research on Cancer (IARC) has classified free carbon black as a Class 2B carcinogen, in that there is sufficient evidence for carcinogenicity in animals (based on inhalation studies), but evidence for carcinogenicty in humans is nonexistent. Exposure to free carbon black, however, is unlikely, unless the cured product is machined or ground in such a manner to evolve dusts; or in spray applications where vapors or fumes containing carbon black may become airborne, thus creating potential for inhalation exposure.

SECTION 9: FIRST AID PROCEDURES

Eye Contact:
Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION 10: ADDITIONAL INFORMATION

Product NPCA Hazardous Material Identification System (HMIS) Rating:
Health: 2 Flammability: 1 Reactivity: 0

TSCA Status::
All components of this product are listed in the EPA Toxic Substance Control Act Inventory. This product contains the following substances which are subject to TSCA subject to TSCA Section 12(b) Export notification requirements:

Diglycidyl Ether of Bisphenol A (1675-54-3)

Foreign Inventory Status:
Canadian DSL: All components listed or exempt
European EINECS: All components listed or exempt
Japanese MITI ENCS: All components listed
Korean ECL: All components listed
Australian AICS: All components listed

MOR 000798

SARA Status:
This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

D.O.T. /IATA Information:
Resin Compound, N.O.I. - Non-Regulated

Date Prepared:	12/31/00	***Supersedes:***	11/9/00
Document No.:	150005	***Prepared by:***	David Haas
Revision Information:	Section 2 Component listing		
Website Identifier:	2850FT BLK - 150005		

Abbreviations:

NA = Not Applicable
NE = Not Established
ND = Not Determined
ppm = Parts per Million
mg/m3 = Milligrams per Cubic Meter
C = Ceiling Concentration
mppcf = Million Parts per Cubic Foot
STEL = Short Term Exposure Limit
f/cc = Fibers per Cubic Centimeter

SAFETY INFORMATION: (978)436-9781 ADDITIONAL MSDS: (781)828-3300

The information given and the recommendations made herein apply to our product(s) alone and are not combined with other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guaranty of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

LORD CASTALL, INC. a LORD Company Weymouth Industrial Park East Weymouth, MA 02189

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **RT-1**
PRODUCT USE/CLASS : **EPOXY HARDENER** DATE PRINTED: 06/05/97

CASTALL, INC.
WEYMOUTH INDUSTRIAL PARK
EAST WEYMOUTH, MA 02189

EMERGENCY TELEPHONE: 814 763-2345
24 HOURS A DAY

INFORMATION TELEPHONE : 814 868-3611

PREPARE DATE: 07/22/96

PREVIOUS MSDS REVISION DATE: 07/22/96

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Wt % Less Than	Exposure Guidelines — ACGIH TWA	ACGIH STEL	OSHA TWA	OSHA Ceil	Units	Skin
Amine	Proprietary	95%	N.E.	N.E.	N.E.	N.E.		
Amine compound	Proprietary	3.0%	N.E.	N.E.	N.E.	N.E.		

N.E. - Not Established, S - Skin Designation, C - Ceiling

SECTION 3 - HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW ***:** Amber Liquid, with Amine odor. May cause skin and eye irritation. May cause allergic skin reaction. May cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - EYE CONTACT: May cause eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May cause skin irritation. May cause skin sensitization. May cause dermatitis.

EFFECTS OF OVEREXPOSURE - INHALATION: May cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Chronic skin contact may cause dermatitis.

(Continued on Page 2)

SECTION 3 - HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT INHALATION INGESTION EYE CONTACT

SECTION 4 - FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Give victim one or two glasses of water or milk. Call a physician or poison control center immediately for further instructions. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: >200F, >93C (SETAFLASH CLOSED CUP)

LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: N.D.

OSHA FLAMMABILITY CLASSIFICATION: COMBUSTIBLE LIQUID - CLASS IIIB

EXTINGUISHING MEDIA: CO2 DRY CHEMICAL FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool.

SPECIAL FIREFIGHTING PROCEDURES: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). If water is used, fog nozzles are preferable. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

(Continued on Page 3)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep non-essential personnel a safe distance away from the spill area. Avoid breathing vapors. Use self-contained breathing equipment. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the MSDS form. Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

SECTION 7 - HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

STORAGE: Store only in well-ventilated areas. Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

SKIN PROTECTION: Use neoprene, nitrile, or rubber gloves to prevent skin contact.

EYE PROTECTION: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT: Remove and wash contaminated clothing before reuse.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using toilet facility. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

(Continued on Page 4)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: 527 - 630 F	**VAPOR DENSITY**	: Is heavier than air
APPEARANCE	: Amber	**ODOR THRESHOLD**	: N.D.
PHYSICAL STATE	: Liquid	**EVAPORATION RATE:**	Is slower than Ether
ODOR	: Amine	**DENSITY, LB/GAL**	: 9.33
SOLUBILITY IN H2O	: Insoluble	**SPECIFIC GRAVITY:**	0.99
FREEZE POINT	: N.D.	**pH**	: N.A.
VOLATILE BY WEIGHT:	0.0 %	**VOLATILE BY VOL**	: 0.0 %
VAPOR PRESSURE	: N.D.		

COEFFICIENT OF WATER/OIL DISTRIBUTION: N.D.

(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, organic or inorganic nitrogen compounds including traces of hydrogen cyanide.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

No product toxicological information is available.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No Information.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

(Continued on Page 5)

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: CORROSIVE LIQUIDS,NOS

DOT HAZARD CLASS: 8 **EMERGENCY RESPONSE GUIDE NUMBER:** 154

DOT UN/NA NUMBER: UN1760 **PACKING GROUP** : III

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS -

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

SARA SECTION 313:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

---------- CHEMICAL NAME ---------- CAS NUMBER WT % IS LESS THAN
NONE

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS
The chemical substances in this product are on the TSCA Section 8 Inventory.

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.

CANADIAN WHMIS CLASS: D2A,D2B

SECTION 16 - OTHER INFORMATION

HMIS RATINGS HEALTH: 2* FLAMMABILITY: 2 REACTIVITY: 1

* - Indicates a chronic hazard; see Section 3

REASON FOR REVISION: New MSDS

VOLATILE ORGANIC COMPOUNDS (VOCS): 0.00 lbs/gal, 0 grams/ltr

(Continued on Page 6)

SECTION 16 - OTHER INFORMATION

LEGEND: N.A. - Not Applicable, N.E. - Not Established,
N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

<END OF MSDS>

OMEGA
An OMEGA Technologies Company

MATERIAL SAFETY DATA SHEET

Rec. 11/17/00

TMC#

MSDS-0107
OB-101 (PART A)
REV. DATE: 10/29/97
SUPERSEDES: 12/7/92

SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: OMEGABOND® 101 Epoxy (Part A)

CHEMICAL FAMILY: Epoxy Resin

GENERAL DESCRIPTION: Two-part Epoxy Resin; "A" Component (Black)

SUPPLIER: OMEGA ENGINEERING INC.
PO BOX 4047

STAMFORD, CT 06907

TELEPHONE: (203) 359-1660

SECTION 2 - INGREDIENTS

Exposure Guidelines Components ACGIH TLV	% by Weight	OSHA PEL
DGEBA Epoxy Resin NE	>20%	NE
Amorphous Fumed Silica 10 mg/m^3	3-5%	6 mg/m^3
Modifier NA	<5%	NA
Pigment NA	<1%	NA

SECTION 3 - PHYSICAL DATA

Boiling Point (Degree °F):	ND
Vapor Pressure (mm Hg @ 25°C)	Negligible
Percent Volatiles by Weight:	Negligible
Specific Gravity (water = 1):	1.1–1.2
Solubility in Water:	Insoluble
Vapor Density:	ND
Appearance and Odor:	Black paste

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F): >200
Flammable Limits: NE

Extinguishing Media: Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard: Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

Special Firefighting Procedures: Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 - REACTIVITY DATA

Product Stability: Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid any incompatible substances.

Incompatibility: Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid: Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 6 - RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills: Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills: Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and

MOR 000806

water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State and local regulations.

SECTION 7 - HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer applications, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection: This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

Ventilation Recommendations and Respiratory Protection: Provide effective mechanical exhaust ventilation to draw vapors, mists, or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage: Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 - HEALTH DATA

Routes of Exposure: Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure: Exposure may aggravate preexisting skin and/or eye disorders.

Eye Contact: Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

Skin Contact: Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

Inhalation: Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

Ingestion: Harmful if swallowed.

Chronic Health Effects: Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal abberations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

SECTION 9 - FIRST AID PROCEDURES

Eye Contact: Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact: Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get immediate medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation: Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion: Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate attention.

SECTION 10 - ADDITIONAL INFORMATION

ISCA Status: All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SARA Status: This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

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OMEGA
An OMEGA Technologies Company

MATERIAL SAFETY DATA SHEET

MSDS-0107
OB-101 (PART B)
REV. DATE: 10/29/97
SUPERSEDES: 10/27/92

SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: OMEGABOND® 101 Epoxy (Part B)

CHEMICAL FAMILY: Amine/Epoxy Adduct

General Description: Two-part Epoxy Resin; "B" Component (White)

SUPPLIER: OMEGA ENGINEERING INC.
PO BOX 4047
STAMFORD, CT 06907

TELEPHONE: (203) 359-1660

SECTION 2 - INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL / ACGIH TLV
Aluminum Oxide	65–75%	10 mg/m^3
Amine-terminated Adduct	20–30%	NE
Amorphous Fumed Silica	1–5%	6 mg/m^3 / 10 mg/m^3
Additions/Pigments	<3%	NE

SECTION 3 - PHYSICAL DATA

Boiling Point (Degree °F):	ND
Vapor Pressure (mm Hg @ 25°C)	Negligible
Percent Volatiles by Weight:	Negligible
Specific Gravity (water = 1):	2.2
Solubility in Water:	Partially soluble
Vapor Density:	Heavier than air
Appearance and Odor:	White paste; amine odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree °F):	>200
Flammable Limits:	NE
Extinguishing Media:	Use carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazard: Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.

Special Firefighting Procedures: Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION 5 - REACTIVITY DATA

Product Stability: Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid any incompatible substances.

Incompatibility: Incompatible with strong oxidizers, acids, bases, epoxides.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of nitrogen, and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

Conditions to Avoid: Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat. uncontrolled mixing with epoxies or exposure to incompatible substances.

SECTION 6 - RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills: Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills: Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste containers. Dispose of in accordance with current Federal, State, and local regulations.

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SECTION 7 - HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection: This product can cause severe eye irritation. Prevent eye contact through the use of a face shield used in conjunction with either splash-proof chemical goggles or chemical safety glasses. This product can cause severe skin irritation and may cause allergic skin responses. Components of this product may also be absorbed through the skin. Wear appropriate protective gloves, a proper chemical resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.
Ventilation Recommendations and Respiratory Protection: Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage: Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8 - HEALTH DATA

Routes of Exposure: Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure: Exposure may aggravate preexisting skin, eye and/or respiratory disorders.

Eye Contact: Contains materials severely irritating to the eyes; may cause burns.

Skin Contact: Contains materials corrosive to the skin; may cause severe burns and blistering. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals. May be absorbed through the skin; however, this product as a whole has not been tested for dermal toxicity.

Inhalation: Vapors may cause irritation, nausea, and headaches.
Ingestion: Harmful is swallowed.
Chronic Health Effects: None known.

SECTION 9 - FIRST AID PROCEDURES

Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact: Immediately flush the affected area of the skin with plenty of water, while removing contaminated clothing or shoes. Follow by thoroughly washing with soap and water. Avoid scrubbing, as this action could increase skin absorption and worsen the effect of chemical contact. Get immediate medical attention. Do not reuse contaminated clothing until properly cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed.

Inhalation: Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion: Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate attention.

SECTION 10 - ADDITIONAL INFORMATION

TSCA Status: All components of this product are listed in the EPA Toxic Substance Control Act Inventory.
SARA Status: This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Abbreviations: **NA** = Not Applicable **NE** = Not Established **ND** = Not Determined **ppm** = Parts per Million **mg/m^3** = Milligrams Per Cubic Meter **C** = Ceiling Concentration **STEL** = Short Term Exposure Limit

The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

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LORD CASTALL Inc. a LORD Company Weymouth Industrial Park East Weymouth, MA 02189

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : E-341FR BLACK
PRODUCT USE/CLASS : EPOXY RESIN

DATE PRINTED: 03/19/97

CASTALL, INC.
WEYMOUTH INDUSTRIAL PARK
EAST WEYMOUTH, MA 02189

EMERGENCY TELEPHONE: 814 763-2345
24 HOURS A DAY

INFORMATION TELEPHONE : 814 868-3611

PREPARE DATE: 03/19/97

PREVIOUS MSDS REVISION DATE: 12/26/96

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Wt % Less Than	Exposure Guidelines - ACGIH TWA	ACGIH STEL	OSHA TWA	OSHA Ceil	Units	Skin
Carbon black	1333-86-4	1.0%	3.5	N.E.	3.5	N.E.	mg/m3	
Epoxy resin	Proprietary	40%	N.E.	N.E.	N.E.	N.E.		

N.E. - Not Established, S - Skin Designation, C - Ceiling

SECTION 3 - HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW ***:** Viscous, black liquid, with No odor. May cause skin and eye irritation. May cause allergic skin reaction. May cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - EYE CONTACT: May cause eye irritation.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May cause skin irritation. May cause skin sensitization. May cause dermatitis.

EFFECTS OF OVEREXPOSURE - INHALATION: May cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Chronic skin contact may cause dermatitis. IARC has designated carbon black as Group 2B - inadequate evidence for carcinogenicity in humans, but sufficient evidence in experimental animals.

(Continued on Page 2)

SECTION 3 - HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF ENTRY: INHALATION INGESTION EYE CONTACT SKIN CONTACT

SECTION 4 - FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Give victim one or two glasses of water or milk. Call a physician or poison control center immediately for further instructions. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: >200F, >93C (SETAFLASH CLOSED CUP)

LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: N.D.

OSHA FLAMMABILITY CLASSIFICATION: COMBUSTIBLE LIQUID - CLASS IIIB

EXTINGUISHING MEDIA: CO2 DRY CHEMICAL FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool.

SPECIAL FIREFIGHTING PROCEDURES: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). If water is used, fog nozzles are preferable. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

(Continued on Page 3)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Avoid breathing vapors. Notify appropriate authorities if necessary. Avoid contact. Use appropriate respiratory protection for large spills or spills in confined area. Keep non-essential personnel away from spill area. Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

SECTION 7 - HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

STORAGE: Store only in well-ventilated areas. Keep container closed when not in use.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

SKIN PROTECTION: Use neoprene, nitrile, or rubber gloves to prevent skin contact.

EYE PROTECTION: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT: Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using toilet facility. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

(Continued on Page 4)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: N.A.	**VAPOR DENSITY**	: Is heavier than air
APPEARANCE	: Viscous, black	**ODOR THRESHOLD**	: N.D.
PHYSICAL STATE	: Liquid	**EVAPORATION RATE**	: Is slower than Ether
ODOR	: No	**DENSITY, LB/GAL**	: 13.70
SOLUBILITY IN H2O	: Insoluble	**SPECIFIC GRAVITY**	: 1.64
FREEZE POINT	: N.D.	**pH**	: N.A.
VOLATILE BY WEIGHT	: 0.4 %	**VOLATILE BY VOL**	: 0.7 %
VAPOR PRESSURE	: N.D.		

COEFFICIENT OF WATER/OIL DISTRIBUTION: N.D.

(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Amines, acids, water, hydroxyl, or active hydrogen compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

PRODUCT LD50	**(ORAL)**	: No Data
	(DERMAL)	: No Data
PRODUCT LC50		: No Data

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No Information.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

(Continued on Page 5)

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: NOT REGULATED

DOT HAZARD CLASS: NONE **EMERGENCY RESPONSE GUIDE NUMBER:** NONE

DOT UN/NA NUMBER: NONE **PACKING GROUP** : NONE

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS -

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

SARA SECTION 313:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

---------- CHEMICAL NAME ---------- CAS NUMBER WT % IS LESS THAN
NONE

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS
The chemical substances in this product are on the TSCA Section 8 Inventory.

EXPORT NOTIFICATION
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

---------- CHEMICAL NAME ---------- CAS NUMBER
Resin

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.

CANADIAN WHMIS CLASS: No information available.

SECTION 16 - OTHER INFORMATION

HMIS RATINGS - HEALTH: 2* **FLAMMABILITY:** 1 **REACTIVITY:** 0

* - Indicates a chronic hazard; see Section 3

(Continued on Page 6)

SECTION 16 - OTHER INFORMATION

REASON FOR REVISION: Update Section 15; Export Notification

VOLATILE ORGANIC COMPOUNDS (VOCS): 0.06 lbs/gal, 7 grams/ltr

LEGEND: N.A. - Not Applicable, N.E. Not Established,
N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liablility for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

<END OF MSDS>

7

MATERIAL SAFETY DATA SHEET

MSDS 1743

Received 12/2/99

Identity: Eyesaline Solution - Part #'s
1050,401,501,502,504,505,506,507,508,510,512,520,533,534,433,450,451,452,453,454,455,460,461,462,470,471

Section I

Manufacturer: Fendall Company	**Emergency Telephone:** 847-577-7400
Address: 5 East College Drive *Arlington Heights, IL 60004*	**Information Telephone:** 800-543-4842 ***Date Prepared:** 01/15/98*

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other limits recommended	% (optional)
BENZALKONIUM CHLORIDE CAS#8001-54-5	NONE	NONE	N/A	<0.1%

Section III - Physical/Chemical Characteristics

Boiling Point: 212° F (100° C)	**Specific Gravity (H2 O)=1:** NOT DETERMINED
Vapor Pressure (mm Hg.): 760	**Melting Point:** N/A
Vapor Density (Air = 1): NOT DETERMINED	**Evaporation Rate (Butyl Acetate = 1):** NOT DETERMINED

Solubility in Water: 100%

Appearance and Odor: COLORLESS LIQUID WITH NO DISCERNIBLE ODOR.

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used): N/A	**Flammable Limits:**	**LEL:** N/A	**UEL:** N/A

Extinguishing Media: THIS IS A NONFLAMMABLE AQUEOUS SOLUTION

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

Section V - Reactivity Data

Stability	**Unstable:** NO **Stable:** YES	**Conditions to Avoid:** THIS PRODUCT IS STABLE. CONSIDERED NON-REACTIVE AND STABLE UNDER NORMAL CONDITIONS OF STORAGE AND USAGE.

Incompatibility (Materials to Avoid): NONE KNOWN

Hazardous Decomposition or Byproducts: NONE

Hazardous Polymerization	**May Occur:** NO **Will Not Occur:** YES	**Conditions to Avoid:** NONE

Section VI - Health Hazard Data

Route(s) of Entry: **Inhalation?** NO **Skin?** NO **Ingestion?** YES

Health Hazards (Acute and Chronic): INGESTION OF VOLUMES IN EXCESS OF 20 LITERS MAY CAUSE GASTRIC IRRITATION.

Carcinogenicity: **NTP?** NO **IARC Monographs?** NO **OSHA Regulated?** NO

Signs and Symptoms of Exposure: N/A

Medical Conditions Generally Aggravated by Exposure: N/A

Emergency First Aid Procedures: NOTES TO PHYSICIAN: IN THE UNLIKELY EVENT OF RAPID INGESTION OF LARGE VOLUMES OF THE SOLUTION, INDUCE VOMITING AND OBSERVE THE PATIENT FOR GASTRIC IRRITATION.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: FLUSH AREA WITH WATER. THE SOLUTION IS NOT RCRA HAZARDOUS WASTE.

Waste Disposal Method: N/A

Precautions to Be Taken in Handling and Storing: DO NOT FREEZE OR EXPOSE TO TEMPERATURES IN EXCESS OF 110° F (43° C) FOR EXTENDED PERIODS.

Other Precautions: N/A

Section VIII - Control Measures

Respiratory Protection: N/A

Ventilation	**Local Exhaust:** N/A	**Special:** N/A
	Mechanical: N/A	**Other:** N/A

Protective Gloves: N/A	**Eye Protection:** N/A

Other Protective Clothing: N/A

Work Hygienic Practices: N/A

3731

ETHYL CYANOACRYLATE

(SEE **SUPERGLUE**)

CHEMTRONICS® INC.

JBC 10·8·01

MSDS #0213

1190483

223454

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Address:
8125 Cobb Center Drive
Kennesaw, GA 30152

Product Information: 800-TECH-401
Customer Service: 800-645-5244

Emergency: (Chemtrec) 800-424-9300
Revision Date: October 6, 1997

Product Identification

ELECTRO-WASH® PX
(Formerly CFC-Free Electro-Wash 2000)

Product Code: ES1210 (NSN 6850-01-393-9054), ES810B

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Wt. % Range
Isohexane, a mixture of:		
n-hexane	110-54-3	0 1-25 0
2-methylpentane	107-83-5	1.0-46.0
3-methylpentane	96-14-0	1.0-25.0
2,3-Dimethylbutane	79-29-8	1.0-25.0
2,2-Dimethylbutane	75-83-2	1.0-25.0
Denatured alcohol a mixture of:		
Ethanol	64-17-5	1.0-25.0
Methanol	67-56-1	0.1-10.0
Ethyl acetate	141-78-6	0.1-10.0
Isopropanol	67-63-0	1.0-20.0
Carbon dioxide	124-38-9	1.0-20.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Clear, colorless liquid with mild hydrocarbon solvent. This product is extremely flammable. Liquid will irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product may produce drowsiness and a headache.

Potential Health Effects:

Eyes: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Contact causes skin irritation.

Ingestion: Harmful if swallowed. Irritating to the mouth, throat and stomach. May cause vomiting. Inhalation: Harmful if inhaled. High concentrations in immediate area can displace oxygen and cause dizziness, unconsciousness and even death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus. Pre-Existing Medical Conditions Aggravated by Exposure: Heart, lung, skin, eye.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash clothing separately before reuse.

Ingestion: If swallowed, do not induce vomiting. Keep head below knees to minimize chance of aspirating material into the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: -20^{0}F (isohexane) LEL/UEL: 1.2/7.7 (% by volume in air) Extinguishing Media: Use alcohol foam, carbon dioxide or water spray when fighting fires involving this material. Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure demand, MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Shut off leak if possible and safe to do so. Wear self-contained breathing apparatus and appropriate personal protective equipment. Absorb spill with inert material (i.e. dry sand or earth), then place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches that lead to waterways. Small Spills: Absorb spill with inert material (i.e. dry sand or earth), then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with skin, eyes or clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place, away from heat, sparks or flames. Keep container tightly closed when not in use. Do not store in direct sunlight.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TWA	OSHA PEL	OSHA STEL
n-Hexane	50 ppm	500 ppm	NA
2-methylpentane	NA	NA	NA
3-methylpentane	NA	NA	NA
2,3-Dimethylbutane	NA	NA	NA
2,2-Dimethylbutane	NA	NA	NA
Denatured alcohol, a mixture of:			
Ethanol	1000 ppm	1000 ppm	NA
Methanol	200ppm	200ppm	250ppm
Ethyl acetate	400 ppm	400 ppm	NA
Isopropanol	400 ppm	400 ppm	500 ppm
Carbon dioxide	5000 ppm	5,000 ppm	30,000ppm

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Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product Wear safety glasses with side shields, goggles and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:	NFPA	HMIS
Health	1	1
Flammability	3	3
Reactivity	1	1
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Clear, colorless liquid
Odor: Mild hydrocarbon solvent
pH: NA
Vapor Pressure: 198 mm Hg @ 68 F (liquid)
Vapor Density: 3 (isohexanes) (Air 1)
Solubility in Water: Negligible
Specific Gravity: 0.70 @ 68F
Evaporation Rate: <1 (Butyl acetate=1)
Viscosity: Not established (Water =1)
Percent Volatile: 100

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable. Conditions to Avoid: Do not spray near open flames, red hot surfaces or other sources of ignition.
Incompatibility: Do not mix powdered alkali and alkaline earth metals or strong oxidizing agents.
Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and incompletely burned hydrocarbons.
Hazardous Polymerization: Will not occur. Conditions to avoid: NA

SECTION 11: TOXICOLOGICAL INFORMATION (NIOSH RTECS through October 1995)

Inhalation:			Ingestion:		
Ethanol	LC50 rats	20,000 ppm/10 hr	Ethanol	LD50 rats	7060 mg/kg
Ethyl acetate	LC50 rats	200gm/m³	Ethyl acetate	LD50 rats	5620 mg/kg
Isopropanol	LC50 rats	16,000 ppm/8 hrs	Isopropanol	LD50 rats	5,045mg/kg
Skin:			Eyes:		
Isopropanol	LD50 rabbits	12,800 mg/kg	Isopropanol	rabbit	100 mg SEV
Ethanol	rabbit	400 mg open MILD	Ethanol	rabbit	500 mg SEV
Ethyl acetate	LD50 rabbit	>20 mL/kg			

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC

SECTION 12: ECOLOGICAL INFORMATION

Environmental Impact Information
Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

REPORTING
US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is: **1-800-424-8802**

Environmental Impact Data
(percent by weight)

CFC	0.0%	VOC	95.7%
HCFC	0.0%	HFC	0.0%
Cl. Solv.	0.0%	ODP	0.00

For more information call: 1-800-645-5244

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

	Proper Shipping Name	UN Number	Class	Sub. Risk	Pkg. Group	Hazard Label	Pkg. Instr.	Max. Quantity
Air:	Aerosols Flammable, n.o.s.	UN 1950	2.1	NA	NA	Flammable Gas	203/ Y203	75/ 30 kg
Ground:	Consumer Commodity ORM-D	NA	NA	NA	NA	ORM-D	Pkg. Auth.	173.306

SECTION 15: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR372). This information should be included on all MSDSs copied and distributed for this material.

Chemical Name	CAS No.	Wt. % Range
Methanol	67-56-1	1.0-3.8

TOXIC SUBSTANCES CONTROL ACT (TSCA). All ingredients of this product are listed on the TSCA Inventory.

SECTION 16: OTHER INFORMATION

Product is a Level 3 aerosol. Do not puncture or incinerate containers. Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released. NOTE: This MSDS is applicable to all product containers with date codes of 01175 or later.

REFERENCES: 29 CFR 1910.1200 40 CFR 300-700 ANSI Z400.1-1993
NIOSH RTECS provided by CHEM-BANK by SILVERPLATTER
Guide to Occupational Exposure Values 1996

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.

MOR 000819

THE MOREY CORPORATION

F

MOR 000820

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630.754.2300 | Fax: 630.754.2001 | www.morey.com

Rec. 8/19/99

MATERIAL SAFETY DATA SHEET
May be used to comply with .
OSHA's Hazard Communication Standard,
29 CFR 1910, 1200. Standard must be
consulted for specific requirements.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

MSDS 1324

Identity (as used on Label and List)	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
FOILLE PLUS MEDICATED FIRST AID SPRAY	

SECTION I

Manufacturer's Name: BLISTEX INC.	Emergency Telephone Number: (630) 571-2870
Address (Number, Street, City, State, and Zip Code) 1800 Swift Drive	Telephone Number for Information: (630) 571-2870
Oak Brook, IL 60521	Date Prepared: 4/15/97
	Signature: [signature] Preparer: LG

SECTION II - Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity: Common Names(s)	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Propellant: n-butane		600 ppm		54%
Isobutane	unknown	800 ppm (estimated only)		36%
Propane	*1000 ppm*	*1000 ppm*		*10%*
Solvent: SD Alcohol	1000 ppm	1000 ppm		
Dimethyl Ether	none established	none established	1,000 pm	

Hazard Ratings: 0 = least / 1 = slight / 2 = moderate / 3 = high / 4 = extreme
Hazard Rating Method: HMIS Health: 2 / Fire: 0/ Reactivity: 0 / Other: 0

SECTION III - Physical / Chemical Characteristics

Boiling Point not determined		Specific Gravity (H_2O = 1)	0.963 - 1.150
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	slow after propellant evaporation

Solubility in Water: Soluble

Appearance and Odor: Colorless to pale yellow liquid with characteristic odor

SECTION IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL.	UEL.
Flammable with flashback (see attached sheet)	not determined		

Extinguishing Media: CO_2 and water, foam

Special Fire Fighting Procedures: Extinguish with water, foam, or CO_2

Unusual Fire and Explosion Hazards: Product is non-reactive but propellant can react with oxidizing agents

SECTION V - Reactivity Data

Stability More	Unstable		Conditions to Avoid:
than 5 years	Stable	X	Excessive heat, direct sunlight, freezing

Incompatibility (Materials to Avoid) Strong acids and alkalies, organic solvents

Hazardous Decomposition or Byproducts

Hazardous	May Occur		Conditions to Avoid:
Polymerization	Will Not Occur	X	Strong acids and organic solvents. Excessive heat, direct sunlight, freezing.

SECTION VI - Health Hazard Data

Route(s) of Entry: Inhalation? None Skin? None Ingestion? Yes

Health Hazards (Acute and Chronic) Unknown

Carcinogenicity: Unknown NTP? ARC Monographs? None OSHA Regulated? None

Signs and Symptoms of Exposure

May cause skin irritation to certain individuals due to sunscreens

Medical Conditions Generally Aggravated by Exposure

Can cause skin irritation due to some individuals due to suncreens

Emergency and First Aid Procedures

Stop using product and use lukewarm water

SECTION VII - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled

Use excess hot water and detergent. Clean and wipe area with cloth.

Waste Disposal Method: Use hot water and detergent.

Precautions to Be Taken in Handling and Storing

Avoid excess heat, freezing and direct sunlight. Store at room temperature.

Other Precautions

Keep away from fumes.

SECTION VIII - Control Measures

Respiratory Protection (Specify Type) None if handling bulk product

Ventilation	Local Exhaust	None	Special	None
	Mechanical (General)	None	Other	None
Protective Gloves		None	Eye Protection	Don't use into or near eyes

Other Protective Clothing or Equipment None

Work/Hygenic Practices None

FOILLE PLUS MEDICATED FIRST AID SPRAY

(NDC 10157-4887-2) is flammable with Flashback (FB)

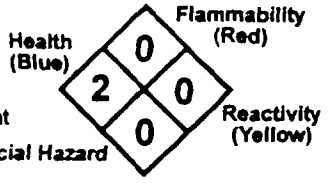
1/2" microflame 6" from flame is 6" FB
1/2" microflame 10" from flame is 2" FB
1/2" microflame 12" from flame is 1" FB
1/2" microflame 14" from flame is 1" FB
1/2" microlame 16" from flame is 0" FB
16" & beyond, flash is forward

TMC# 1239184

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200, Standard must be
consulted for specific requirements.

NFPA Designation 704

Degree of Hazard
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant



IDENTITY (As Used on Label and List)	Note: Blank spaces are not permitted. If any item it not applicable, or no information is available,the space must be marked to indicate that.
STATGUARD® STATIC DISSIPATIVE FLOOR FINISH	

Section I

Manufacturer's Name	Emergency Telephone Number
Charleswater	
Address (Number, Street, City, State, and Zip Code)	Telephone Number for Information
90 Hudson Road, Canton, MA 02021	(617) 821-8370
	Date Prepared
	6-20-95
	Signature of Preparer (Optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Dipropylene Glycol Monomethyl Ether (CAS #034590-94-8)		100 ppm	150 ppm	3-4
Diethylene Glycol Ethyl Ether (CAS #111-90-0)			30 ppm	2-3
Ammonia (CAS #7664-41-7)	NE	25 ppm	25 ppm	.01 max
This product contains the following toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR372: CAS-111-90-0, Diethylene Glycol Ethyl Ether, 2-3% by weight.				
Modified Acrylic Polymer (NonHaz)				35-40
Emulsified Waxes (NonHaz)				5-10
dH_2O (NonHaz)				Balance

HMIS RATING: Health: 1 Reactivity: 0
Flammability: 0 Personal Protection: B

Section III - Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H_2O = 1)	
	>200°F		>1.0
Vapor Pressure (mm hg.)		Melting Point	
	N/A		N/A
Vapor density (AIR = 1)		Evaporation Rate (Butyl Acetate = 1)	
	N/A		N/A

Solubility in Water
Complete, pH 8-9

Appearance and Odor
Opaque, tan liquid with wax or ammoniacal odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
N/A	N/A		

Extinguishing Media
Foam, CO_2, DC and water

Special Fire Fighting Procedures
None required

Unusual Fire and Explosion Hazards
None known

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid
			Temperatures above 49°C/120°F Below: 1°C/34°F
	Stable	X	

Incompatibility *(Materials to Avoid)*

N/A

Hazardous Decomposition or Byproducts

None known.

Hazardous Polymerization	May occur		Conditions to Avoid
			N/A
	Will Not Occur	X	

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Minor Irritation	Minor Irritation	Dilute with water

Health Hazards *(Acute and Chronic)*:

None known

Carcinogonicity:	NTP?	IARC Monographs?	OSHA Regulated?
	None	None	None

Signs and Symptoms of Exposure:

Inhalation: Minor irritation. Skin: Slight irritation. Eyes: Slight irritation. Ingestion: None known.

Medical Conditions Generally Aggravated by Exposure

Overexposure may aggravata Asthma.

Emergency and First Aid Procedures

Inhalation: Move subject to fresh air. Skin: Wash with soap and water. Ingestion: Drink several glasses of water (do not induce vomiting). Contact a physician. Eyes: flush 15 minutes with water.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken In Case Material is Released or Spilled

Keep spectators away. Dike and contain spill with inert material (e.g. sand, earth). Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

Waste Disposal Method

Coagulate the emulsion by the stepwise of Ferric Chloride and Lime. Remove the clear supernatant liquid and flush to a chemical sewer. Incinerate the solids and the contaminated diking material according to local, state, and federal regulations.

Precautions to be Taken in Handling and Storing

Storage temperature: Max. 49°C/120°F 1°C/34°F

Other Precautions

Keep from freezing - product may coagulate

Section VIII - Control Measures

Respiratory Protection *(Specify Type)*

Wear MSHA/NIOSH-approved respirator where exposure limits are exceeded.

Ventilation	Local Exhaust	Special
	Mechanical at point of contamination release	None
	Mechanical (General)	Other

Protective Gloves

Impervious/Neoprene

Eye Protection

Chemical splash goggles (ANSI Z-87.1)

Other Protective Clothing or Equipment

Eyewash station

Work/Hygienic Practices

Wash hands before eating, smoking or using washroom facilities

N/A = Not Applicable; NE = None Established

CHARLESWATER • 90 HUDSON ROAD, CANTON, MA 02021 • (617) 821-8370 • FAX (617) 575-0172

MOR 000825

MATERIAL SAFETY DATA SHEET

REV. 2 NO. 11

MULTICORE SOLDERS, INC. DATE PREPARED: APRIL 8,1991

1751 JAY ELL DR., RICHARDSON, TX. 75081 INFORMATION: 214-238-1224

EMERGENCY: (800-424-9300) ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

N.F.P.A. / HEALTH: 1 FIRE: 3 REACTIVITY: 0 PREPARED: ROBERT L. GILBERT/TECHNICAL MANAGER

TRANSPORTATION REQUIREMENTS: D.O.T. PROPER SHIPPING NAME: RESIN SOLUTION D.O.T. HAZARD CLASS: FLAMMABLE LIQUID UN/NA CODE: UN1866 D.O.T. LABLE REQUIRED: FLAMMABLE PACKING GROUP: II

IDENTITY: (THIS MSDS COVERS ALL OF THE FOLLOWING PRODUCTS): CHEMICAL(S)

X32-10m (EA0010) HALIDE FREE NO RESIDUE FLUX

SECTION I HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

HAZARDOUS COMPONENTS	CAS. NUMBER	OSHA PEL	ACGIH TLV	SARA 313 PERCENT
ISOPROPANOL	67-63-0	400 ppm	400 ppm	40-50
METHANOL	67-56-1	200 ppm(skin)	200 ppm(skin)	40-50

SECTION II PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: (°F) 148-177 SPECIFIC GRAVITY (WATER=1): @25 °C .81

VAPOR PRESSURE(mm Hg.) @68 F 64 PERCENT VOLATILE BY VOLUME: 97

VAPOR DENSITY(AIR=1): 1.6 EVAPORATION RATE (BUTYL ACETATE=1) 1.8

APPEARANCE AND ODOR: CLEAR, MOBILE LIQUID WITH ALCOHOLIC ODOR.

SOLUBILITY IN WATER: SOLUBLE

SECTION III FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): 55 F (ACC) FLAMMABLE LIMITS: LEL: 3 UEL: 24

EXTINGUISHING MEDIA: CARBON DIOXIDE, ALCOHOL RESISTANT FOAM, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: EVACUATE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR PROTECTIVE CLOTHING, INCLUDING NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN

SECTION IV REACTIVITY DATA

STABILITY: UNSTABLE? NO STABLE? YES

CONDITIONS TO AVOID: AVOID HEAT, SPARKS, OPEN FLAMES.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION: MAY OCCUR? NO WILL NOT OCCUR? YES

CONDITIONS TO AVOID: NONE KNOWN

N/A - NOT APPLICABLE

SECTION V HEALTH HAZARD DATA REV. 2 No. 1131

ROUTE(S) OF ENTRY: INHALATION? YES SKIN? NO INGESTION? YES OTHER: NONE

HEALTH HAZARDS (ACUTE AND CHRONIC)
ACUTE: LIQUID OR VAPOR CONTACT MAY CAUSE IRRITATION OF THE EYES, SKIN, NOSE, THROAT, AND RESPIRATORY SYSTEM AND MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION. THIS MATERIAL IS TOXIC AND MAY BE HARMFUL IF SWALLOWED. CHRONIC: PROLONGED CONTACT WITH THE SKIN MAY CAUSE REDNESS, DRYING AND CRACKING TO THE SKIN. PROLONGED OVEREXPOSURE TO SOLVENTS MAY CAUSE PERMANENT BRAIN AND NERVOUS DAMAGE.

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO OTHER: NONE
NO INGREDIENTS LISTED AS CARCINOGENS.

SIGNS AND SYMPTOMS OF EXPOSURE:
IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, DROWSINESS AND LOSS OF CONSCIOUSNESS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
NONE PRESENTLY KNOWN.

EMERGENCY AND FIRST AID PROCEDURES:
EYES: FLUSH WITH COPIOUS QUANTITIES OF WATER. GET MEDICAL ATTENTION.
SKIN: WASH WITH SOAP AND WATER. INHALATION: REMOVE FROM EXPOSURE. GET MEDICAL ATTENTION IF EXPERIENCING EFFECT OF OVEREXPOSURE. INGESTION: GET IMMEDIATE MEDICAL ATTENTION. INDUCE VOMITING BY TOUCHING FINGER TO BACK OF THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING.

SECTION VI PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. ABSORB SPILLED MATERIAL WITH ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINER.

WASTE DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, FEDERAL REGULATIONS. RECOMMENDED METHOD IS INCINERATION.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES. KEEP CONTAINERS TIGHTLY CLOSED. GROUND ALL HANDLING EQUIPMENT. STORE IN A COOL, DRY PLACE.

OTHER PRECAUTIONS: MINIMIZE SKIN CONTACT.

SECTION VII CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE):
IF EXPOSURE EXCEEDS LIMITS, USE A NIOSH-APPROVED RESPIRATOR.

VENTILATION: LOCAL EXHAUST: PREFERABLE SPECIAL: NONE NEEDED
MECHANICAL (GENERAL): ADEQUATE OTHER: NONE NEEDED
PROTECTIVE GLOVES: NEOPRENE, VITON, BUTYL, NITRILE EYE PROTECTION: CHEMICAL GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
WEAR PROTECTIVE CLOTHING TO PREVENT SKIN CONTACT. SAFETY SHOWER AND EYE WASH STATION.

WORK/HYGIENIC PRACTICES:
WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.

MOR 000827

alphametals
600 Route 440
Jersey City, New Jersey 07304
Telephone 201-434-6778

3 / 1 / 0

NUMBER P086
REVISION 08/10/96

SECTION I. GENERAL INFORMATION

TMC# 122456.
RT# 113271
8-21-97

PRODUCT NAME (NUMBER)	Lonco SLS 65 Flux
CHEMICAL FAMILY	Mixture.
D.O.T. HAZARD CLASS	Flammable liquid.

SECTION II. HAZARDOUS INGREDIENTS

INGREDIENTS	CAS NUMBER	WEIGHT PERCENT	OSHA PEL	ACGIH TLV
Isopropyl Alcohol(2-Propanol)	67-63-0	90-92	400 ppm Stel 500 ppm	400 ppm Stel 500 ppm
Aliphatic Dibasic Ester	1119-40-0	<3.0	NE	NE
Dicarboxylic Acids	68937-72-4	<2.5	NE	NE

SECTION III. PHYSICAL DATA

(PUBLISHED OR ESTIMATED VALUES)

BOILING POINT Deg F. (760 mm Hg)	180	SPECIFIC GRAVITY (H2O=1) (@ 77 deg F)	0.801
VAPOR PRESSURE (mm Hg at 20 Deg. C.)	30	% VOLATILE BY WEIGHT	90-92
VAPOR DENSITY (AIR=1)	>2	EVAPORATION RATE (BUAC=1)	2.3
SOLUBILITY IN WATER	Appreciable	pH (5% aqueous soln.)	3.4
APPEARANCE AND ODOR	Clear, colorless liquid, alcohol odor.		

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) LEL: 2.0 UEL: 12.7

FLASH POINT Deg F.	53 closed cup.
EXTINGUISHING MEDIA	Alcohol type or all-purpose-type foam for large fires. Carbon dioxide or dry chemical media for small fires.
SPECIAL FIRE FIGHTING PROCEDURES	Use NIOSH approved self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.
UNUSUAL FIRE AND EXPLOSION HAZARD	Vapors are heavier than air and may travel along ground. Never use welding torch on or near containers (even empty). May produce a floating fire hazard.

NA - NOT APPLICABLE NE - NOT ESTABLISHED NL - NOT LISTED UN - UNKNOWN

Lonco SLS 65 Flux

SECTION V.(A) HEALTH HAZARD DATA (Symptoms/Effects Of Overexposure)

INHALATION: Can cause irritation of the respiratory tract with coughing and chest discomfort. High concentrations of vapor may cause headache and drowsiness.

INGESTION: Slightly toxic. May cause abdominal discomfort, nausea, vomiting and diarrhea. Drowsiness and/or loss of consciousness may occur.

SKIN: May cause minor irritation with itching and possible slight local redness. Prolonged or repeated contact may cause defatting and drying. Absorption; exposure to small quantities are not anticipated to cause adverse health effects. Widespread and prolonged exposure may result in the absorption of harmful amounts of material, leading to signs and symptoms as described for ingestion.

EYES: Causes irritation, may cause corneal injury.

LISTED CARCINOGENS: None of the materials in this product are listed in NTP, IARC, or OSHA as carcinogens.

SECTION V.(B) HEALTH HAZARD DATA (Emergency and First Aid Procedures)

INHALATION: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult administer oxygen. Obtain medical attention.

INGESTION: If fully conscious give two glasses of water, INDUCE vomiting. Never give anything by mouth to an unconscious person.

SKIN CONTACT: Remove contaminated clothing. Wash with soap and water. If irritation persists or if contact has been prolonged obtain medical attention.

EYE CONTACT: Immediately flush with water for several minutes. Obtain medical attention.

SECTION VI. REACTIVITY DATA

STABILITY
STABLE: X UNSTABLE:

CONDITIONS TO AVOID: Heat, sparks and open flames.

INCOMPATABILITY (Materials to Avoid): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Burning can produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION
WILL OCCUR: WILL NOT OCCUR: X

CONDITIONS TO AVOID: None

Lonco SLS 65 Flux

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Ventilate if in enclosed area. Eliminate all ignition sources.
SMALL SPILL: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood.
LARGE SPILL: See Section X.

WASTE DISPOSAL: Destroy by approved incineration or deposit in approved landfill.

Must be in accordance with Federal, State and Local Laws and Regulations

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY	No special requirements with adequate ventilation present, approved respiratory protective equipment used when vapor or mist concentrations exceed applicable standards.
EYEWEAR	Chemical type protective goggles. Provide eye bath near work site.
CLOTHING/ GLOVES	Wear resistant gloves such as rubber, neoprene or plastic.
VENTILATION	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Observe precautions for a flammable liquid. Keep container closed when not in use. Store away from ignition sources in cool dry area. Use adequate ventilation. Read all container labeling.

Avoid the use of metal drum spigots. Use Polyethylene, Polypropylene or Teflon.

OTHER PRECAUTIONS:

Containers: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

Lonco SLS 65 Flux

SECTION X. ADDITIONAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (continued)
LARGE SPILL:
Persons not wearing protective equipment should be excluded from area.
Dike area of spill to prevent spreading. Pump liquid to salvage tank.
Take up remaining liquid with absorbent material. Shovel into containers.

NOTES TO PHYSICIAN:
There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

---------- REGULATORY INFORMATION ----------

Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):
Components present in this product at a level which could require reporting under the statute are:
None

MOR 000831

EMERGENCY TELEPHONE NUMBER

CHEMTREC 1-800-424-9300 DAY OR NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information or the use of any materials designated.

THE MOREY CORPORATION

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100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630.754.2300 | Fax: 630.754.2001 | www.moreycorp.com

GASOLINES (LEAD-FREE)
Covers all Amoco lead-free gasolines, including t

MATERIAL SAFETY DATA SHEET MSDS No. 09748000
ENGLISH

==========

PRODUCT NAME: GASOLINES (LEAD-FREE)

MANUFACTURER/SUPPLIER:
Amoco Oil Company
200 East Randolph Drive
Chicago, Illinois 60601 U.S.A.

EMERGENCY HEALTH INFORMATION:
1 (800) 447-8735
EMERGENCY SPILL INFORMATION:
1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT SAFETY INFORMATION:
(630) 836-5441

Rec. BP 8/17/99

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2.0 COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS#	Range % by Wt.
Gasoline	8006-61-9	80-100
Benzene	71-43-2	1-4
Butane	106-97-8	1-12
Cyclohexane	110-82-7	1-5
Ethylbenzene	100-41-4	1-2
Heptane	142-82-5	1-2
Hexane	110-54-3	1-5
Pentane	109-66-0	1-10
Toluene	108-88-3	1-22
Trimethylbenzene	95-63-6	1-7
Xylene	1330-20-7	1-10
Methyl tertiary butyl ether (MTBE)	1634-04-4	0-18
Ethanol (ethyl alcohol)	64-17-5	0-10
Ethyl tertiary butyl ether	637-92-3	0-21
Tert-amyl methyl ether (TAME)	994-05-8	0-20
Isopentane	78-78-4	1-20
Naphthalene	91-20-3	0-1.1

(See Section 8.0, "Exposure Controls/Personal Protection", for exposure guidelines)

Issued: July 16, 1999

3.0 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Danger! Extremely flammable. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness, and nausea, and may lead to unconsciousness or death. Harmful if swallowed and/or aspirated into the lungs. Prolonged or repeated contact may cause irritation and/or dermatitis. Use as motor fuel only. Long-term exposure to vapors has caused cancer in laboratory animals.
POTENTIAL HEALTH EFFECTS:

EYE CONTACT: High concentrations of vapor/mist may cause eye discomfort.

SKIN CONTACT: Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

INHALATION: Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness, and nausea, and may lead to unconsciousness or death. See "Toxicological Information" section (Section 11.0).

INGESTION: Harmful or fatal if liquid is aspirated into lungs. Ingestion causes gastrointestinal irritation and diarrhea. See "Toxicological Information" section (Section 11.0).

HMIS CODE: (Health:1) (Flammability:3) (Reactivity:0) CHRONIC HEALTH HAZARD.
NFPA CODE: (Health:1) (Flammability:3) (Instability:0)

4.0 FIRST AID MEASURES

EYE: Flush eyes with plenty of water. Get medical attention if irritation persists.

SKIN: Wash exposed skin with soap and water. Remove contaminated clothing, including shoes, and thoroughly clean and dry before reuse. Get medical attention if irritation develops.

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get medical attention.

INGESTION: If swallowed, do NOT induce vomiting. Get immediate medical attention.

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5.0 FIRE FIGHTING MEASURES

FLASHPOINT: -45'

UEL: 7.6%

LEL: 1.3%

AUTOIGNITION TEMPERATURE: 495.0'

FLAMMABILITY CLASSIFICATION: Extremely Flammable Liquid.

EXTINGUISHING MEDIA: Agents approved for Class B hazards (e.g., dry chemical, carbon dioxide, foam, steam) or water fog. Water may be ineffective but should be used to cool-fire exposed containers, structures and to protect personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable vapor/air mixtures form. Extinguishment of fire before source of vapor is shut off can create an explosive mixture in air. Product gives off vapors that are heavier than air which can travel considerable distances to a source of ignition and flashback. Runoff to sewer may cause a fire or explosion hazard.

FIRE-FIGHTING EQUIPMENT: Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

PRECAUTIONS: Keep away from sources of ignition (e.g., heat and open flames). Keep container closed. Use with adequate ventilation.

HAZARDOUS COMBUSTION PRODUCTS: Combustion of this product in an area without adequate ventilation may result in hazardous levels of combustion products (e.g., carbon monoxide, carbon dioxide) and inadequate oxygen levels.

6.0 ACCIDENTAL RELEASE MEASURES

Remove or shut off all sources of ignition. Wear respirator and spray with water to disperse vapors. Increase ventilation if possible. Prevent spreading by diking, ditching, or absorbing on inert materials. Keep out of sewers and waterways.

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7.0 HANDLING AND STORAGE

HANDLING: Use with adequate ventilation. Keep away from ignition sources (e.g., heat, sparks, or open flames). Ground and bond containers when transferring materials. Wash thoroughly after handling.

STORAGE: Store in flammable liquids storage area. Keep container closed. Store away from heat, ignition sources, and open flame in accordance with applicable regulations.

SPECIAL PRECAUTIONS: Keep out of sewers and waterways. Avoid strong oxidizers. Report spills to appropriate authorities. USE AS MOTOR FUEL ONLY.

8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE: *None required; however, use of eye protection is good industrial practice.*

SKIN: Avoid prolonged or repeated skin contact. Wear protective clothing and gloves if prolonged or repeated contact is likely.

INHALATION: Use with adequate ventilation. Avoid breathing vapor and/or mist. If ventilation is inadequate, use NIOSH certified respirator that will protect against organic vapor and dust/mist.

ENGINEERING CONTROLS: Control airborne concentrations below the exposure guidelines.

EXPOSURE GUIDELINES:

Component	CAS#	Exposure Limits
Gasoline	8006-61-9	OSHA PEL: 300 ppm (1989); Not established. (1971) OSHA STEL: 500 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 300 ppm ACGIH TLV-STEL: 500 ppm
Benzene	71-43-2	OSHA PEL: 1 ppm OSHA STEL: 5 ppm ACGIH TLV-TWA: 0.5 ppm (skin) ACGIH TLV-STEL: 2.5 ppm (skin) Mexico TWA: 10 ppm Mexico STEL: 25 ppm

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EXPOSURE GUIDELINES:

Butane	106-97-8	OSHA PEL: 800 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 800 ppm Mexico TWA: 800 ppm
Cyclohexane	110-82-7	OSHA PEL: 300 ppm (1989)(1971) ACGIH TLV-TWA: 300 ppm Mexico TWA: 300 ppm Mexico STEL: 375 ppm
Ethylbenzene	100-41-4	OSHA PEL: 100 ppm (1989)(1971) OSHA STEL: 125 ppm(1989); Not established. (1971) ACGIH TLV-TWA: 100 ppm ACGIH TLV-STEL: 125 ppm Mexico TWA: 100 ppm Mexico STEL: 125 ppm
Heptane	142-82-5	OSHA PEL: 400 ppm (1989); 500 ppm (1971) OSHA STEL: 500 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 400 ppm ACGIH TLV-STEL: 500 ppm Mexico TWA: 400 ppm (skin) Mexico STEL: 500 ppm (skin)
Hexane	110-54-3	OSHA PEL: 50 ppm (1989); 500 ppm (1971) ACGIH TLV-TWA: 50 ppm (skin) Mexico TWA: 100 ppm
Pentane	109-66-0	OSHA PEL: 600 ppm (1989); 1000 ppm (1971) OSHA STEL: 750 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 600 ppm Mexico TWA: 600 ppm Mexico STEL: 760 ppm
Toluene	108-88-3	OSHA PEL: 100 ppm (1989); 200 ppm (1971) OSHA STEL: 150 ppm (1989); Not established. (1971) OSHA Ceiling: 300 ppm (1971) ACGIH TLV-TWA: 50 ppm (skin) Mexico TWA: 100 ppm Mexico STEL: 150 ppm

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EXPOSURE GUIDELINES:

Trimethylbenzene	95-63-6	OSHA PEL: 25 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 25 ppm Mexico TWA: 25 ppm Mexico STEL: 35 ppm
Xylene	1330-20-7	OSHA PEL: 100 ppm (1989)(1971) OSHA STEL: 150 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 100 ppm ACGIH TLV-STEL: 150 ppm Mexico TWA: 100 ppm (skin) Mexico STEL: 150 ppm (skin)
Methyl tertiary butyl ether (MTBE)	1634-04-4	ACGIH TLV-TWA: 40 ppm
Ethanol (ethyl alcohol)	64-17-5	OSHA PEL: 1000 ppm (1989)(1971) ACGIH TLV-TWA: 1000 ppm Mexico TWA: 1000 ppm
Ethyl tertiary butyl ether	637-92-3	No exposure limit established
Tert-amyl methyl ether (TAME)	994-05-8	No exposure limit established
Isopentane	78-78-4	ACGIH TLV-TWA: 600 ppm
Naphthalene	91-20-3	OSHA PEL: 10 ppm (1989)(1971) OSHA STEL: 15 ppm (1989); Not established. (1971) ACGIH TLV-TWA: 10 ppm ACGIH TLV-STEL: 15 ppm Mexico TWA: 10 ppm Mexico STEL: 15 ppm

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9.0 CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE AND ODOR:	Clear. Liquid. Hydrocarbon odor.
pH:	Not determined.
VAPOR PRESSURE:	7-15 lb RVP (ASTM D323)
VAPOR DENSITY:	3.0-4.0
BOILING POINT:	80.0-430.0°F (range)
MELTING POINT:	Not determined.
SOLUBILITY IN WATER:	Negligible, below 0.1%
SPECIFIC GRAVITY (WATER=1):	0.75

10.0 STABILITY AND REACTIVITY

STABILITY: Burning can be started easily.

CONDITIONS TO AVOID: Keep away from ignition sources (e.g. heat, sparks, and open flames).

MATERIALS TO AVOID: Avoid chlorine, fluorine, and other strong oxidizers.

HAZARDOUS DECOMPOSITION: None identified.

HAZARDOUS POLYMERIZATION: Will not occur.

11.0 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA:

EYE IRRITATION: This product had a primary eye irritation score (PEIS) of 0/110.0 (rabbit)

SKIN IRRITATION: This product had a primary skin irritation score (PDIS) of 1.1/8.0 (rabbit)

DERMAL LD50: greater than 5 ml/kg (rabbit).

ORAL LD50: 18.8 ml/kg (rat).

INHALATION LC50: 20.7 mg/l (rat)

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OTHER TOXICITY DATA:

Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital). Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

This product contains/may contain methyl tertiary-butyl ether (MTBE). In a long-term inhalation study with laboratory rodents, very high exposures (>3000 ppm) to MTBE produced liver and kidney tumors. Both IARC and NTP do not consider these data sufficient for classification of MTBE as a probable human carcinogen. MTBE has produced developmental toxicity to the offspring of mice, but only at maternally toxic concentrations (>4000 ppm). Similar studies in rats and rabbits were negative.

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This product contains/may contain ethyl tertiary-butyl ether (ETBE). In rats exposed by inhalation to ETBE, testicular degeneration was observed in males and bone marrow degeneration was observed in females that were exposed to 1750 and 5000 ppm for 90 days. Neither effect was seen at 500 ppm. Slight blood and organ weight changes have been observed in rats following 28-day inhalation exposure to ETBE at 2000 ppm and higher.

This product contains/may contain tertiary-amyl methyl ether (TAME). Chronic inhalation exposure of rats and mice to high levels of TAME (250-3500 ppm) for 90 days resulted in slight blood and organ weight effects. However, these were either transient during the exposure period, or reversible after exposure ceased.

12.0 ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this material by BP Amoco.

13.0 DISPOSAL INFORMATION

Residues and spilled material are hazardous waste due to ignitability. Disposal must be in accordance with applicable federal, state, or local regulations. Enclosed-controlled incineration is recommended unless directed otherwise by applicable ordinances.

The container for this product can present explosion or fire hazards, even when emptied! To avoid risk of injury, do not cut, puncture, or weld on or near this container. Since the emptied containers retain product residue, follow label warnings even after container is emptied.

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14.0 TRANSPORTATION INFORMATION

U.S. DEPT OF TRANSPORTATION

Shipping Name	:	Gasoline
Hazard Class	:	3
Identification Number	:	UN1203
Packing Group	:	II

INTERNATIONAL INFORMATION:

Sea (IMO/IMDG)

Shipping Name	:	Gasoline
Class	:	3.1
Packing Group	:	II
UN Number	:	UN1203

Air (ICAO/IATA)

Shipping Name	:	Gasoline , UN1203
Class	:	3
Packing Group	:	II

European Road/Rail (ADR/RID)

Shipping Name	:	Not determined.

Canadian Transportation of Dangerous Goods

Shipping Name	:	Gasoline
Hazard Class	:	3
UN Number	:	UN1203
Packing Group	:	II

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15.0 REGULATORY INFORMATION

CERCLA SECTIONS 102A/103 HAZARDOUS SUBSTANCES (40 CFR PART 302.4): This product is exempt from the CERCLA reporting requirements under 40 CFR Part 302.4. However, if spilled into waters of the United States, it may be reportable under 33 CFR Part 153 if it produces a sheen.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR PART 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA TITLE III SECTIONS 311/312 HAZARDOUS CATEGORIZATION (40 CFR PART 370): This product is defined as hazardous by OSHA under 29 CFR Part 1910.1200(d). Hazardous categories for this product are: Acute = yes; Chronic = yes; Fire = yes; Pressure = no; Reactive = no.

SARA TITLE III SECTION 313 (40 CFR PART 372): This product contains the following substance(s), which is on the Toxic Chemicals List in 40 CFR Part 372:

Component/CAS Number	Weight Percent
Component/CAS Number	Weight Percent
Benzene 71-43-2	4
Trimethylbenzene 95-63-6	7
Cyclohexane 110-82-7	5
Ethylbenzene 100-41-4	2
Xylene 1330-20-7	10
Methyl tertiary butyl ether (MTBE) 1634-04-4	18
Hexane 110-54-3	5
Naphthalene 91-20-3	1.1
Toluene 108-88-3	22

U.S. INVENTORY (TSCA): Listed on inventory.

This product may contain methyl tertiary-butyl ether (CAS #1634-04-4) or tert-amyl methyl ether (CAS #994-05-8), both of which are currently undergoing review and testing under TSCA Section 4. Notification to the U.S. EPA Office of Toxic Substances is required prior to export of this material from the United States.

OSHA HAZARD COMMUNICATION STANDARD: Flammable liquid. Irritant. Contains components listed by ACGIH. Contains components listed by OSHA. Contains a carcinogenic component.

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WHMIS CONTROLLED PRODUCT CLASSIFICATION: B2, D2A, D2B.

EC INVENTORY (EINECS/ELINCS): One or more components not listed on inventory.

JAPAN INVENTORY (MITI): One or more components not listed on inventory.

AUSTRALIA INVENTORY (AICS): One or more components not listed on the inventory.

KOREA INVENTORY (ECL): One of more components not listed on inventory.

CANADA INVENTORY (DSL): One or more of the components of this product is not listed on the DSL.

PHILIPPINE INVENTORY (PICCS): One or more components not listed on the inventory.

16.0 OTHER INFORMATION

When gasoline is mixed with ethyl alcohol, the DOT proper shipping name for domestic shipments is:

Gasohol, 3, NA1203, II.

This material contains an ingredient/ingredients present on the following State Right-To-Know lists:

-Florida- -Massachusetts- -New Jersey- -Pennsylvania- -California- -Minnesota-

This product contains an ingredient/ingredients known to the state of California to cause cancer and/or reproductive toxicity.

Prepared by:
Environment, Health and Safety Department July 16, 1999
Issued:
Supersedes: December 28, 1998

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from

Issued: July 16, 1999

abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

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MATERIAL SAFETY DATA SHEET

A. J. FUNK & CO.
1471 Timber Drive, Elgin, IL 60123
Tel:(847) 741-6760 Fax:(847) 741-6767

HMIS CODE	
Health	1
Fire	1
Reactivity	0
Pers. Prot.	None

Emergency Phone Number (Spill or Release): (847) 741-6760
National Poison Control Network (Medical Emergency): (412) 681-6669

SECTION 1: IDENTITY

FEB 27 1996
THE MUREY CORP.

COMMON NAME: **SPARKLE GLASS CLEANER** PRODUCT CODE: **20500**
(Used on label - Trade Name and Synonyms)
PROPER SHIPPING NAME: Consumer Commodity D.O.T. HAZARD CLASS: Non-Hazardous
CHEMICAL FAMILY: Glass Cleaner CHEMICAL NAME: Mixture
FORMULA: Mixture CAS NO. 111-76-2

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS: (Chemical and Common Names)	HAZARD:	TLV (UNITS):
2-Butoxyethanol CAS# 111-76-2	Skin, eyes	120mg/M³/8HR(OSHA)

SECTION 3: PHYSICAL AND CHEMICAL CHARACTERISTICS
(FIRE AND EXPLOSION DATA)

BOILING POINT: 95°C SPECIFIC GRAVITY: 0.994 (H20=1) VAPOR PRESSURE: Not Available
PERCENT VOLATILE: 4.9% BY VOLUME (%) VAPOR DENSITY: Not (AIR=1) Available EVAPORATION RATE: Not Available

SOLUBILITY IN WATER: Complete REACTIVITY IN WATER/AIR: None
APPEARANCE AND ODOR: Clear liquid with proprietary flowery/fruity fragrance.

FLASH POINT: None FLAMMABLE LIMITS IN AIR % BY VOLUME LOWER = None UPPER = None

AUTO IGNITION TEMPERATURE: None EXTINGUISHER MEDIA: None
SPECIAL FIRE FIGHTING PROCEDURES: None UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION 4: PHYSICAL HAZARDS

STABILITY: UNSTABLE____ CONDITIONS TO AVOID:
STABLE XX
INCOMPATIBILITY/ (Materials to Avoid) : Not recommended for finished wood surfaces.
HAZARDOUS DECOMPOSITION PRODUCTS: None Known
HAZARDOUS POLYMERIZATION
MAY OCCUR____ CONDITIONS TO AVOID:
WILL NOT OCCUR XX

MOR 000846

COMMON NAME: SPARKLE GLASS CLEANER

SECTION 5: HEALTH HAZARDS

OSHA PERMISSIBLE EXPOSURE LIMIT: None ACGIH THRESHOLD LIMIT VALUE: None
OTHER EXPOSURE LIMIT USED: None

SIGNS AND SYMPTOMS OF EXPOSURE:
1. ACUTE OVEREXPOSURE: May irritate eyes.
2. CHRONIC OVEREXPOSURE: None Known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known.

PRIMARY ROUTE(S) OF EXPOSURE: None

EMERGENCY AND FIRST AID PROCEDURE:
IF IN EYES: Flush with water for 15 minutes.
IF INGESTED: Drink several glasses of water - Call a doctor.
HYGENIC PRACTICES: Keep out of eyes. Keep out of the reach of children.

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THE MUREY CORP.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: None

SECTION 6: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: None WORK PRACTICES: None

VENTILATION: Use in area with adequate ventilation. PROTECTIVE GLOVES: None

EYE PROTECTION: Safety glasses when handling large quantities.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None

SECTION 7: SPECIAL PRECAUTIONS AND SPILL / LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
CONSUMER: None
MANUFACTURER: Adequate ventilation or respiratory mask and eye protection.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Wipe up with absorbent material or wash away with water.

IN CASE OF LARGE SPILL: Dispose of according to local ordinances.

MOR 000847

WASTE DISPOSAL METHODS: End use product container should be discarded as normal, non-hazardous, solid waste.

SECTION 8: ADDITIONAL INFORMATION

PRODUCT INFORMATION: (847) 741-6760 (Non-Emergency)
(8:00 a.m. - 4 p.m. Central Standard Time - Monday through Friday)
DATE PREPARED: FEBRUARY 15, 1996 PREVIOUS MSDS DATED: 3/15/91

NAME/TITLE OF PERSON RESPONSIBLE FOR PREPARATION: R.O.P.

MATERIAL SAFETY DATA SHEET

SECTION I

Attn: Fred Pfeiffer

ETHC-1090336

MANUFACTURER: GLYPTAL, INC.
305 EASTERN AVE
CHELSEA, MA 02150
TELEPHONE: 617-884-6918
PRODUCT CLASS: AIR DRY ENAMEL
CODE IDENTIFICATION: 1201
TRADE NAMS: GLYPTAL

HMIS 2 3 0

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT BY WEIGHT	ACGIH TLV PPM	ACGIH TLV mg/cu.m.	OSHA PEL PPM	OSHA PEL mg/cu.m.
XYLENE	34.5	100		100	
CAS NUMBER 1330-20-7					
HMIS HEALTH=1 FLAMMABILITY=3 REACTIVITY=0					
XYLOL					
VM&P NAPTHA	5.6	300		300	
CAS NUMBER 8030-30-6					
HMIS HEALTH=2 FLAMMABILITY=3 REACTIVITY=0					
ALIPHATIC HYDROCARBON					
STODDARD SOLVENT	0.2	500			
CAS NUMBER 64741-41-9					
HMIS HEALTH=2 FLAMMABILITY=2 REACTIVITY=0					
HYDROCARBON MIXTURE					
IRON OXIDE	8.2				
CAS NUMBER 1309-382					
HMIS HEALTH=0 FLAMMABILITY=1 REACTIVITY=1					
FERRIC OXIDE					
HYDRATED MAGNESIUM SILICATE	16.9	20			
CAS NUMBER 14807-96-6					
HMIS HEALTH=2 FLAMMABILITY=0 REACTIVITY=0					
TALC					

Remaining 34.7 % is a non-hazardous alkyd resin.
VM&P (CAS# 8030-30-6), AGENCY OSHA.TYPE STEL. EXPOSURE LIMIT 400 PPM
N/A means NOT AVAILABLE N/EST MEANS NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
N/A MEANS NOT AVAILABLE NOT EST MEANS NOT ESTABLISHED

SECTION III - PHYSICAL DATA

BOILING RANGE: 250.0 TO 345.0 F VAPOR DENSITY: HEAVIER THAN AIR
EVAPORATION RATE: SLOWER THAN ETHER
PERCENT VOLATILE BY VOLUME: 56.5 VOC (less water): 3.98 LBS/GAL
WEIGHT PER GALLON: 9.91 POUNDS
V.O.C. IS DETERMINED PER EPA REFERENCE METHOD 24 USING ASTM PROCEDURES D2369 D1475 AND D3960.
VAPOR PRESSURE: 5.79 MM/HG MELTING POINT: NOT APPLICABLE
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR: RED LIQUID WITH PAINT ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

OSHA CATEGORY: FLAMMABLE LIQUID

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FM: CIRC.SUPPLY/COM-KYL SCHAUMBURG PHONE NO.: 847 882 2489 Aug. 16 1999 09:07AM P1

FLASH POINT: 72 F PENSKY MARTIN LEL: 1.0 UEL: N/A
EXTINGUISHING MEDIA:
Carbon dioxide, dry chemical or foam
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Pressure may build up in closed containers that are exposed to heat.
Solvent vapors are heavier than air and may travel a considerable distance along the ground to an ignition source and "flash back".
SPECIAL FIRE FIGHTING PROCEDURES:
Water may be ineffective, however, water may be used to cool closed containers that are exposed to heat. Firefighting personnel should wear self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SECTION II
PRIMARY ROUTE(S) OF ENTRY:
Inhalation and skin contact
EFFECTS OF OVEREXPOSURE:
Headache, nausea, dizziness, confusion, irritability.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Respiratory difficulties or preexisting skin sensitization.
CARCINOGENICITY:
None of the components of this product are reported carcinogens in A/C with OSHA, NTP, IARC and NIOSH.
EMERGENCY FIRST AID PROCEDURES:
INHALATION: Remove to fresh air. Administer artificial respiration or oxygen if breathing is difficult.
SKIN: Wash affected area with soap and water. Remove and launder contaminated clothing. Consult a physician if irritation persists.
EYES: Flush immediately with large amounts of water for at least 15 minutes. Take to a physician for medical treatment.
INGESTION: Call a physician immediately.

ACUTE: Skin and eye contact: Primary irritation.
CHRONIC: Xylene contained in this material has been found to cause the following effects in laboratory animals:anemia,liver abnormalities,liver and eye damage.
Pre-Exiting liver and/or kidney disorders may be aggrevated by exposure to xylene. Reports have associated repeated and prolonged occupational overexposure to xylene with permanent brain and nervous system damage.

SECTION VI - REACTIVITY DATA

STABILITY: NORMAL STABLE
CONDITIONS TO AVOID:
None known
INCOMPATIBILITY (Materials to avoid)
Strong acids and bases
HAZARDOUS DECOMPOSITION PRODUCTS:
BY FIRE: Normal products of incomplete combustion.
HAZARDOUS POLYMERIZATION: DOES NOT OCCUR
CONDITIONS TO AVOID:
None known

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Provide adequate ventilation. Remove all possible ignition sources.
Absorb and dispose using non-sparking tools.
Eliminate all sources of ignition. Evacuate unprotected personnel. Water

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spray may be used. To contain run-off, cover with an absorbent material and place in containers for proper disposal. Flush area with water to remove residue.

WASTE DISPOSAL METHOD:
Dispose in accordance with local applicable regulations.
Disposal of using an approved incineration process or in accordance with local, state, and federal regulations regarding health and pollution.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
In outdoor or open areas use Bureau of Mines approved mechanical filter respirator to remove solid airborne particulates of overspray. Indoors, where ventilation is inadequate, use Bureau of Mines approved chemical-mechanical respirators designed to remove both particulate and vapor.

VENTILATION:

PROTECTIVE GLOVES:
Recommended if skin contact is likely.

EYE PROTECTION:
Chemical splash goggles recommended if potential for splash or eye contact is likely.

OTHER PROTECTIVE EQUIPMENT:
Recommended as needed to avoid contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING OR STORING:
Store in a cool dry place away from heat, sparks and open flame. Keep containers closed and upright to prevent leakage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquid storeroom or cabinet. Metal containers should be grounded when transferring material from one container to another. Do not reuse product container for any purpose.

OTHER PRECAUTIONS:

PREPARED BY: TECHNICAL STAFF
REFERENCE DATE: JUNE 1997

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION ABOVE.

TO WHOM IT MAY CONCERN: EFFECTIVE JAN 1, 1989, WE ARE REQUIRED BY SARA TITLE III SECTION 313 OF THE RIGHT TO KNOW LEGISLATION, TO INFORM YOU OF THE PERCENTAGE OF ANY INGREDIENT IN A PRODUCT WHICH IS IN THE 313 LIST OR AS AN LISTING AS A COMPONENT OF A MATERIAL WHICH IS IN A CATEGORY OF CHEMICAL LIST.

PRODUCT: 1201 GLYPTAL

34.5% XYLENE (CAS NUMBER 1330-20-7)

IF YOU WILL MULTIPLY YOUR TOTAL PURCHASES FROM US AS WELL AS FROM OTHER SUPPLIERS BY THE PERCENTAGE OF EACH INGREDIENT FOUND IN EACH PRODUCT AND IF THE TOTAL QUANTITY EXCEEDS THE REPORTABLE QUANTITY FOR THAT INGREDIENT YOU ARE REQUIRED TO FILE FORM R REPORTS.

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FROM : CIRC.SUPPLY/COM-KYL SCHAUMBURG PHONE NO. : 847 882 2489 Aug. 16 1999 09:09AM P3

BLR240
01/14/99 08:40:52 HAZARDOUS MATERIAL SAFETY SHEET CONTROL
BILLING BATCH

Rec by Morey Corp.
2-8-99
Tkp

56479
MOREY CORP.

2659 WISCONSIN AVE.
DOWNERS GROVE , IL 60515

ELECTRICAL INSULATION SUPPLIERS
1255 COLLIER RD.
ATLANTA, GA 30318

PHONE # (404)355-1651
FAX # (404)609-6084

MATERIAL SAFETY DATA SHEET INFORMATION:

PLEASE FIND ENCLOSED MATERIAL SAFETY DATA SHEETS (MSDS) COVERING ITEMS PURCHASED FROM ELECTRICAL INSULATION SUPPLIERS (EIS). OSHA REGULATIONS REQUIRE MSDS INFORMATION BE MADE AVAILABLE TO ALL PERSONNEL WHO MAY BE EXPOSED TO HAZARDOUS MATERIALS IN THE WORK PLACE.

UNDER THE "EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT OF 1986" INVENTORY AND LOCATION INFORMATION, CONCERNING HAZARDOUS MATERIALS MFG JOB SITE, MAY NEED TO BE REPORTED TO THE LOCAL FIRE DEPARTMENT, THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STANDARD RESPONSE COMMISSION. YOU MAY WANT TO REFERENCE 40 CFR PART 372 FOR ADDITIONAL INFORMATION. MANUFACTURERS MUST REPORT ANNUAL RELEASES OF LISTED TOXIC CHEMICALS INTO THE ENVIRONMENT, ACCORDING TO SARA TITLE III.

ACCORDING TO 29 CFR PART 1910.1200 PARAGRAPH (g)(6) OF THE HAZARD COMMUNICATION STANDARD, A MSDS IS TO BE PROVIDED THE FIRST TIME THE CUSTOMER BUYS AN ITEM REQUIRING A MSDS. IF AT ANY TIME THE MSDS IS UPDATED OR CHANGED, THE UPDATED MSDS MUST BE SUPPLIED WITH THE FIRST SHIPMENT AFTER THE MSDS UPDATE HAS OCCURRED.

IF YOU NEED FURTHER INFORMATION CONCERNING YOUR SITUATION, YOU MAY CONTACT THE EPA IN WASHINGTON, D.C. THEIR TOLL FREE NO. IS (800)535-0202; THE RCRA/SUPERFUND HOT LINE IS (800)424-9346 OR (703)920-9810; THE TSCA HOT LINE IS (202)554-1404.

BY PROVIDING THIS DOCUMENTATION, EIS IS COMPLYING WITH FEDERAL LAWS GOVERNING MSDS INFORMATION, AS IS KNOWN TO US. THIS IS A SERVICE AIMED AT HELPING YOUR BUSINESS TO ALSO COMPLY WITH GOVERNMENT REGULATIONS.

DAVE SHARPE

"SEE THE REVERSE SIDE FOR DOCUMENT NAME AND P.O. NUMBER"

GLY 1202 - Glyptal

Provided By Electrical Insulation Suppliers Inc.

56479/MOREY CORP.

		SHIP	
	MSDS DOCUMENT	DATE	CUSTOMER PURCHASE ORDER NUMBER
BLR240	GLY1202	01/11/99	108884

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MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER: GLYPTAL, INC.
305 EASTERN AVE
CHELSEA, MA 02150
TELEPHONE: 617-884-6918
PRODUCT CLASS: ALKYD RESIN SOLUTION
CODE IDENTIFICATION: 1202
TRADE NAME: GLYPTAL

HMIS 2 3 0

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT BY WEIGHT	ACGIH TLV PPM	ACGIH TLV mg/cu.m.	OSHA PEL PPM	OSHA PEL mg/cum.
XYLENE	49.9	100		100	
CAS NUMBER 1330-20-7					
HMIS HEALTH=1 FLAMMABILITY=3 REACTIVITY=0					
XYLOL					
STODDARD SOLVENT	< 0.1	500			
CAS NUMBER 64741-41-9					
HMIS HEALTH=2 FLAMMABILITY=2 REACTIVITY=0					
HYDROCARBON MIXTURE					

N/A MEANS NOT AVAILABLE N/EST MEANS NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
NOT EST. means NOT ESTABLISHED
N/A MEANS NOT AVAILABLE NOT EST MEANS NOT ESTABLISHED

SECTION III - PHYSICAL DATA

BOILING RANGE: 283.0 TO 285.0 F VAPOR DENSITY: HEAVIER THAN
EVAPORATION RATE: SLOWER THAN ETHER
PERCENT VOLATILE BY VOLUME: 57.5 VOC (LESS WATER): 4.15 LBS/GAL
WEIGHT PER GALLON: 8.31 POUNDS
VOC is determined per EPA Reference Method 24 using ASTM procedures D2369, D1475, D3960
VAPOR PRESSURE: 9.5 MELTING POINT:
SOLUBILITY IN WATER: NEGLIGIBLE
APPEARANCE AND ODOR: CLEAR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

OSHA CATEGORY: FLAMMABLE LIQUID

FLASH POINT: 79F CC-PM LEL: 1 UEL: N/A
EXTINGUISHING MEDIA:
Carbon dioxide, dry chemical or foam
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Pressure may build up in closed containers that are exposed to heat
Solvent vapors are heavier than air and may travel a considerable distance along the ground to an ignition source and "flash back".
SPECIAL FIRE FIGHTING PROCEDURES:
Water may be ineffective, however, water may be used to cool closed containers that are exposed to heat. Firefighting personnel should wear self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SECTION II
PRIMARY ROUTE(S) OF ENTRY:
Inhalation and skin contact
EFFECTS OF OVEREXPOSURE:
Headache, nausea, dizziness, confusion, irritability.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Respiratory difficulties or preexisting skin sensitization.
CARCINOGENICITY:
None of the components of this product are reported carcinogens.
EMERGENCY FIRST AID PROCEDURES:
INHALATION: Remove to fresh air. Administer artificial respiration or oxygen if breathing is difficult.
SKIN: Wash affected area with soap and water. Remove and launder contaminated clothing. Consult a physician if irritation

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persists.
EYES: Flush immeditately with large amounts of water for at least 15 minutes. Take to a physician for medical treatment.
INGESTION: Call a physicain immediately.

ACUTE: Skin and eye contact: Primary irritation
CHRONIC: Xylene contained in this material has been found to cause the following effects in laboratory animals: amenia, liver abnormalities, liver and eye damage.

SECTION VI - REACTIVITY DATA

STABILITY: NORMALLY STABLE
CONDITIONS TO AVOID:
None known
INCOMPATABILITY (Materials to avoid)
Strong acids and bases
HAZARDOUS DECOMPOSITION PRODUCTS:
BY FIRE: Normal products of incomplete combustion.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID:
None known

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Provide adequate ventilation. Remove all possible ignition sources. Absorb and dispose using non-sparking tools.
Eliminate all sources of ignition. Evacuate unprotected personnel. Water spray may be used. To contain run-off, cover with an absorbent material and place in containers for proper disposal. Flush area with wate remove residue.
WASTE DISPOSAL MEHTOD:
Dispose in accordance with local applicable regulations.
Dispose of using an approved incineration process or in accordance with local, state, and federal regulations regarding health and pollution.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
In outdoor or open areas use Bureau of Mines approved mechanical filter respirator to remove solid airborne particulated of overspray. Indoors, where bentilation is inadequate. Use Bureau of Mines approved chemical-mechanical respirators designed to remove both particulater and vapor.
VENTILATION:
PROTECTIVE GLOVES:
Recommended if skin contact is likely.
EYE PROTECTION:
Chemical splash goggles recommended if potential for splash or eye contact is likely.
OTHER PROTECTIVE EQUIPMENT:
Recommended as needed to avoid contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING OR STORING:
Store in a cool dry place away from heat, sparks and open flame. Keep containers closed and upright to prevent leakage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquid storeroom or cabinet. Metal containers should be grounded when transferring material from one container to another. Do not reuse product container for any purpose.
OTHER PRECAUTIONS:

PREPARED BY: TECHNICAL STAFF

REFERENCE DATE: 2/09/98

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION

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ABOVE.

TO WHOM IT MAY CONCERN: EFFECTIVE JAN 1, 1989, WE ARE REQUIRED BY SARA TITLE III SECTION 313 OF THE RIGHT TO KNOW LEGISLATION, TO INFORM YOU OF THE PERCENTAGE OF ANY INGREDIENT IN A PRODUCT WHICH IS IN THE 313 LIST OR AS ANY LISTING AS A COMPONENT OF A MATERIAL WHICH IS IN A CATEGORY OF CHEMICAL LIST.

PRODUCT: 1202 GLYPTAL

49.9% XYLENE (CAS NUMBER 1330-20-7)

IF YOU WILL MULTIPLY YOUR TOTAL PURCHASES FROM US AS WELL AS FROM OTHER SUPPLIERS BY THE PERCENTAGE OF EACH INGREDIENT FOUND IN EACH PRODUCT AND IF THE TOTAL QUANTITY EXCEEDS THE REPORTABLE QUANTITY FOR THAT INGREDIENT YOU ARE REQUIRED TO FILE FORM R REPORTS.

Provided By Electrical Insulation Suppliers Inc.

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH [redacted] 146355D
146355C

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation	24 Hour Emergency Telephone:	(517) 496-5900
South Saginaw Road	Product Information:	(517) 496-6000
Midland, Michigan 48686	Product Disposal Information:	(517) 496-5813
	Transportation Information:	(517) 496-8577
	CHEMTREC:	(800) 424-9300

MSDS No: 1018817 Print Date: 05/07/97 Last Revised: 03/14/94

Generic Description: Silicone compound
Physical Form: Viscous Liquid
Color: Translucent white
Odor: Odorless
NFPA Profile: Health NA Flammability 1 Reactivity 0

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
007631869	9	Silica, amorphous	OSHA PEL: TWA 15 mg/m3 total dust, 5 mg/m3 respirable fraction. ACGIH TLV: TW A 10 mg/m3 total dust.

Comments: The above components are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct eye contact may cause temporary discomfort with mild redness and dryness similar to windburn.

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

Skin: A single prolonged exposure (24 to 48 hours) causes no known adverse effect.

Inhalation: No irritation to eyes and respiratory passages. No injury is likely from relatively short exposures of less than 8 hours.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: None Known.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

None Known

Comments: Please read the additional information below.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water.

Skin: No first aid should be needed.

Inhalation: No first aid should be needed.

Oral: No first aid should be needed.

Comments: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Method):	212.00 DEGREE F / 100.00 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extingushing Media:	Carbon dioxide (CO2). Water. Water fog (or spray). Dry chemical. Foam.
Unsuitable Extinguishing Media:	None
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire Hazards:	None

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

Hazardous Decomposition Products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop up, or wipe up, or soak up with absorbent and contain for salvage or disposal. For large spills, provide diking or other appropriate containment to keep material from spreading. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: No special precautions. Use reasonable care.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

Engineering Controls

Local exhaust:	None should be needed
General Ventilation:	Recommended

Personal Protective Equipment For Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Suitable Gloves:	No special protection needed.
Inhalation:	No respiratory protection should be needed.
Suitable Respirator:	None should be needed.

Personal Protective Equipment For Spills

Eye:	Use proper protection - safety glasses as a minimum.
Skin:	Washing at mealtime and end of shift is adequate.
Inhalation/ Suitable Respirator:	No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

Physical form:	Viscous Liquid
Color:	Translucent white
Odor:	Odorless
Specific Gravity @ 25C:	1.10
Viscosity:	2000000.00 CST
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Determined.
Vapor Pressure @ 25C:	Not Determined.
Vapor Density:	Not Determined.
Solubility in Water:	None.
pH:	Not Applicable.
Volatile content (Wt%):	Not Determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: None

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

SECTION 13. DISPOSAL CONSIDERATIONS

OPTIONAL SECTION - Complete information not yet available.

Call Dow Corning Environmental Mgmt. (517)496-6315, if more information is desired.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name: Not Available

Hazard Technical Name: Not Available

Hazard Class: Not Available

UN/NA Number: Not Available

Packing Group: Not Available

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:
None

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

Section 312 Hazard Class:

Acute:	N
Chronic:	N
Fire:	N
Pressure:	N
Reactive:	N

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component
California		
Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.		
None Known.		
Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.		
None Known.		
Massachusetts		
007631869	9	Silica, amorphous
New Jersey		

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) HIGH VACUUM GREASE

063148629	83	Polydimethylsiloxane
070131678	7	Dimethyl siloxane, hydroxy-terminated
007631869	9	SILICA, AMORPHOUS FUMED; #1655

Pennsylvania

070131678	7	Dimethyl siloxane, hydroxy-terminated
063148629	83	Polydimethylsiloxane
007631869	9	Silica, amorphous

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark of the Dow Corning Corporation.

* * * * * This is the last page. * * * * *

MSDS for Grainger Stock Number 4ZF13

Rev. 6-15-01

INHALATION: REMOVE FROM FURTHER EXPOSURE. IF RESPIRATORY IRRITATION, DIZZIN NAUSEA, OR UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE AND CA PHYSICIAN. IF BREATHING HAS STOPPED, USE MOUTH TO MOUTH RESUSCITATION.

INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE SEE MEDICAL ASSISTANCE.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING. USE WAT TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPIL AWAY FROM EXPOSURE. PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTER STREAMS, SEWERS, OR DRINKING WATER SUPPLY.

SPECIAL PROTECTIVE EQUIPMENT: FOR FIRES IN ENCLOSED AREAS, FIRE FIGHTERS MU USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

FLASH POINT C(F): GT 204(399) (ASTM D-92).

FLAMMABLE LIMITS - LEL: NA UEL: NA.

NFPA HAZARD ID: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

HAZARDOUS DECOMPOSITION PRODUCTS: PHOSPHORUS OXIDES. SULFUR OXIDES. CARBON MONOXIDE.

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITI U.S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COU REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER (800) 424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NO CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TRE SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIAT WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

ENVIRONMENTAL PRECAUTIONS: PREVENT SPILLS FROM ENTERING STORM SEWERS OR DRA AND CONTACT WITH SOIL.

PERSONAL PRECAUTIONS: SEE SECTION 8.

MOR 000865

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7. HANDLING AND STORAGE

HANDLING: NO SPECIAL PRECAUTIONS ARE NECESSARY BEYOND NORMAL GOOD HYGIENE PRACTICES. SEE SECTION 8 FOR ADDITIONAL PERSONAL PROTECTION ADVICE WHEN HANDLING THIS PRODUCT.

STORAGE: DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS. STORE AWAY FROM STR OXIDIZING AGENTS OR COMBUSTIBLE MATERIAL.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: USE IN WELL VENTILATED AREA.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS O USE AND WITH ADEQUATE VENTILATION.

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOY

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGI PRACTICES SHOULD ALWAYS BE FOLLOWED.

EXPOSURE LIMITS: THIS PRODUCT DOES NOT CONTAIN ANY COMPONENTS WHICH HAVE RECOGNIZED EXPOSURE LIMITS. HOWEVER, AN EXPOSURE LIMIT OF 5.00 MG/M3 IS SUGGESTED FOR OIL MIST.

9. PHYSICAL AND CHEMICAL PROPERTIES

TYPICAL PHYSICAL PROPERTIES ARE GIVEN BELOW. CONSULT PRODUCT DATA SHEET FOR SPECIFIC DETAILS.

APPEARANCE: LIQUID
COLOR: BROWN
ODOR: MILD
ODOR THRESHOLD-PPM: NE
PH: NA
BOILING POINT C(F): GT 316(600)
MELTING POINT C(F): NA
FLASH POINT C(F): GT 204(399) (ASTM D-92)
FLAMMABILITY: NE
AUTO FLAMMABILITY: NE
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-MMHG 20 C: LT 0.1
VAPOR DENSITY: GT 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.879
SOLUBILITY IN WATER: NEGLIGIBLE
PARTITION COEFFICIENT: NE
VISCOSITY AT 40 C, CST: GT 61.2
VISCOSITY AT 100 C, CST: 8.6
POUR POINT C(F): LT -6(21)
FREEZING POINT C(F): NE

MOR 000866

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VOC: LT 4.00 (WT. %); 0.293 LBS/GAL

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE.

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): STABLE.
CONDITIONS TO AVOID: EXTREME HEAT.
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS: PHOSPHORUS OXIDES. SULFUR OXIDES. CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

ORAL TOXICITY (RATS): PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT ESTABLISHED
EYE IRRITATION (RABBITS): PRACTICALLY NON-IRRITATING. (DRAIZE SCORE: 0 OR GREATER BUT 6 OR LESS). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): PRACTICALLY NON-IRRITATING. (PRIMARY IRRITATION INDEX: GREATER THAN 0.5 BUT LESS THAN 3). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBCHRONIC TOXICOLOGY (SUMMARY):

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE B TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER T THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

CHRONIC TOXICOLOGY (SUMMARY):

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SEVERELY TREATED OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: NOT ESTABLISHED.

MOR 000867

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDIT

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THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR BE DISPOSED OF AT AN APPROPRIATE GOVERNMENT WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSA

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED HAZARDOUS WASTES. IT DOES EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MA REGULATED.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.
IMO: NOT REGULATED BY IMO.
IATA: NOT REGULATED BY IATA.

15. REGULATORY INFORMATION

GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS COMPLY WITH TSCA AND DSL.

EU LABELING: EU LABELING NOT REQUIRED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: NONE.

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEAS PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
### NO REPORTABLE INGREDIENTS ###		

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5A2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5E	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12B	20=IL RTK	25=PA RTK
				26=RI RTK

CODE KEY: CARC=CARCINOGEN; SUS=SUSPECTED CARCINOGEN; REPRO=REPRODUCTIVE

16. OTHER INFORMATION

USE: WAY OIL

MOR 000868

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NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

PLEASE CALL THE CUSTOMER RESPONSE CENTER ON 800-662-4525 FOR FORMULATION DISCLOSURE.

FOR INTERNAL USE ONLY: MHC: 0# 0# NE 0# 1#, MPPEC: A, TRN: 600494-00, GLIS: 400389, CMCS97: 970716, REQ: US - MARKETING, SAFE USE: L
EHS APPROVAL DATE: 29JUN1998

LEGALLY REQUIRED INFORMATION IS GIVEN IN ACCORDANCE WITH APPLICABLE INFORMA GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BE OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE U AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDIN WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPE TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING ANY LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDU SHOULD BE PROVIDEDTO HANDLERS AND USERS. USE OR RE-TRANSMISSION OF THE INFORMATION CONTAINED HEREIN IN ANY OTHER FORMAT THAN THE FORMAT AS PRESENT IS STRICTLY PROHIBITED. MOBIL NEITHER REPRESENTS NOR WARRANTS THAT THE FORM CONTENT OR PRODUCT FORMULAS CONTAINED IN THIS DOCUMENT COMPLY WITH THE LAWS ANY OTHER COUNTRY EXCEPT THE UNITED STATES OF AMERICA.

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MSDS for Grainger Stock Number 4ZF13

Page 6 (Last Page)

MOR 000870

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MSDS for Grainger Stock Number 4ZF13

1LJA6,4ZF13
MOBIL

600494-00

600494-00 MOBIL VACTRA OIL NO. 2
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL VACTRA OIL NO. 2

SUPPLIER: MOBIL OIL CORPORATION
NORTH AMERICA MARKETING AND REFINING
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - HOUR EMERGENCY (CALL COLLECT):	609-737-4411	
PRODUCT AND MSDS INFORMATION:	800-662-4525	609-224-4644
CHEMTREC:	800-424-9300	202-483-7616

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:
THIS PRODUCT IS NOT FORMULATED TO CONTAIN INGREDIENTS WHICH HAVE EXPOSURE LIMITS ESTABLISHED BY U.S. AGENCIES. IT IS NOT HAZARDOUS TO HEALTH AS DEFIN BY THE EUROPEAN UNION DANGEROUS SUBSTANCES/PREPARATIONS DIRECTIVES. SEE SEC 15 FOR A REGULATORY ANALYSIS OF THE INGREDIENTS.

SEE SECTION 15 FOR EUROPEAN LABEL INFORMATION.
SEE SECTION 8 FOR EXPOSURE LIMITS (IF APPLICABLE).

3. HAZARDS IDENTIFICATION

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

EFFECTS OF OVEREXPOSURE: NO SIGNIFICANT EFFECTS EXPECTED.

EMERGENCY RESPONSE DATA: BROWN LIQUID. DOT ERG NO. - NA

4. FIRST AID MEASURES

EYE CONTACT: FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, CALL A PHYSICIAN.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.

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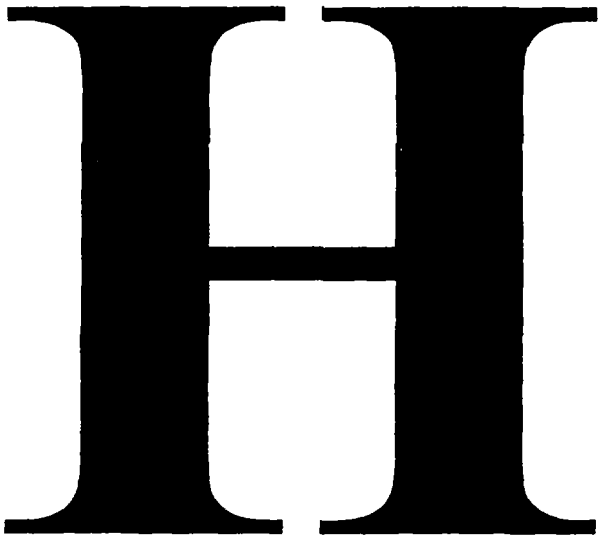
THE MOREY CORPORATION



MOR 000872

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

MAR 04 1996

THE MOREY CORP.

MATERIAL SAFETY DATA SHEET
MSDS

Heraeus Inc. Cermalloy Division
24 Union Hill Industrial Park
West Conshohocken, PA 19428

Office Telephone: (215)825-6050
Emergency Telephone: (800)255-3924
Date Prepared: 1/92
Date Revised: 4/26/95

Section 1: IDENTIFICATION

Product Name: PD860002SP, PD860002SA and PD860002S surface mount non-conductive adhesive. Also Pd 911 .
CAS Registry Number: not applicable since product is a mixture.

Section 2: COMPONENT HAZARD DATA (3)

Hazardous Components	CAS No.	Exposure Limits
epoxy resin	25068-38-6	not established
silica, amorphous	7631-86-9	10mg/M3 ACGIH (1)

(1) TLV is very unlikely to be reached since material is in the paste form; hence no airborne particles. Provide adequate ventilation in the firing room to remove any evolved fumes.

(2) Supplementary data on lead attached if applicable.

(3) Per 29 CFR 1910 the mixture has not been tested as a whole. All hazardous components which comprise >=1% of the mixture (0.1% if carcinogenic) are listed. Percentages of individual components are not listed as this information is considered a Trade Secret; it is not required that it be disclosed.

Section 3: PHYSICAL DATA

Appearance and Odor: Physical State - thick paste
Color - red
Odor -mild
Initial Boiling Point of Organic Mixture: (>400 ^{o}F)
Specific Gravity: 1
Vapor Pressure (Estimated for mixture, 20°C): N/AP
Vapor Density (Air = 1): N/AP
Evaporation Rate (Estimated for mixture, n-butyl acetate = 1, 20°C): N/AP
Solubility in water: insoluble

MOR 000873

Section 4: FIRE, REACTIVITY, AND EXPLOSION HAZARD DATA
Flash Point (Most flammable solvents): (>200 ^{O}F)
Autoignition Temperature (Most Flammable Solvents):N/AV
Flammable Limits in Air (Most Flammable Solvent):N/AV
Extinguishing Media: Water Fog, Alcohol Foam, Dry Chemical
Special Fire Fighting Procedures: Cool exposed containers with water. When fighting use NIOSH approved self-contained breathing apparatus with full face piece operated in positive pressure mode, as evolved fumes are toxic and cause respiratory irritation.
Unusual Fire and Explosion Hazards: Store below flash point away from open flame or sparks.
Stability: The material is stable under normal use conditions. Avoid temperatures > 40oC and moisture.
Incompatibility: Will not react with water. Avoid mixing with strong oxidizing agents, acids, and caustics.
Hazardous Decomposition Products: Combustion produces carbon monoxide, carbon dioxide, and various hydrocarbons.
Hazardous Polymerization: Will not occur in masses in syringe or jar.

Section 5: Health Hazards of Components *

OSHA Permissible Exposure Limit: Not Established for Mixture

Components listed as carcinogenic by NTP, IARC, or OSHA: None

Primary Routes of Entry:
Organic Components - Inhalation, Skin Absorption
Inorganic Components - Ingestion

ROUTE EXPOSURE	ACUTE & CHRONIC SYSTEMS	MEDICAL CONDITIONS AGGRAVATED	EMERGENCY FIRST AID
Inhalation	Irritant	Unknown	Remove to fresh air. If breathing difficult give oxygen. If breathing has stopped, start artificial respiration.
Skin Contact	Irritant	Unknown	Remove contaminated clothing and launder before reuse. Wash thoroughly with soap and water.
Eye Contact	Moderate	Unknown	Flush with running water for 15 mins. lifting upper and lower lids.

Ingestion	Irritation of the GI system	Unknown	Drink large quantities of water

* If necessary, copies of toxicology studies provided to HICD by the manufacturers of the above hazardous components can be supplied. Synergistic or additive effects of the above chemicals are unknown, as are the effects of exposure to these chemicals in addition to others present in the workplace.

** In all cases keep individuals warm and quiet and get medical attention.

Section 6: PERSONAL PROTECTION AND CONTROLS

Personal Protection: Avoid prolonged skin contact.
Respiratory: Not required if local exhaust is satisfactory. Ten (10) air changes per hour are recommended. If overexposure occurs, use NIOSH-OSHA approved air supply respirator suitable for organic vapors. Administrative or engineering controls should be implemented to reduce exposure .
Eye: Chemical splash goggles or OSHA approved glasses.
Skin: Solvent resistant gloves
Engineering Controls: Recommended ventilation, provide sufficient mechanical (general or local exhaust) ventilation to maintain concentrations below TLV -10 air changes per hour.
Hygienic Practices: Prevent eye contact with glasses or goggles, minimize skin contact, use with adequate ventilation to minimize inhalation of vapor. Do not smoke or eat in work areas. Wash hands thoroughly prior to smoking or eating.

Section 7: STORAGE, SPILL, AND DISPOSAL

Special storage conditions: Keep containers closed and sealed when not in use. Steps to be taken in case material is released or spilled:
Clean spill with disposable paper towels (wear rubber gloves) and wash area with soap and water.
Waste Disposal Method: Dispose in accordance with all local, state and federal regulations.
EPA Waste Class:

Section 8: TRANSPORTATION

DOT ID No.

Section 9: REFERENCES

This MSDS is compilation of information supplied in the MSDS's obtained from the manufacturers of the chemicals present in this product. Also, 29 CFR.1210 was consulted for TLV information.

*** This information is for guidance, and is furnished without warranty of any kind. It is a compilation of data believed to be reliable, but Heraeus Incorporated, Cermalloy Division assumes no obligation or liability for its completeness or accuracy. page (3)

Rec. 6/5/00

MATERIAL SAFETY DATA SHEET

Manufacturer

Name : HI-GRADE ALLOY CORP.
Address : 17425 S. LAFLIN AVE
EAST HAZEL CREST, IL 60429
Phone # : 708-798-8300
Emergency # : 800-535-5053 (INFO TRAC)

Date Prepared : *04-28-97*

flux

CHEMICAL IDENTITY

Product name : *HI-GRADE #3592*

HAZARDOUS INGREDIENTS

Material or Component	%	TWA	STEL	Toxicity Data
ISOPROPANOL	*90-95*	*400 PPM*	*500 PPM*	*CAS : 67-63-0*
ORGANIC ACID	*0-5*	*100 PPM*	*100 PPM*	*CAS: 68603-87-2*

The HI-GRADE ALLOY CORP. reserves the right to withhold the specific chemical identity of its components as a trade secret; however, all essential data provided does pertain to the specific chemicals utilized in the formulation of our product.

PHYSICAL DATA

Melt/Freeze Point :	*N/A*	Specific Gravity :	*.826 - .808*
Boiling Point :	*175 F*	Solubility in water :	*SOLUBLE*
Vapor Pressure :	*33 MM HG @ 68 F*	% Volatile by volume :	*90 %*
Vapor Density :	*2.1*	Evaporation Rate :	*1.7*
Color :	*CLEAR*	pH (as is) :	*4.0*
Odor :	*ALCOHOLIC*	pH (1% solution) :	*3.5*

FIRE & EXPLOSION DATA

Flash Point : *54 F TCC*
Autoignition Temperature : *750 F*
Extinguishing Media : *WATER*
Flammable Limits (Air)
Upper Limit : *12*
Lower Limit: 2
Special fire fighting procedures :
USE WATER TO COOL FIRE EXPOSED CONTAINERS. WEAR PROTECTIVE CLOTHING.
Unusual fire & explosion hazards :
FLAMMABLE LIQUID VAPORS MAY TRAVEL GREAT DISTANCES TO IGNITION SOURCE & FLASH BACK.

REACTIVITY DATA

STABLE. *HAZARDOUS POLYMERIZATION WON'T OCCUR.*
Conditions to avoid :
DIRECT HEAT, OPEN FLAMES, STORAGE IN ALUMINUM.
Incompatability :
ANHYDRIDES, HALOGENS, PHOSPHORUS, TRICHLORIDES, MONOMERS, ALDEHYDES.
Hazardous decomposition products :
CARBON DIOXIDE/CARBON MONOXIDE, UNIDENTIFIED ORGANICS DURING COMBUSTION.

ACUTE & CHRONIC EFFECTS OF OVEREXPOSURE

Inhalation :
VAPORS MAY CAUSE HEADACHES, DIZZINESS.
Skin contact :
PROLONGED CONTACT MAY CAUSE IRRITATION AND DERMATITIS.
Skin absorption :
PROLONGED CONTACT MAY CAUSE IRRITATION AND DERMATITIS.
Eye contact :
VAPORS MAY BE IRRITATING, LIQUID MAY DAMAGE EYE TISSUE.
Ingestion :
MAY CAUSE PERSISTENT NAUSEA, VOMITING, ABDOMINAL PAIN.

EMERGENCY & FIRST AID PROCEDURES

Eyes :
IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES.
GET PROMPT MEDICAL ATTENTION.
Skin :
WASH AFFECTED AREAS WITH SOAP & WATER.
REMOVE CONTAMINATED CLOTHING.
IF IRRITATION PERSISTS GET MEDICAL ATTENTION.
Inhalation :
REMOVE FROM EXPOSURE.
IF BREATHING IS STOPPED, ADMINISTER ARTIFICIAL RESPIRATION
GET PROMPT MEDICAL ATTENTION.
Ingestion :
DO NOT INDUCE VOMITING.
GIVE LUKEWARM WATER.
GET EMERGENCY MEDICAL ATTENTION.
Decontamination procedures :
NO SPECIAL PROCEDURES KNOWN TO US.

MPLOYEE PROTECTION INFORMATION

Ventilation requirements :
FACE VELOCITY > 2.1 CUBIC FEET/MINUTE IN CONFINED AREAS.
Recommended personal protection equipment

Respirators :
NIOSH/MSHA APPROVED ORGANIC VAPOR CARTRIDGE.
Eyes :
SPLASH GOGGLES OR FACE SHIELD.
Gloves :
CHEMICALLY RESISTANT GLOVES.
Special clothing & equipment :
EYE WASH & SAFETY SHOWER SHOULD BE AVAILABLE AT ALL TIMES.
LONG SLEEVE CLOTHING SHOULD BE WORN.

PRECAUTIONARY STATEMENT

As conditions and methods of use are beyond our control, we DO NOT assume any responsibility and expressly disclaim any liability for any use of the material. Information contained here in is believed to be true but all suggestions are made without any warranty.

GROUND ALL HANDLING EQUIPMENT ; AVOID ALL POTENTIAL IGNITION SOURCES

DISPOSAL, SPILL OR LEAK PROCEDURES

Aquatic toxicity classification :
NOT ESTABLISHED
Procedure for release or spill :
ELIMINATE SOURCES OF IGNITION. STOP DISCHARGE SOURCE.
USE ABSORBENTS OR PUMP INTO STORAGE CONTAINER.
Regulatory Information :
ALL COMPONENTS IN THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.
IF SPILLED, NO REPORTING UNDER CERCLA IS REQUIRED. SARA TITLE III,
SECTIONS 311/312 CLASSIFIES THIS PRODUCT UNDER IMMEDIATE HEALTH, DELAYED HEALTH, FIRE CATAGORIES. CARCINOGENICITY CLASSIFICATION: NOT LISTED UNDER IARC, ACGIH, OR NTP.

THIS MSDS IS BEING PROVIDED TO YOUR COMPANY FOR THE PURPOSE OF PROVIDING CURRENT HEALTH AND SAFETY INFORMATION TO YOUR MANAGEMENT AND FOR YOUR EMPLOYEES WHO WORK WITH THIS MATERIAL.
PLEASE READ THE INFORMATION ON THESE SHEETS, AND THEN PROVIDE THIS INFORMATION TO THOSE PEOPLE AT YOUR COMPANY WHOSE RESPONSIBILITY IT IS TO COMPLY WITH FEDERAL AND STATE RIGHT TO KNOW REGULATIONS. ALSO MAKE THIS INFORMATION AVAILABLE TO ANY EMPLOYEE WHO REQUESTS IT.

TRANSPORTATION INFORMATION

DOT shipping name : FLAMMABLE LIQUID N.O.S. (ground shipment)
ICAO shipping name: ALCOHOL N.O.S. (air shipment)
Hazard class : 3
UN/NA # : 1993 (ground shipment) UN/NA # : UN 1987 (air shipment)
Packaging group : II (ground shipment) III (air shipment)
HMIS rating
Health : 1
Flammability : 3
Reactivity: 0

Rec. 4/3/00 FF

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE: 1B31LSE

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME: HUMISEAL
GENERAL INFORMATION:(718) 932-0800 FAX: (718) 932-4345
EMERGENCY;CHEMTREC:(800) 424-9300, ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.
ADDRESS: 26-60 Brooklyn Queens Expressway West, Woodside, NY 11377
CHEMICAL NAME AND SYNONYMS: Acrylic Conformal Coating
TRADE NAME AND SYNONYMS: HUMISEAL 1B31LSE - Experimental 1B31 acrylic conformal coating in proposed VOC exempt solvent
DATE OF REVISION: July 1, 1998
PREPARED BY: Edward Mines
SARA:This product contains no toxic chemicals listed in section 3A subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372 (SARA).
TSCA:All the chemical components are TSCA listed.
CAIR: Not/Appl.
STATES RIGHT-TO KNOW LAWS: 100% of all chemical ingredients are listed in section 3 of this MSDS. Information indicated as proprietary will be released to a physician or appropriate authority in an emergency.
S.C.A.Q.M.: VOC 184 grams per liter with exemption, 620 gram per liter without exemption.
HMIS/NFPA: Health 1 Fire 3 Reactivity 0
EXTREMELY HAZARDOUS SUBST. LIST (TPQ): Does not apply.
SHIPPING CLASS: UN 1263, Paint, Flammable Liquid

MATERIAL	WT.%	ACGIH	CAS#
Section 3A (Sara RQ)			
Section 3B			
Acrylic Polymer	29-35	N/E	Prop.
t butyl acetate	45-55	N/E	540-88-5
hexyl acetates	15-25	N/E	88230-35-7

BOILING POINT: 208F
VAPOR PRESSURE: 34mm @ 25C
VAPOR DENSITY: NE
SPECIFIC GRAVITY: .92
PERCENT VOLATILE BY VOLUME (%): 60-80%
EVAPORATION RATE: 2.4
SOLUBILITY IN WATER: Negligible - less than 0.1 percent.
APPEARANCE AND ODOR: Water clear, low viscosity liquid, fruity odor.
FLASH POINT (METHOD USED): (Tag Closed Cup): 62F
FLAMMABLE LIMITS: LEL: NE UEL: NE
EXTINGUISHING MEDIA: Foam, carbon dioxide and dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Fight as a flammable liquid fire; wear self contained breathing apparatus.UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor is flammable and heavier than air and may travel to source of ignition and flashback.
ROUTES OF ENTRY: SKIN: Yes. INHALATION: Yes. INGESTION: Yes.
EFFECTS OF EXPOSURE:
Eyes: Short term contact may result in slight eye irritation and conjunctivitis.Prolonged contact with liquid can result in corneal burns.High vapor concentrations>approx. 1000PPM are irritating to the eyes.

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE: 1B31LSE

Skin: Prolonged and repeated liquid contact can cause defatting and drying of the skin, which may result in skin irritation and dermatitis. Dermal LD(50)(Rabbits):>2000mg/Kg.Skin absorption may add significantly to exposure.
Inhalation: Causes central nervous system depression. Mild exposure causes
dizziness, weakness, headache, nausea, etc.. More severe exposures, greater than approx. 1000PPM, may cause respirator depression, convulsions and death.Cardiac arrhythmias, including fatal ventricular fibrillation, may occur.Ihl-rat LCLo: 4000PPM/4 hrs. Olfactory detection level is 50 PPM. However, sense of smell is dulled by continuous exposure, so unsatisfactory as a means of detection. Ingestion: Moderately toxic, LD(50)(rats):5g/kg. LD(Lo)(Human):50mg/kg. Causes burning sensation in mouth and stomach and is likely to produce symptoms similar to those described for inhalation. More serious hazard posed by vomiting after swelling resulting in aspiration(breathing) of vomitus into lungs-which may resulting chemical pneumonitis and pulmonary edema/hemorrhage,and may be fatal
CARCINOGENICITY: This product is not listed by the National Toxicology Program the International Agency for Research on Cancer or the Occupational Safety and Health Administration.
EMERGENCY AND FIRST AID PROCEDURES: Eyes: Flush with water for 15 minutes while holding eyelids open.Get medical attention.
Skin: Flush with water while removing contaminated clothing and shoes, follow by washing with soap and water. Do not reuse clothing or shoes until properly cleaned.If irritation persists, get medical attention.
Inhalation:Remove victim to fresh air and provide oxygen if breathing is difficult.Give artificial respiration if not breathing.Get medical attention.Ingestion:
DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.Get medical attention
immediately.
NOTE TO PHYSICIAN: If more than 2 ml/kg has been ingested, and vomiting has not occurred, emesis should be induced with supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric
lavarge using a cuffed endotracheal tube should be considered.
ACTION LEVEL: 4g/L Hippuric Acid level in urine(sampled at end of workday).
STABILITY (choose one):( )UNSTABLE (X) STABLE.
CONDITIONS TO AVOID: Not Applicable
INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide.
HAZARDOUS POLYMERIZATION (choose one): ()MAY OCCUR (X)WILL NOT OCCUR.
CONDITIONS TO AVOID: Not Applicable
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material (sand, vermiculite, etc.) Large spills may be scooped up with non-sparking tools. Remove sources of ignition. Provide ventilation and/or respiratory protection.
WASTE DISPOSAL METHOD: Disposal of HumiSeal products requires strict compliance with local, state and federal regulations pertaining to disposing hazardous waste materials. Contact the appropriate environmental agencies.
RESPIRATORY PROTECTION (SPECIFY TYPE): Respirator-organic vapor type if TLV is exceeded(NIOSH approved).
VENTILATION:LOCAL EXHAUST: Yes.
MECHANICAL (GENERAL): Explosion proof.
SPECIAL: Designed and maintained to provide volume and patterned to prevent vapor. OTHER: Concentration in excess of TLV or PEL.
PROTECTIVE GLOVES: Impervious to chemical and petroleum(BUNA-N,Solvex etc.).
EYE PROTECTION: Chemical type goggles must be worn.
OTHER PROTECTIVE EQUIPMENT: Prevent contact to workers as required.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks and open flames. Store at ambient temperature. Ground to protect from static charge.Keep container closed.Use adequate ventilation.

HumiSeal®

PROTECTIVE COATINGS

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THE MOREY CORP.

FACSIMILE TRANSMISSION FROM HUMISEAL DIVISION

HumiSeal Division/Chase Corporation
26-60 B.Q.E. West • Woodside, N.Y. 11377 • U.S.A.
Phone: 718-932-0800 • Fax: 718-932-4345

"HumiSeal Conformal Coating Selector Guide" Offer

To receive your FREE "HumiSeal Conformal Coating Selector Guide", please call customer service at 718-932-0800 or fill out the information below and return it to us by fax at 718-932-4345.

NAME: _____

COMPANY: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP: _____

PHONE: _____

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HumiSeal®
PROTECTIVE COATINGS

HumiSeal 1B31LOC
Acrylic Coating

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HumiSeal PROTECTIVE COATINGS

System Description

HumiSeal 1B31LOC is a very low VOC - under 250 grams per liter* - non ODC solvent based conformal coating that complies with all current air quality regulations. 1B31LOC is a fast air drying, single component, acrylic coating providing excellent moisture and environmental protection for printed circuit assembles. The final film demonstrates excellent flexibility, is easily repairable and retains all of the film properties of the standard 1B31. Qualification to MIL-I-46058C, Type AR. Fluoresces under UV light for ease of inspection.. (Federal EPA VOC exemption for the primary solvent).

Properties of Liquid HumiSeal

Specific weight, (lb. per gal.) per ASTM, Meth. D1475	11.2 ± .2
Solids Content, % by weight per Fed-Std-141, Meth.4044	23 ± 3
Viscosity, centipoise per Fed-Std–141, Meth. 4287	500 max.
Flashpoint, °C (°F) per ASTM, Meth. D56	22°C (71°F)
Drying Time to Handle per Fed-Std-141, Meth.4061	10 minutes
Recommended Curing Conditions	24 hrs @ rm. temp or 30 min.@ 170°F
Time Required to Reach Optimum Properties	7 days
Thinner, if needed (dipping & brushing)	Contact Factory
(spraying)	Contact Factory
Pot Life at Room Temperature	12 months
Shelf Life at Room Temperature	12 months
V.O.C. (grams per liter)	<250

Properties of Cured HumiSeal

Thermal Properties	
Continuous Use Operating Range °C(°F)	-65°C (-85°F) to +125°C (257°F)
Thermal Shock, per MIL-I-46058C	Passes
Solderability	Excellent
Coefficient of Thermal Expansion - DMA	55ppm / °C
Glass Transition Temperature - TMA	14°C
Young's Modulus - DMA	7154psi
Physical Properties	
Clarity	Transparent
Build per Dip, mils, per ASTM,Meth.D823	2
Flexibility, per MIL-I-46058C	Excellent
Adhesion, per ASTM, Meth. D2197	Excellent
Flammability, per ASTM, Meth. D635	Self-Extinguishing
Weather Resistance	Very Good
Electrical Properties	
Dielectric Withstand Voltage, volts per MIL-I-46058C	>1,500
Dielectric Breakdown Voltage, volts, per ASTM, Meth. D149	7500
Dielectric Constant, at 1MHz and 25°C, per ASTM-D150-65T	2.5
Dissipation Factor, at 1MHz and 25°C, per ASTM-D150-65T	0.01
Insulation Resistance, ohms, per MIL-I-46058C	800×10^{12}
Moisture Resistance, ohms, per MIL-I-46058C	60×10^{9}
Chemical Properties	
Main Constituent	Acrylic
Fungus Resistance, per ASTM-G21	Excellent
Resistance to Chemicals	Fair

Values are not intended for use in preparation specifications

HumiSeal 1B31LOC
Acrylic Coating

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APPLICATION

Cleanliness of the substrate is of extreme importance for the successful application of a conformal coating. Surfaces must be free of moisture, dirt, wax, grease and all other contaminants. Contamination under the coating will cause problems which may lead to assembly failures.

HumiSeal coatings may be applied by brush, dip or spray.

Dipping

Depending on the complexity, density and configuration of components on the assembly, it may be necessary to reduce the viscosity of HumiSeal 1B31LOC with HumiSeal Thinner 701 in order to obtain a uniform film. Once optimum viscosity is determined, a controlled rate of immersion and withdrawal (2 to 6" per minute) will further insure even deposition of the coating and ultimately a uniform film. During the application, evaporation of solvent causes an increase in viscosity which should be adjusted by adding small amounts of Thinner 503. Viscosity in the dip tank should be regularly checked by the use of a simple measuring device such as a Zahn or Ford viscosity cup.

Spraying

HumiSeal Type 1B31LOC can be sprayed using conventional spraying equipment. As a rule, the addition of Thinner 701 is necessary to assure a uniform spray pattern resulting in pinhole free film. The amount of thinner and spray pressure will depend on the specific type of spray equipment used. The spraying should be done under an exhaust hood so that the vapor and mist are carried away from the operator.

Brushing

HumiSeal Type 1B31LOC may be brushed with a small addition of HumiSeal Thinner 701. Uniformity of the film depends on component density and operator's technique.

Storage

HumiSeal Type 1B31LOC should be stored at room temperature, away from excessive heat, in tightly closed containers. HumiSeal products may be stored at temperatures of 0-100°F. Avoid direct sunlight. Prior to use, allow the product to equilibrate for 24 hours at 65-90°F.

Caution

Liquid HumiSeal coatings are flammable. Do not use in presence of open flame or sparks. Avoid inhalation of vapors or spray. Use only in well-ventilated areas. Avoid contact with skin and eyes. If contact occurs, wash with soap and water. If swallowed, call physician immediately.

All technical data in this bulletin is based on test results and is believed to be correct. However, since the end use of HumiSeal materials (and the manner of storing and handling them) is beyond our control, we make no warranty-expressed or implied as to the fitness of use, results to be obtained from or effects of use with respect to these materials. Their use shall be solely by the judgment of and at the risk of the user notwithstanding any statement in this bulletin. © Copyright 1992 CHASE CORPORATION

HumiSeal Division Chase Corporation
Woodside, NY 11377-0445/Tel: (718) 932-0800/Fax: (718) 932-4345

HUMISEAL DIVISION/CHASE CORPORATION

HUMISEAL TYPE:1B31LOC

MATERIAL SAFETY DATA SHEET

RECEIVED
MAR 3 0 2000
THE MOREY CORP.

MANUFACTURER'S NAME: HumiSeal
GENERAL INFORMATION: (718)932-0800
FAX:(718)932-4345
EMERGENCY:CHEMTREC;800-424-9300,ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL,LEAK,FIRE,EXPOSURE,OR ACCIDENT INVOLVING CHEMICALS.
ADDRESS : 26-60 Brooklyn Queens Expressway West, Woodside, NY 11377
CHEMICAL NAME AND SYNONYMS: Acrylic Conformal Coating
TRADE NAME AND SYNONYMS: HumiSeal 1B31LOC
DATE OF REVISION: December 29, 1997
PREPARED BY: Jim Lawrence

SARA: This product contains toxic chemicals listed in section 3A subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372 (SARA).TSCA: All the chemical components are TSCA listed.
CAIR: Not/Appl.
STATES RIGHT-TO-KNOW LAWS: 100% of all chemical ingredients are listed in section 3 of this MSDS. Information indicated as proprietary will be released to a physician or appropriate authority in an emergency.
VOC: 127 grams per liter, or 1.06 pounds per gallon
HMIS/NFPA: Health 1 Fire 3 Reactivity 1
EXTREMELY HAZARDOUS SUBST. LIST (TPQ): Does not apply.
SHIPPING CLASS: UN 1263, Paint, Flammable Liquid

MATERIAL	WT.%	ACGIH TLV	CAS NO.
Section 3A (SARA RQ)		TWA: PPM/MgPerM3 STEL:PPM/MgPerM3	
Section 3B			
Chlorobenzotrifluoride	60 - 80	NE/NE NE/NE	98-56-6
Isobutyl Acetate	5 - 10	150/713. NE/NE.	110-19-0
Acrylic Resin	20 - 26	NE/NE NE/NE	PROP.
Optical brightener	<.1	NE/NE	PROP.

BOILING POINT: 284 F.
VAPOR PRESSURE(mm Hg):3.8.
VAPOR DENSITY (AIR = 1): 4.6.
SPECIFIC GRAVITY (H2O=1): .1.34

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE:1B31LOC

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PERCENT VOLATILE BY VOLUME (%): 67.
EVAPORATION RATE (BuAc=1): .3.
SOLUBILITY IN WATER:minimum
APPEARANCE AND ODOR: Water clear, low viscosity liquid, aromatic odor.
FLASH POINT (METHOD USED): 71 F (Tag Closed Cup).
FLAMMABLE LIMITS: LEL: 1.5 UEL: 10.0.
EXTINGUISHING MEDIA: Foam, Carbon dioxide and dry chemical .
SPECIAL FIRE FIGHTING PROCEDURES: Fight as a flammable liquid fire; wear self contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor is flammable and heavier than air and may travel to source of ignition and flashback.

ROUTES OF ENTRY: **SKIN**: No **INHALATION**: Yes **INGESTION**: No

EFFECTS OF OVEREXPOSURE: Skin irritation, redness, blurred vision, edema, dizziness, fatigue, nausea, vomiting, unconsciousness.Moderately irritating to the eyes.Frequent or prolonged contact may irritate the skin and cause dermatitis.High vapor concentrations are irritating to the respiratory tract. Can cause nausea, headache and dizziness, and anesthetic effects.If ingested, the material has a low order of toxicity,however, small amounts of the liquid aspirated into the lungs, or from vomiting, can cause bronchopneumonia or pulmonary edema which can be fatal-
DO NOT INDUCE VOMITING.CARCINOGENICITY: This product is not listed by the National Toxicology Program the International Agency for Research on Cancer or the Occupational Safety and Health Administration.

EMERGENCY AND FIRST AID PROCEDURES: Consult a physician immediately; wash skin with soap and water. Flush eyes with water for at least 15 minutes and see a physician.
INGESTION: **DO NOT INDUCE VOMITING.**Keep at rest and
GET MEDICAL HELP IMMEDIATELY. Keep head lower than hips to prevent aspiration into lungs.Provide oxygen if breathing is difficult.
NOTE TO THE PHYSICIAN: If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.

STABILITY (Choose one): ( )UNSTABLE (X) STABLE.
CONDITIONS TO AVOID: Not Applicable .INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Carbon dioxide
HAZARDOUS POLYMERIZATION (choose one): ( )MAY OCCUR (X) WILL NOT OCCUR.
CONDITIONS TO AVOID: Not Applicable .
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material (sand, vermiculite, etc.). Large spills may be scooped up

with non -sparking tools. Remove sources of ignition. Provide ventilation and/or respiratory protection.
WASTE DISPOSAL METHOD: Disposal of HumiSeal products requires strict compliance with local, state and federal regulations pertaining to disposing hazardous waste materials. Contact the appropriate environmental agencies.
RCRA WASTE No./RQ:None.
CERCLA: None.

RESPIRATORY PROTECTION (SPECIFY TYPE): Respirator-organic vapor type if TLV is exceeded.
VENTILATION:LOCAL EXHAUST: Yes **MECHANICAL (GENERAL):** Explosion proof.
SPECIAL: Designed and maintained to provide volume and patterned to prevent vapor.
OTHER: Concentration in excess of TLV or PEL.
PROTECTIVE GLOVES: Impervious to chemicals and petroleum.
EYE PROTECTION: Chemical type goggles must be worn.
OTHER PROTECTIVE EQUIPMENT: Prevent contact to workers as required.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks and open flames. Store at ambient temperature. Ground to protect from static charge.
OTHER PRECAUTIONS: Keep container closed. Use adequate ventilation. Avoid contact with eyes,skin and clothing.

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THE MOREY CORP.

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE 1A33

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME: HumiSeal
GENERAL INFORMATION:(718) 932-0800
FAX: (718) 932-4345
EMERGENCY;CHEMTREC;800-424-9300, ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.
ADDRESS: 26-60 Brooklyn Queens Expressway West, Woodside, NY 11377
CHEMICAL NAME AND SYNONYMS: Polyurethane Conformal Coating
TRADE NAME AND SYNONYMS: HumiSeal 1A33
DATE OF REVISION: NOV.6, 1995
PREPARED BY: Jim Lawrence

SARA: This product contains toxic chemicals listed in section 3A subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372 (SARA).TSCA:All the chemical components are TSCA listed.
CAIR:Not/Appl.
WARNING: This product contains a chemical known to the state of California to cause birth defects or other eproductive harm.
STATES RIGHT-TO-KNOW LAWS: 100% of all chemical ingredients are listed in section 3 of this MSDS. Information indicated as proprietary will be released to a physician or appropriate authority in an emergency.
S.C.A.Q.M.: VOC 508 grams per liter, HMIS/NFPA: Health 3 Fire 3 Reactivity 0
EXTREMELY HAZARDOUS SUBST. LIST (TPQ): Does not apply.
SHIPPING CLASS:UN 1263, Paint, Flammable Liquid

MATERIAL	WT.%	ACGIH TLV TWA:PPM/MgPerM3 STEL:PPM/MgPerM3	CAS NO.
Section 3A(Sara RQ)			
Xylene (1% SARA)	35-44	100/434 651/651	1330-20-7
Ethyl Benzene(1% SARA)	2-6	100/434 543/543	100-41-4
Toluene(1% SARA)	2-6	100/377 565/565	108-88-3
Methyl Ethyl Ketone-(1% SARA)	2-6	200/590 885/885	78-93-3
Section 3B			
Oil Mod. polyurethane	44-50	N/E	Prop.
Optical brightener	.1	N/E	Prop.
Fungicide	.1	N/E	Prop.

BOILING POINT: 279 F.
VAPOR PRESSURE(mm Hg): 19.4.
VAPOR DENSITY(AIR= 1): 3.6.
SPECIFIC GRAVITY (H2O=1): .93.
PERCENT VOLATILE BY VOLUME (%): 45-55 .
EVAPORATION RATE (BuAc=1): 3.17.
SOLUBILITY IN WATER: Negligible, less than 0.1 percent.
APPEARANCE AND ODOR: Water clear liquid, solvent odor.

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE 1A33

FLASH POINT (METHOD USED): 30 F (Tag Closed Cup).
FLAMMABLE LIMITS: LEL:1.0 UEL: 7.0.
EXTINGUISHING MEDIA: Foam,
Carbon dioxide and dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Fight as a flammable liquid fire; wear self contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor is flammable and heavier than air and may travel to source of ignition and flashback.
ROUTES OF ENTRY: SKIN: Yes INHALATION: Yes INGESTION: Yes EFFECTS OF OVEREXPOSURE:Eyes: Liquid is minimally irritating to the eyes.High vapor concentration may also be irritating.SKIN: Contact with liquid is mildly irritating.Prolonged or repeated contact can result in defatting and drying of the skin, resulting in dermatitis.
INHALATION: Vapors may be irritating to the nose, throat and respiratory tract.High vapor concentrations may cause CNS depression.
INGESTION: Liquid is moderately toxic and can be harmful if swallowed.
May produce CNS depression, may result in vomiting.Aspiration of vomitus must be avoided as even small quantities may result in Aspiration Pneumonitis. Early to moderate CNS depression may be evidenced by giddiness,headache,dizziness and nausea.
EXTREME CASES: Unconsciousness and death may occur. Aspiration Pneumonitis may be evidenced by coughing,labored breathing and cyanosis(bluish skin), in severe cases death may occur. Preexisting eye skin and respiratory conditions may be aggravated by exposure to this product. Near fatal exposures may result in congestive effects to a wide variety of organs.Lab animals exposed by various routes to high doses showed evidence in the liver,kidneys,lungs,spleen,heart and adrenal. Rats exposed to vapor during pregnancy showed embryo/fetotoxic effects. Mice exposed orally to doses producing maternal toxicity also showed embryo/fetotoxic effects.
CARCINOGENICITY: This product is not listed by the National Toxicology Program the International Agency for Research on Cancer or the Occupational Safety and Health Administration.
EMERGENCY AND FIRST AID PROCEDURES: EYE CONTACT: Flush with water for 15 minutes while holding eyelids open.Get medical attention.
SKIN CONTACT: Wash with soap and water, remove contaminated clothing, do not use until cleaned. If persistent irritation occurs, get medical attention.
INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing.
GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.
GET MEDICAL ATTENTION: NOTE TO THE PHYSICIAN: If more than 2ml/kg has been ingested and vomiting has not occurred, emesis should be induced with supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.

STABILITY (choose one): ( )UNSTABLE (X)STABLE.
CONDITIONS TO AVOID: Not Applicable.
INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Carbon dioxide.
HAZARDOUS POLYMERIZATION (choose one): ( )MAY OCCUR (X)WILL NOT OCCUR.
CONDITIONS TO AVOID: Not Applicable.
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material (sand, vermiculite, etc.). Large spills may be scooped up with non-sparking tools. Remove sources of ignition.Provide ventilation and/or respiratory protection.
WASTE DISPOSAL METHOD: Disposal of HumiSeal products requires strict compliance with local, state and federal regulations pertaining to disposing hazardous waste materials. Contact the appropriate environmental agencies.RCRA Waste No./RQ:Toluene; U220/1000Lbs., MEK;U159/5000Lbs., Xylene;U239/1000lbs. Ethyl Benzene

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE 1A33

;No./1000lbs. CERCLA: Xylene;1000lbs. Ethyl Benzene 1000lbs. Toluene;1000Lbs.,MEK;5000Lbs.

RESPIRATORY PROTECTION (SPECIFY TYPE): Respiratory-organic vapor type if TLV is exceeded (NIOSH approved).
VENTILATION; LOCAL EXHAUST: Yes.
MECHANICAL (GENERAL): Explosion proof
SPECIAL: Designed and maintained to provide volume and patterned to prevent vapor.
OTHER: Concentration in excess of TLV or PEL.
PROTECTIVE GLOVES: Impervious to chemical and petroleum(BUNA-N,Solvex etc.).EYE PROTECTION:Chemical type goggles must be worn.
OTHER PROTECTIVE EQUIPMENT: Prevent contact to workers as required.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks and open flames. Store at ambient temperature.Ground containers when pouring to prevent static spark.Keep containers closed.Use adequate ventilation.

Rec. 4/3/00 EAP

UMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE:THINNER 801

TMC # 1261583

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME: HUMISEAL
GENERAL INFORMATION: (718) 932-0800 **FAX:** (718) 932-4345
EMERGENCY;CHEMTREC: (800) 424-9300, ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.
ADDRESS: 26-60 Brooklyn Queens Expressway West, Woodside, NY 11377
CHEMICAL NAME AND SYNONYMS: conformal coating thinner
TRADE NAME AND SYNONYMS: thinner for HumiSeal 1B31LSE
DATE OF REVISION: May 18, 1999
PREPARED BY: Edward Mines
SARA: This product contains no toxic chemicals listed in section 3A subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372 (SARA).
TSCA: All the chemical components are TSCA listed.
CAIR: Not/Appl.
STATES RIGHT-TO KNOW LAWS: 100% of all chemical ingredients are listed in section 3 of this MSDS. Information indicated as proprietary will be released to a physician or appropriate authority in an emergency.
S.C.A.Q.M.: VOC 250 grams per liter with exemption, 860 grams per liter without exemption. Exemption for primary solvent is pending.
HMIS/NFPA: Health 1 Fire 3 Reactivity 0
EXTREMELY HAZARDOUS SUBST. LIST (TPQ): Does not apply.
SHIPPING CLASS: UN 1263, Paint, Flammable Liquid

MATERIAL	WT.%	ACGIH TLV TWA: PPM/MgPerM3 STEL:PPM/MgPerM3	CAS#
Section 3A (Sara RQ)			
Section 3B			
t butyl acetate	71	200/950 NE/NE	540-88-5
hexyl acetates	29	NE/NE NE/NE	88230-35-7

BOILING POINT: 208F
VAPOR PRESSURE (mm Hg): 85
VAPOR DENSITY (AIR =1): 2.0
SPECIFIC GRAVITY: .86
PERCENT VOLATILE BY VOLUME (%): 100
EVAPORATION RATE (BuAc = 1) : 2.8
SOLUBILITY IN WATER: Negligible
APPEARANCE AND ODOR: Water clear, low viscosity liquid, fruity odor.
FLASH POINT (METHOD USED): (Tag Closed Cup): 60F
FLAMMABLE LIMITS: LEL: 1.26 UEL: 6.88
EXTINGUISHING MEDIA: Foam, carbon dioxide and dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Fight as a flammable liquid fire; wear self contained breathing apparatus. **UNUSUAL FIRE AND EXPLOSION HAZARDS:**

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Vapor is flammable and heavier than air and may travel to source of ignition and flashback.
ROUTES OF ENTRY: SKIN: Yes. **INHALATION:** Yes. **INGESTION:** Yes.
EFFECTS OF EXPOSURE:
Eyes: Short term contact may result in slight eye irritation and conjunctivitis.Prolonged contact with liquid can result in corneal burns.High vapor concentrations>approx. 1000PPM are irritating to the eyes.
Skin: Prolonged and repeated liquid contact can cause defatting and drying of the skin, which may result in skin irritation and dermatitis. Dermal LD(50)(Rabbits):>2000mg/Kg.Skin absorption may add significantly to exposure.
Inhalation: Causes central nervous system depression. Mild exposure causes dizziness, weakness, headache, nausea, etc.. More severe exposures, greater than approx. 1000PPM, may cause respirator depression, convulsions and death.Cardiac arrhythmias, including fatal ventricular fibrillation, may occur.1h1-rat LCLo: 4000PPM/4 hrs. Olfactory detection level is 50 PPM. However, sense of smell is dulled by continuous exposure, so unsatisfactory as a means of detection. Ingestion: Moderately toxic, LD(50)(rats):5g/kg. LD(Lo)(Human):50mg/kg. Causes burning sensation in mouth and stomach and is likely to produce symptoms similar to those described for inhalation. More serious hazard posed by vomiting after swelling resulting in aspiration(breathing) of vomitus into lungs-which may resulting chemical pneumonitis and pulmonary edema/hemorrhage,and may be fatal
CARCINOGENICITY: This product is not listed by the National Toxicology Program the International Agency for Research on Cancer or the Occupational Safety and Health Administration.
EMERGENCY AND FIRST AID PROCEDURES: Eyes: Flush with water for 15 minutes while holding eyelids open.Get medical attention.
Skin: Flush with water while removing contaminated clothing and shoes, follow by washing with soap and water. Do not reuse clothing or shoes until properly cleaned.If irritation persists, get medical attention.
Inhalation:Remove victim to fresh air and provide oxygen if breathing is difficult.Give artificial respiration if not breathing.Get medical attention.Ingestion:
DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.Get medical attention immediately.
NOTE TO PHYSICIAN: If more than 2 ml/kg has been ingested, and vomiting has not occurred, emesis should be induced with supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavarge using a cuffed endotracheal tube should be considered.
ACTION LEVEL: 4g/L Hippuric Acid level in urine(sampled at end of workday).
STABILITY (choose one):( )UNSTABLE (X) STABLE.
CONDITIONS TO AVOID: Not Applicable
INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide.
HAZARDOUS POLYMERIZATION (choose one): ()MAY OCCUR (X)WILL NOT OCCUR.
CONDITIONS TO AVOID: Not Applicable

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material (sand, vermiculite, etc.) Large spills may be scooped up with non-sparking tools. Remove sources of ignition. Provide ventilation and/or
respiratory protection.
WASTE DISPOSAL METHOD: Disposal of HumiSeal products requires strict compliance with local, state and federal regulations pertaining to disposing hazardous waste materials. Contact the appropriate environmental agencies.
RESPIRATORY PROTECTION (SPECIFY TYPE): Respirator-organic vapor type if TLV is exceeded(NIOSH approved).
VENTILATION:LOCAL EXHAUST: Yes.
MECHANICAL (GENERAL): Explosion proof.
SPECIAL: Designed and maintained to provide volume and patterned to prevent vapor. **OTHER:** Concentration in excess of TLV or PEL.
PROTECTIVE GLOVES: Impervious to chemical and petroleum(BUNA-N,Solvex etc.),
EYE PROTECTION: Chemical type goggles must be worn.
OTHER PROTECTIVE EQUIPMENT: Prevent contact to workers as required.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks and open flames. Store at ambient temperature. Ground to protect from static charge.Keep container closed.Use adequate ventilation.

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THE MOREY CORP.

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE: THINNER 521

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME: HumiSeal
GENERAL INFORMATION:(718) 932-0800
FAX: (718) 932-4345
EMERGENCY;CHEMTREC;(800) 424-9300, ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.
ADDRESS: 26-60 Brooklyn Queens Expressway West, Woodside, NY 11377
CHEMICAL NAME AND SYNONYMS:Solvent Solution
TRADE NAME AND SYNONYMS: HumiSeal Thinner 521
DATE OF REVISION: July 19, 1995
PREPARED BY: Jim Lawrence

SARA:This product contains toxic chemicals listed in section 3A subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372 (SARA).TSCA:All the chemical components are TSCA listed.
CAIR:Not/Appl

WARNING: This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

STATES RIGHT-TO-KNOW LAWS: 100% of all chemical ingredients are listed in section 3 of this MSDS. Information indicated as proprietary will be released to a physician or appropriate authority in an emergency.
S.C.A.Q.M.: VOC 868 grams per liter.
HMIS/NFPA: Health 3 Fire 3 Reactivity 0
EXTREMELY HAZARDOUS SUBST. LIST (TPQ): Does not apply.
SHIPPING CLASS: UN 1263, Paint Related Material, Flammable Liquid

MATERIAL Section 3A(Sara RQ)	WT. %	ACGIH TLV TWA:PPM/MgPerM3 STEL:PPM/MgPerM3	CAS NO.
Xylene(1% SARA)	75-85	100/434 651/651	1330-20-7
Ethyl Benzene(1% SARA)	10-20	100/434 543/543	100-41-4
Toluene(1% SARA)	5	100/377 150/565	108-88-3

BOILING POINT: 279 F.
VAPOR PRESSURE(mm Hg): 19.4.
VAPOR DENSITY(AIR= 1): 3.6.
SPECIFIC GRAVITY (H2O=1): .87.
PERCENT VOLATILE BY VOLUME (%): 100.
EVAPORATION RATE (BuAc=1): 0.60.
SOLUBILITY IN WATER: Negligible, less than 0.1 percent.
APPEARANCE AND ODOR: Water clear liquid, solvent odor.
FLASH POINT (METHOD USED): 80 F (Tag Closed Cup).
FLAMMABLE LIMITS: LEL:0.9 UEL: 6.8.EXTINGUISHING MEDIA: Foam, Carbon dioxide and dry chemical.
[illegible] self contained breathing apparatus.

HUMISEAL DIVISION/CHASE CORPORATION HUMISEAL TYPE: THINNER 521

ROUTES OF ENTRY: SKIN: Yes INHALATION: Yes INGESTION: Yes
EFFECTS OF OVEREXPOSURE:Eyes: Liquid is minimally irritating to the eyes.High vapor concentration may also be irritating.Skin:Contact with liquid is mildly irritating.Prolonged or repeated contact can result in defatting and drying of the skin, resulting in dermatitis.
INHALATION: Vapors may be irritating to the nose, throat and respiratory tract.High vapor concentrations may cause CNS depression.
INGESTION: Liquid is moderately toxic and can be harmful if swallowed. May produce CNS depression, may result in vomiting.Aspiration of vomitus must be avoided as even small quantities may result in Aspiration Pneumonitis. Early to moderate CNS depression may be evidenced by giddiness,headache,dizziness and nausea.
EXTREME CASES: Unconsciousness and death may occur.Aspiration Pneumonitis may be evidenced by coughing,labored breathing and cyanosis(bluish skin), in severe cases death may occur. Preexisting eye skin and respiratory conditions may be aggravated by exposure to this product. Near fatal exposures may result in congestive effects to a wide variety of organs.Lab animals exposed by various routes to high doses showed evidence in the liver,kidneys,lungs,spleen,heart and adrenal. Rats exposed to vapor during pregnancy showed embryo/fetotoxic effects. Mice exposed orally to doses producing maternal toxicity also showed embryo/fetotoxic effects.
CARCINOGENICITY: This product is not listed by the National Toxicology Program the International Agency for Research on Cancer or the Occupational Safety and Health Administration.
EMERGENCY AND FIRST AID PROCEDURES: EYE CONTACT: Flush with water for 15 minutes while holding eyelids open.GET MEDICAL ATTENTION. SKIN CONTACT: Wash with soap and water, remove contaminated clothing, do not use until cleaned. If persistent irritation occurs, GET MEDICAL ATTENTION.
INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing.
GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.
GET MEDICAL ATTENTION: NOTE TO THE PHYSICIAN: If more than 2ml/kg has been ingested and vomiting has not occurred, emesis should be induced with supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.
STABILITY (choose one): ( )UNSTABLE (X)STABLE.
CONDITIONS TO AVOID: Not Applicable.INCOMPATABILITY: (MATERIALS TO AVOID): Avoid contact with strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, Carbon dioxide.
HAZARDOUS POLYMERIZATION (choose one): ( )MAY OCCUR (X)WILL NOT OCCUR.CONDITIONS TO AVOID:Not Applicable.
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material (sand, vermiculite, etc.). Large spills may be scooped up with non-sparking tools. Remove sources of ignition.Provide ventilation and/or respiratory protection.
WASTE DISPOSAL METHOD: Disposal of HumiSeal products requires strict compliance with local, state and federal regulations pertaining to disposing hazardous waste materials. Contact the appropriate environmental agencies.RCRA Waste No./RQ: Toluene;U220/1000Lbs. Xylene;U239/1000lbs. Ethyl Benzene ;No./1000lbs. CERCLA: Toluene;1000lbs. Xylene;1000lbs. Ethyl Benzene 1000lbs.
RESPIRATORY PROTECTION (SPECIFY TYPE): Respiratory-organic vapor type if TLV is exceeded(NIOSH approved).
VENTILATION: LOCAL EXHAUST: Yes.
MECHANICAL (GENERAL): Explosion proof SPECIAL: Designed and maintained to provide volume and patterned to prevent vapor.
OTHER: Concentration in excess of TLV or PEL.
PROTECTIVE GLOVES: Impervious to chemical and petroleum(BUNA-N,Solvex etc.).
EYE PROTECTION: Chemical type goggles must be worn.
OTHER PROTECTIVE EQUIPMENT: Prevent contact to workers as required.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks and open flames. Store at ambient temperature. Ground containers when pouring to prevent static spark. Keep containers closed. Use adequate ventilation.

HumiSeal®

PROTECTIVE COATINGS

FACSIMILE TRANSMISSION FROM HUMISEAL DIVISION

HumiSeal Division/Chase Corporation
26-60 B.Q.E. West * Woodside, N.Y. 11377 * U.S.A.
Phone: 718-932-0800 * Fax: 718-932-4345

"HumiSeal Conformal Coating Selector Guide" Offer
To receive your FREE "HumiSeal Conformal Coating Selector Guide", please call customer service at 718-932-0800 or fill out the information below and return it to us by fax at 718-932-4345.

NAME: _____

COMPANY: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP: _____

PHONE: _____

( ) HAVE SALESPERSON CALL ( ) NEED ADDITIONAL INFORMATION

JPW:ke/11796/cover

TO: Unaddressed
FAX: 6309649690

TIME REQUESTED: Friday, July 18, 1997 01:51 PM

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET: 6

DEXTER DISTRIBUTOR PROGRAMS
THE DEXTER CORPORATION

HYSOL

ENGINEERING ADHESIVES

BULLETIN HM7804

HYSOL 7804

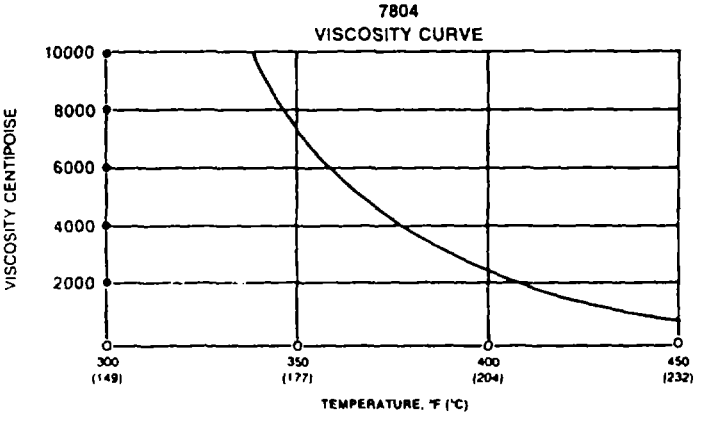
Polyamide Hot Melt Adhesive

DESCRIPTION

Hysol 7804 is a tough, elastomeric, high performance polyamide hot melt with excellent impact resistance at low temperatures. It is recommended for demanding applications where substrates may be exposed to temperature extremes. 7804 bonds to many difficult substrates including: metals, plastics, wood, leather, fabric, non-woven fabric, films, and foils.

PRODUCT SPECIFICATIONS

		Test Method
Softening Point, °F (°C)	280 (137)	ASTM E28-67
Viscosity @ 350°F (177° C), centipoise	7000	*Thermosel
Specific Gravity @ RT, g/cc	1.01	ASTM 1475
Tensile Strength, PSI	340	ASTM D638-68
Elongation, %	900	ASTM D638-68



PERFORMANCE CHARACTERISTICS

Adhesive Tensile, PSI		ASTM 897-72
PVC/PVC	200	
Nylon/Nylon	105	
ABS/ABS	100	
Polycarbonate/Polycarbonate	185	
Heat Resistance, °F	220	Hysol HTPSK-1

Brookfield RVT, Spindle SC4-27

MOR 000896

IMPORTANT. User shall determine the suitability of the product for his intended use and assume all risk and liability in connection therewith. All information supplied by Dexter is based on our belief that it is reliable and is intended for use by persons having technical skill at their own discretion and risk. Since conditions of use are outside of Dexter's control, we can assume no liability for results obtained or damages incurred through the application of the data presented.

*ELECTRICAL PROPERTIES		Test Method
Dielectric Strength V/mil	600	ASTM D-149
Dielectric Constant, K	6.0	MIL-1-16923
Dissipation Factor, D	0.14	ASTM D-150
Volume Resistivity, ohm-cm (pv)	2.0×10^{13}	ASTM D-257
Surface Resistivity, ohm-cm (sv)	2.4×10^{13}	ASTM D-257

APPLICATION

Hysol offers a complete line of reliable, portable, hand held applicators specifically designed to accurately dispense all shaped hot melt formulations. There are many excellent bulk hot melt applicators available. Your local Hysol salesman will be happy to help you with your selection.

AVAILABILITY

Available forms include pellets in poly-lined 40 lb. cartons and shaped forms for hand held applicators.

*Tests run @ 77°F (25°C)

4/93 - 500

MATERIAL SAFETY DATA SHEET

DISTRIBUTOR PROGRAMS
THE DEXTER CORPORATION
ONE DEXTER DRIVE
SEABROOK, NH 03874

TELEPHONE 603-474-5541
EMERGENCY 1-800-424-9300
(FOR EMERGENCY USE ONLY)

5/21/96

PRODUCT CODE: JM7804- DESCRIPTION: 7804 -10" REVISION NBR: 01 05/03/96

* N.A. = NOT APPLICABLE N.E. = NOT ESTABLISHED

SECTION I - NOMENCLATURE

CHEMICAL NAME AND SYNONYMS
Adhesive

TRADE NAME AND SYNONYMS
7804

CHEMICAL FAMILY
Thermoplastic polyamide resin

FORMULA
Diacids polymerized with diamines

SECTION II - HAZARDOUS INGREDIENTS & SECTION 313 SUPPLIER NOTIFICATION

If a hazardous ingredient is identified as being a toxic chemical via hazard code "A", that chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372.

HAZARD CODES(HAZD):
C=Carcinogen (OSHA, NTP, IARC)
H=Hazardous(OSHA)
P=California Prop 65(carcinogen)
A=Superfund Amendments and Reauthorization Act(SARA)

HAZARDOUS MATERIAL	% by Wt.	TLV MEAS.	PEL MEAS.	CAS NBR	HAZD
Not Applicable					

SECTION III - PHYSICAL DATA

BOILING PT (DEG. F)	N.A.	SPECIFIC GRAVITY	0.99
VAPOR PRESSURE (MM HG)	N.A.	PCT VOLATILE BY VOL	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE	N.A.
SOLUBILITY IN WATER	Nil.	MELT POINT	280 F

APPEARANCE AND ODOR-
Amber/No noticeable odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (DEG. F)	Above 450F	METHOD USED	N.A.
LOWER EXPLO. LEVEL	UNKNOWN	UPPER EXPLO. LEVEL	UNKNOWN

EXTINGUISHING MEDIA-
Water, CO2, foam, dry chemical

MOR 000898

SPECIAL FIRE FIGHTING PROCEDURES-
None

UNUSUAL FIRE AND EXPLOSION HAZARDS-
None

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE-
Not Applicable

EFFECTS OF OVEREXPOSURE-
Unknown

EMERGENCY AND FIRST AID PROCEDURES-
Skin:Wash with soap and water
Eyes:Flush with water

WARNING!
Molten hot melt adhesive can cause severe burns upon contact with skin.

SECTION VI - REACTIVITY DATA

STABILITY STABLE

CONDITIONS TO AVOID-
None known

INCOMPATIBILITY (MATERIALS TO AVOID)-
Not Applicable

HAZARDOUS DECOMPOSITION PRODUCTS-
Carbon monoxide(from partial combustion as for most organic materials)

HAZARDOUS POLYMERIZATION-
Will not occur

CONDITIONS TO AVOID-
None known

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED-
Sweep up to avoid any slipping hazard

WASTE DISPOSAL METHOD-
Dispose of according to all local, state and federal laws.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)-
None when using adequate ventilation

VENTILATION-
Recommended when heating

PROTECTIVE GLOVES-
Heat protective gloves

EYE PROTECTION-
Goggles

OTHER PROTECTIVE EQUIPMENT-
Not required

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN STORAGE AND HANDLING-
None known

OTHER PRECAUTIONS-

WARNING!

SECTION IX - SPECIAL PRECAUTIONS JM7804 CONTINUED...

Molten hot melt adhesive can cause severe burns upon contact with skin.

****
The information and recommendations contained herein are based upon data
believed to be correct. However, since much of the information has been
*received from sources outside our company, we cannot guarantee its *
*accuracy or completeness. Health and safety precautions contained *
*within this data sheet may not be adequate for all individuals and/or *
*situations. It is the user's obligation to evaluate and use this data *
*in order to comply with all applicable laws and regulations. *
Additionally, no guarantee or warranty of any kind, expressed or implied
*is made with respect to the information contained herein. *
****

NAME: Ken DeCosta DATE 5/21/96 PAGE 3 OF 3

THE MOREY CORPORATION

I

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

JMCH 1070250

UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC.

Solvents & Coatings Materials Division

MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE 09/23/94

Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

I. IDENTIFICATION

PRODUCT NAME:	ISOPROPANOL, ANHYDROUS
CHEMICAL NAME:	Isopropyl Alcohol
CHEMICAL FAMILY:	Alcohols
FORMULA:	(CH3)2 CHOH
MOLECULAR WEIGHT:	60.10
SYNONYMS:	2-Propanol; dimethyl carbinol
CAS # AND NAME:	67-63-0 2-Propanol

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg:	82.26 C (180.07 F)
SPECIFIC GRAVITY(H2O = 1):	0.7864 at 20/20 C
FREEZING POINT:	-88.5 C (-127.3
VAPOR PRESSURE AT 20'C:	33 mmHg

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EMERGENCY PHONE NUMBERS: 1-800-UCC-HELP (NUMBER AVAILABLE AT ALL TIMES) OR (304) 744-3487

UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC
Solvents & Coatings Materials Division
39 Old Ridgebury Road, Danbury, CT 06817-0001

PRODUCT NAME: ISOPROPANOL, ANHYDROUS

VAPOR DENSITY (AIR = 1): 2.07

EVAPORATION RATE (Butyl Acetate = 1): 2.88

SOLUBILITY IN WATER by wt: Complete at 20 C

APPEARANCE: Transparent colorless

ODOR: Characteristic

PHYSICAL STATE: Liquid

PERCENT VOLATILES (by weight): 100

III. INGREDIENTS

%	MATERIAL	CAS#	EXPOSURE LIMIT
~100	Isopropanol	67-63-0	See Section V

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:

53 F (12 C)
Tag Closed Cup ASTM D 56

63 F (17 C)
Tag Open Cup ASTM D 1310

FLAMMABLE LIMITS IN AIR % by volume: LOWER: 2.0 UPPER: 12.7 @ 200 F

EXTINGUISHING MEDIA: Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool fire-exposed containers and structures.
Use water spray to disperse vapors; re-ignition is possible.
Use self-contained breathing apparatus and protective clothing.

PRODUCT NAME: ISOPROPANOL, ANHYDROUS

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point.
Vapors from this material may settle in low or confined areas or travel a long distance to an ignition source and flash back explosively.
This material may produce a floating fire hazard.
See "Other Precautions" in Section IX.

V. HEALTH HAZARD DATA

EXPOSURE LIMIT(S): Isopropanol: 400 ppm TWA, OSHA & ACGIH
500 ppm STEL, OSHA & ACGIH

EFFECTS OF ACUTE OVEREXPOSURE:

SWALLOWING: Slightly toxic. May cause abdominal discomfort, nausea, vomiting and diarrhea. Loss of consciousness may occur. Drowsiness may occur.

SKIN ABSORPTION: Exposure to small quantities is not expected to cause adverse health effects. Widespread or prolonged exposure may result in the absorption of harmful amounts of material, particularly in infants, leading to signs and symptoms as described for swallowing.

INHALATION: Vapor causes irritation of the respiratory tract, with coughing and chest discomfort.
High concentrations of vapor may cause headache and drowsiness.

SKIN CONTACT: May cause minor irritation with itching and possible slight local redness.
Prolonged or repeated contact may cause defatting and drying of the skin.

EYE CONTACT: Causes irritation, experienced as stinging and discomfort or pain.
Corneal injury may occur.

EFFECTS OF REPEATED OVEREXPOSURE:
No adverse effects anticipated from available information.

OTHER HEALTH HAZARDS:
None currently known.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:
Skin contact may aggravate an existing dermatitis.

ADDITIONAL TOXICITY INFORMATION:
The following is a summary of TSCA Section 4 Test Rule results:
Large doses (>800 mg/kg/day) of isopropanol given orally to pregnant rats during the critical period of gestation produced slight decreases in fetal weight. These doses also caused evidence of toxicity in the mothers. Oral doses as high as 480 mg/kg/day caused evidence of toxicity in pregnant rabbits

but did not produce evidence of embryo or fetal toxicity. Isopropanol did not produce an increased incidence of malformations (teratogenicity) in either species. An indication of reduced mating performance in 2nd generation male rats was noted at oral doses of 1000 mg/kg/day in a two generation reproductive study. Increased neonatal mortality was also seen at doses of 500 mg/kg/day and greater in this study.
No evidence of neurotoxic effects was observed in studies specifically designed to assess neurobehavioral functions in neonatal rats after oral dosing of mothers during gestation and lactation. In an acute vapor inhalation study, high concentrations of isopropanol (1500 ppm and greater) caused a spectrum of transient effects indicative of narcosis. In repeated inhalation exposure studies, high vapor concentrations (5000 ppm) produced an increase in motor activity in rats first noted after 4 weeks of exposure. The effect was reversible completely resolving within 14 days after 13 weeks of exposure. No evidence of damage to nerve tissue was seen in this study. Repeated exposure to isopropanol vapor produced hyaline droplet nephropathy in male rats, an effect considered not to have relevance to human health hazard assessment. No other target organ effects were seen in either rats or mice after 3 months of exposure to vapor concentrations up to 5000 ppm. No evidence suggestive of carcinogenic activity was noted in chronic vapor inhalation studies with isopropanol in rats and mice.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:	If patient is fully conscious, give two glasses of water. Induce vomiting. Obtain medical attention.
SKIN:	Remove contaminated clothing. Wash skin with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.
INHALATION:	Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.
EYES:	Immediately flush eyes with water and continue washing for several minutes. Remove contact lenses, if worn. Obtain medical attention.
NOTES TO PHYSICIAN:	There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY (materials to avoid):
Strong oxidizing agents.
Halogens.
Strong inorganic acids.
Aldehydes.
Halogen compounds.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:
Burning can produce the following products:
Carbon monoxide and/or carbon dioxide.

Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Extinguish and do not turn on any ignition source until the area is determined to be free from fire or explosion hazard.
Wear suitable protective equipment.
Avoid contact with eyes.
Small spills can be flushed with large amounts of water; larger spills should be collected for disposal.

WASTE DISPOSAL METHOD:

Incinerate in a furnace where permitted under *Federal, State, and local* regulations.
At very low concentrations in water, this product is biodegradable in a biological wastewater treatment plant.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

Use self-contained breathing apparatus in high vapor concentrations.

VENTILATION:

General (mechanical) room ventilation is expected to be satisfactory where *this product is stored and handled in closed equipment.*
Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

PROTECTIVE GLOVES:

Plastic
Rubber

EYE PROTECTION: Monogoggles

OTHER PROTECTIVE EQUIPMENT:

Eye Bath, Safety Shower

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

WARNING!
FLAMMABLE.
CAUSES EYE IRRITATION.

Keep away from heat, sparks and flame.
Avoid contact with eyes.
Keep container closed.
Use with adequate ventilation.
Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other

flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point.
Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS:

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors."

TRANSFER HAZARD: Vapors of this product may be ignited by static sparks. Use proper bonding and grounding during liquid transfer as described in National Fire Protection Association document NFPA 77.

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

*** NONE ***

Toxic Substances Control Act (TSCA) STATUS:

The ingredients of this product are on the TSCA inventory.

PRODUCT NAME: ISOPROPANOL, ANHYDROUS

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product does not contain materials which the State of California has found to cause cancer, birth defects, or other reproductive harm.

MASSACHUSETTS Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (= > 1%)

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
Isopropanol	67-63-0	100

PENNSYLVANIA Right-to-Know, Hazardous Substance List Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

HAZARDOUS SUBSTANCES (= > 1%)

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
Isopropanol	67-63-0	100

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

VOC 785 g/l; Vapor Pressure 33 mm Hg @ 20 C

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Immediate Health, Delayed Health, and Fire.

NOTE ----

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of the use of the product are not under the control of Union Carbide, it is the user's obligation to determine conditions of safe use of the product.

REVISED SECTIONS:

Section V - Health Hazard Data
Additional Toxicity Information
Section IX- Special Precautions
Precautions To Be taken In Handling And Storage:
Section X - Regulatory Information
Other Regulatory Information

PRODUCT: 43062
F NUMBER: C0110G

DATE PRINTED: 3/24/93

MANUFACTURER'S NAME:

NAZDAR COMPANY
1087 N NORTH BRANCH ST
CHICAGO IL 60642

EMERGENCY TELEPHONE NO. 800-424-9300
INFORMATION TELEPHONE NO. 312-943-8330

SECTION 1 -- PRODUCT INFORMATION

TRADE NAME: BE SERIES, BAKING EPOXY INK

TMC# 1080795

PRODUCT CLASS: SCREEN INK

PRODUCT GROUP: BE

CD:BEPB

-- H M I S C O D E S --
HEALTH - 2*
FLAMMABILITY - 2
REACTIVITY - 0

PRODUCT	wt/gal lb	VOC g/l	VOC lb/gal	% VOC VOL	PRODUCT	wt/gal lb	VOC g/l	VOC lb/gal	% VOC VOL
BE102	10.4	552	4.6	58	BE104	9.8	566	4.7	6
BE124	10.6	551	4.6	58	BE131	11.0	539	4.5	5
BE135	11.0	539	4.5	57		.0	0	.0	
	.0	0	.0	0		.0	0	.0	

SECTION 2 -- HAZARDOUS INGREDIENTS

CHEMICAL NAME; COMMON NAME; CAS NUMBER	PERCENT BY WEIGHT	OCCUPATIONAL EXPOSURE LIMITS TLV	PEL	VAPOR PRESSURE IN mmHg
RESIN MIXTURES; CAS #'s: NOT ESTABLISHED	25-35	NOT ESTABLISHED	NOT ESTABLISHED	< 1 @ 20
DIPROPYLENE GLYCOL METHYL ETHER; ALIPHATIC GLYCOL ETHER; CAS #: 34590-94-8 *(EXPOSURE LIMITS ARE FOR SKIN)	20-25	100PPM* *STEL: 150 PPM	100PPM*	0.4 @ 25
DIACETONE ALCOHOL; DIACETONE ALCOHOL; CAS #: 123-42-2	10-15	50PPM	50PPM	1.0 @ 20
CADMIUM COMPOUNDS; CAS #: 7440-43-9; (CAS#: & EXPOSURE LIMITS ARE FOR CADMIUM DUSTS & SALTS)	0-25	.050MG/M3 CEILING VALUE = 0.6 MG/M3	.200MG/M3	N/A
* BARIUM COMPOUNDS; CAS #: NOT AVAILABLE	0-15	10MG/M3	15MG/M3 (AS DUST)	N/A
* LEAD COMPOUNDS; CAS #: 7439-92-1; (CAS# & EXPOSURE LIMITS ARE FOR INORGANIC LEAD DUSTS & FUMES)	0-10	.150MG/M3	.150MG/M3	N/A
* ZINC COMPOUNDS; CAS #: 7440-66-6; (CAS# & EXPOSURE LIMITS ARE FOR ZINC DUSTS)	0- 2	10MG/M3	10MG/M3	N/A
* CHROMIUM COMPOUNDS; CAS #: 7440-47-3; (CAS# & EXPOSURE LIMITS ARE FOR CHROMIUM METAL)	0- 2	.050MG/M3	.050MG/M3	N/A
PIGMENTS; MIXTURE; CAS #'s: NOT ESTABLISHED	< 5	10MG/M3	15MG/M3 (As DUST)	N/A
PETROLEUM DISTILLATE; AROMATIC HYDROCARBON; CAS #: 64742-94-5	< 5	NOT ESTABLISHED *(SUPPLIER RECOMMENDATION)	100PPM*	<3 @ 25
* N-BUTYL ALCOHOL; N-BUTANOL; CAS #: 71-36-3	< 5	50PPM* *(CEILING VALUE; SKIN)	50PPM*	5.9 @ 2
ETHANOL; ETHYL ALCOHOL; CAS #: 64-17-5	< 2	999PPM	999PPM	47 @ 20

* SUBJECT TO REPORTING REQUIREMENT OF SECTION 313 OF TITLE III OF SARA (40 CFR PART 372)

SECTION 3 -- PHYSICAL DATA

BOILING RANGE: 174-410 DEG. F

VAPOR DENSITY: HEAVIER THAN AIR

EVAPORATION RATE: SLOWER THAN ETHER

SEE SECTION 1 FOR VOC DATA.
SEE SECTION 1 FOR WEIGHT PER GAL. DATA

SECTION 4 -- FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION:
OSHA CLASSIFICATION: Class II Combustible Liquid; DOT CLASSIFICATION: Combustible Liquid

OTHER COMMENTS:
NFPA RATING: H-2 F-2 R-0

FLASH POINT:
125F - 135F (SETA FLASH)

LOWER EXPLOSIVE LEVEL:
0.8 % Vol. in Air

EXTINGUISHING MEDIA:
Foam- CO2- Dry Chemical- Water Spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat.

SPECIAL FIREFIGHTING PROCEDURES:
Water may be ineffective but may be used to cool containers. The use of self-contained breathing apparatus is recommended for fire fighters.

SECTION 5 -- HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
Eye contact with the liquid, its vapors or mists may cause burning, tearing, redness and eye damage. Repeated and prolonged skin contact may cause slight irritation or mild dermatitis characterized by dryness, chapping and redness. This material may be absorbed through the skin. Overexposure by inhalation may cause respiratory tract irritation or nervous system disorders such as headaches, dizziness, weakness and fatigue. Ingestion may cause gastrointestinal tract irritation and signs of nervous system depression. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Repeated and prolonged overexposure to lead by ingestion may cause a metallic taste in the mouth, nausea, digestive disorders, abdominal cramps & insomnia as well as blood, nervous, urinary and reproductive disorders and birth defects. "Inorganic Lead and Lead Compounds" is classified as a Group 2B carcinogen by IARC. "Chromium and certain chromium compounds" is included in the NTP and IARC lists of carcinogens. Cadmium and its compounds are listed as suspect carcinogens by NTP and IARC. There is no conclusive evidence that cadmium pigments are occupational carcinogens. N-Butanol has apparently been found to cause anemia, liver abnormalities, kidney, eye and lung damage in lab animals. Ethanol may cause liver abnormalities, kidney, eye, lung, spleen, brain & nervous system damage in lab animals. Dipropylene Glycol Methyl Ether has apparently been found to cause liver abnormalities & kidney damage in lab animals. Diacetone Alcohol has been found to cause kidney and liver injury and blood disorders in lab animals. CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcemnet Act of 1986: This product contains a chemical(s) known to the State of California as a carcinogen and/or reproductive toxicant.

DICAL CONDITIONS PRONE TO AGGRAVATE BY EXPOSURE:
Persons with pre-existing skin or lung disorders may be more susceptible to the effects of this material. Repeated and prolonged overexposure and/or individual sensitivity may increase the potential for and degree of adverse health effects.

PRIMARY ROUTE(S) OF ENTRY:
Dermal (Contact/Absorption) - Inhalation - Ingestion

EMERGENCY AND FIRST AID PROCEDURES:
SKIN CONTACT: Wash with soap and water, contact physician if irritation persists EYE CONTACT: Flush well with running water for a minimum of 15 minutes, contact physician if irritation persists. INHALATION: Remove to fresh air, restore breathing, contact physician. INGESTION: Contact physician or Poison Control Center immediately.

OTHER COMMENTS:
The potential health effects of this product are based on the hazards of

OTHER COMMENTS:
its components. TSCA Inventory: All ingredients listed.

SECTION 6 -- REACITIVITY DATA

STABILITY:
Stable.

CONDITIONS TO AVOID:
Heat, sparks and open flame.

INCOMPATIBILITY (WITH MATERIALS):
Strong oxidizing agents, alkalis, and reactive chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon Monoxide, Carbon Dioxide and other noxious gases.

HAZARDOUS POLYMERIZATION:
Will not occur.

SECTION 7 -- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition. Ventilate area. Avoid breathing vapors. Contain release and remove with inert absorbent. Avoid contact. Use non-sparking tools to place material in appropriate container for disposal.

WASTE DISPOSAL METHOD:
Dispose of in accordance with applicable local, county, state, and federal regulations.

SECTION 8 -- SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
If vapor concentration exceeds the TLV listed in Section II, use NIOSH approved respirator with organic chemical cartridge. Contact a reputable safety supply company for the appropriate respirator.

VENTILATION:
Use applicable engineering controls, work practices, and personal protective equipment to keep the vapor concentration below the TLV listed in Section II.

PROTECTIVE GLOVES:
Use neoprene, nitrile or other gloves resistant to solvents listed in Section II. Contact a reputable safety supply company for appropriate gloves.

EYE PROTECTION:
Use splash-proof goggles or safety glasses. Contact a reputable safety supply company for appropriate eye protection.

OTHER PROTECTION:
Solvent resistant aprons and availability of an eye wash are recommended. Smoke in designated areas only.

HYGIENIC PRACTICES:
Wash with soap and water before eating, smoking or using toilet facilities. Remove contaminated clothing to prevent prolonged skin contact.

SECTION 9 -- SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Store in closed containers in cool, dry, well ventilated area away from sources of ignition. Keep containers closed when not in use.

OTHER PRECAUTIONS:
Avoid prolonged or repeated overexposure to this product. Empty containers should be disposed of in an environmentally safe manner in accordance with applicable regulations.

SECTION 10 -- DISCLOSURE

DISCLOSURE INFORMATION:
The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind express or implied is made with respect to the information contained herein.

THE MOREY CORPORATION

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MOR 000913

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

301

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Date of Prep: 12/3/96

SECTION 1

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090
EMERGENCY TELEPHONE

FOR INFORMATION: (847) 541-5700

(847) 541-5700 - SUNNYSIDE CORPORATION
(800) 424-9300 - CHEM TREC

Rec 8/17/95

Product Class:	Petroleum Hydrocarbon	Manufacturer's Code:	801
Trade Name:	KEROSENE	NPCA HMIS:	Health: 1 Fire: 2 Reactivity: 0

Product Appearance and Odor: Clear, water-white liquid; mild characteristic odor.

SECTION 2 -- HAZARDOUS INGREDIENTS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT	CAS #	PERCENT	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)	VAPOR PRESSURE
Petroleum Distillate	8008-20-6		Not Est.		400 PPM (For Petroleum Distillates - Naphtha)		0.5 MM Hg @ 100° F
Naphthalene	91-20-3		10 PPM	15 PPM	10 PPM	15 PPM	Not Known

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Flush eyes with plenty of water for 15 minutes while holding eyelids open. Get medical attention.

Skin Contact: Remove contaminated clothing/shoes. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

Boiling Range:	350-572° (F)	Vapor Density:	Heavier than air
Evaporation Rate:	Slower than ether	% Volatile By Volume:	100%
Weight Per Gallon:	6.75 lbs.		
Solubility in Water:	Negligible		

SECTION 5 -- FIRE AND EXPLOSION DATA

Flammability Classification: Combustible Liquid-Class II

Flash Point: 125° (F) Minimum (Tag. Closed Cup)

Autoignition Temperature: 450°(F)

Lower Explosive Limit: 0.7 Vol. %

Extinguishing Media: Carbon Dioxide, foam, dry chemical, water spray. Do not use direct water stream; it will spread fire.

Unusual Fire and Explosion Hazards: Do not store or mix with strong oxidants.

Special Fire Fighting Procedures: Use air-supplied rescue equipment for enclosed areas. Cool exposed containers with water.

SECTION 6 -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section 2.

EFFECTS OF OVEREXPOSURE

Acute

Eye Contact: Contact may cause mild eye irritation, including stinging, watering and redness.

Skin Contact: Skin irritant. Contact may cause redness and burning. Prolonged or repeated contact may cause drying and cracking of the skin and severe skin damage. No harmful effects to humans from skin absorption have been reported. Prolonged and repeated dermal exposures of rabbits to kerosene produced multi-focal necrosis of the liver.

Inhalation: Vapors may cause irritation to nose, throat and respiratory tract. Petroleum hydrocarbons of similar composition have been shown to cause kidney damage and tumors in male rats following prolonged inhalation exposures. This effect appears to be unique to the male rat.

Ingestion: Ingestion may result in vomiting, aspiration (breathing) of vomitus into the lungs must be avoided as even small quantities may result in aspiration pneumonitis.

Chronic: Repeated skin contact may aggravate an existing dermatitis (skin condition).

Target Organs: Potential hazard to kidney and liver.

Carcinogenicity: Application to mouse skin twice a week for 12 months, resulted in an increased incidence of skin tumors. Kerosene has not been identified as a carcinogen by NTP, IARC or OSHA. Female mice exposed via inhalation to Naphthalene developed alveolar adenomas. This effect was not seen in male mice. Naphthalene has not been identified as a carcinogen by NTP, IARC or OSHA.

Medical Conditions Aggravated by Exposure: Conditions aggravated by exposure may include skin disorders, respiratory (asthma-like) disorders d liver disorders.

SECTION 7 -- REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Heat, sparks and flame.

Incompatibility (Materials to Avoid): Strong oxidizing agents like liquid chlorine, concentrated oxygen, strong acids, selected amines and bases.

Hazardous Decomposition Products: Thermal decomposition may yield carbon dioxide and carbon monoxide.

Hazardous Polymerization: Will not occur.

SECTION 8 -- SPILL OR LEAK PROCEDURES

Steps to be taken in case material is spilled or released: Remove ignition sources, evacuate area, avoid breathing vapor or contact with liquid. Recover free liquid or stop leak if possible. Dike large spills and use absorbent material for small spills. Keep spilled material out of sewers, ditches and bodies of water.

Waste disposal method: Incinerate under safe conditions; dispose of in accordance with local, state and federal regulations.

SECTION 9 -- SAFE HANDLING AND USE INFORMATION

Respiratory Protection: Appropriate vapor canister, self-contained breathing apparatus or supplied-air hose mask, if needed.

Ventilation: Sufficient, in volume and pattern, to keep workroom concentration below current applicable OSHA safety and health requirements. See Section 2. Use explosion-proof equipment. No smoking.

Protective Gloves: Rubber or neoprene.
Eye Protection: Chemical safety goggles.
Other Protective Equipment: Impervious clothing or boots, if needed.

SECTION 10 -- SPECIAL PRECAUTIONS

Dept. of Labor Storage Category:	Combustible Liquid - Class II
Hygienic Practices:	Keep away from heat, sparks and open flame. Keep containers closed when not in use. Avoid eye contact. Avoid prolonged or repeated contact with skin. Wash skin with soap and water after contact.
Additional Precautions:	Ground containers when transferring liquid to prevent static accumulation and discharge. Additional information regarding safe handling of products with static accumulation potential can be ordered by contacting the American Petroleum Institute (API) for API Recommended Practice 2003, entitled "Protection Against Ignitions Arising Out of Static, Lighting, and Stray Currents" (American Petroleum Institute, 1720 L Street Northwest, Washington,DC 20005), or the National Fire Protection Association (NFPA) for NFPA 77 entitled "Static Electricity" (National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101).
Empty Container Warning:	"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition; they may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to supplier or disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 11 -- ADDITIONAL INFORMATION

This product contains the following toxic chemical(s) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

TOXIC CHEMICAL	CAS #	APPROXIMATE % BY WEIGHT
Naphthalene	91-20-3	< 1.0%

SARA Title III Hazard Categories:	Immediate (Acute) Health, Delayed (Chronic) Health
Common Names:	Solvent Naphtha (Petroleum), Aliphatic Hydrocarbon, Petroleum Distillate
California Proposition 65:	This product contains trace amounts of Benzene, a chemical known to the State of California to cause cancer, and Toluene, a chemical known to the State of California to cause birth defects or other reproductive harm.

TRANSPORTATION

U.S. D.O.T. Proper Shipping Name:	Kerosene
U.S. D.O.T. Hazard Class & Packing Group:	Combustible Liquid, III
U.S. D.O.T. I.D. Number:	UN 1223

Refer to 49 CFR for possible exceptions and exemptions.

CHRISTOPHER

Manufacturer: Christopher Associates Inc./Koki Co. Ltd.
2601 South Oak Street
Santa Ana, CA 92707

Phone Numbers:
(714)979-7500
Chemtrec (800)424-9300

SECTION I - IDENTITY INFORMATION

Product Name:	**Koki JS-3000S Flux**	CAS#:	67630
Chemical Name:	Flux		
Chemical Family:	Solvent Mixture		
Formula:	C_3H_7OH		

SECTION II - HAZARDOUS INGREDIENTS

Principal Components: (Chemical and common names)	%	TLV Units	CAS#
Isopropyl Alcohol	96	400ppm	67630

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS AND FIRE/EXPLOSION DATA

Boiling Point (°C):	82.4°C	
Specific Gravity (water = 1):	0.792 (20°C)	
Vapor Pressure (mm Hg):	32mm (20°C)	
% Volatile By Volume (%):	96	
Vapor Density (air = 1):	2.07	
Evaporation Rate (BuAc = 1):	1.0	
Solubility in Water:	Partially Soluble	
Solubility in Organic Solvent:	Soluble (Acetone, Ethyl-Acetate, Methyl-Ethyl Ketone)	
Reactivity:	None	
Appearance & Odor:	Colorless Liquid, Mild Alcohol Odor	
Flashpoint (°C):	12.2°C	
Flammable Limits In Air % by Volume:	Lower 2.02	Upper 7.09
Extinguishing Media:	Carbon Dioxide, Foam, Cut Off Air	
Auto Ignition Temperature:	455°C	
Special Firefighting Procedures:	Wear Protective Clothing	
Unusual Fire/Explosion Hazards:	None Known	

Material Safety Data Sheet

Manufacturer: **Christopher Associates Inc./Koki Co. Ltd.** Phone Numbers:
2601 South Oak Street (714)979-7500
Santa Ana, CA 92707 **Chemtrec** (800)424-9300

SECTION IV - PHYSICAL HAZARDS

Stability:	(x) Stable ( ) Unstable
Conditions to Avoid:	Sources of Ignition
Incompatible Materials to Avoid:	Alkaline Substances
Hazardous Decomposition Products:	Alkaline Substances
Hazardous Polymerization:	( ) May Occur (x) Will Not Occur

SECTION V - HEALTH HAZARDS

Toxicity: Isopropyl Alcohol

1. Acute Overexposure: Stomach Discomfort, Vomiting, Nausea, Irritation to Mouth & Throat, Scarcery Irritation, Respiratory Irritation and Anesthesia.
2. Chronic Overexposure: Respiratory Ailments, Liver and Kidney Damage, Corneal Damage, Pulmonary Edema

Medical Conditions Generally Aggravated By Overexposure: None Known

National Toxicity Program (NTP):	( ) Yes	(x) No
IARC Monographs	( ) Yes	(x) No
OSHA	( ) Yes	(x) No

OSHA Permissible Exposure Limit (PEL):	Not Established
ACGIH Threshold Limit Value (TLV):	5.84 g/kg (Rat) Oral LD50
Other Exposure Limit Used:	16 ml/kg (Rabbit) Dermal LD50

Emergency and First Aid Procedures:

1. **Inhalation:** Remove to fresh air.
2. **Eyes:** Flush with water for 15 minutes, lifting eyelids occasionally. Seek medical attention if irritation persists.
3. **Skin:** Wash with solvent then wash with soap and water. Removed exposed clothing and wash thoroughly before reuse.
4. **Ingestion:** Give victim large amounts of water. Seek medical attention.

Product: **Koki JS-3000S Flux**

Material Safety Data Sheet

Manufacturer: **Christopher Associates Inc./Koki Co. Ltd.**
2601 South Oak Street
Santa Ana, CA 92707

Phone Numbers:
(714)979-7500
Chemtrec (800)424-9300

SECTION VI - SPECIAL PROTECTION INFORMATION

Respiratory Protection:	Use NIOSH approved respirator.
Ventilation:	Use only in a well ventilated area.
Local Exhaust:	Recommended
Mechanical:	Recommended
Special:	N/A
Other:	N/A
Protective Gloves:	Chemical Resistant Gloves
Eye Protection:	Chemical safety goggles or face shield recommended
Other Protective Clothing or Equipment:	Safety Shower, Eye Bath, Apron

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling/Storage: Keep container closed when not in use. Do not store near sources of ignition. Store below 20°C.

Other Precautions: Avoid contact with skin and eyes

Steps to be Taken in Case Material is Released or Spilled: Contain spill with absorbent material. Dike large spills using absorbent material. Dispose of in a DOT approved container. Increase ventilation.

Waste Disposal Methods: Dispose of in accordance with all local, state and federal regulations and ordinances.

SECTION VII - SHIPPING INFORMATION

Proper Shipping Name:	Isopropyl Alcohol Mixture
Hazard Classification:	Flammable Liquid
UN Number:	UN 1219

Prepared By: C. Winters
Trevi Winters

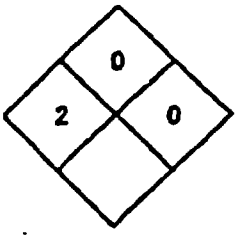
Rev.3.1.94

THE INFORMATION PUBLISHED IN THE MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND PUBLISHED DATA. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS.

MATERIAL SAFETY DATA SHEET

1203028
2350510
JBC
10·15·01

ALPHA METALS
600 Route 440
Jersey City, NJ 07304
Telephone: 201-434-6778



NUMBER: 1472

REVISION: 04/16/98

SECTION I - GENERAL INFORMATION

PRODUCT NAME (NUMBER) [redacted]

CHEMICAL FAMILY Mixture.

D.O.T HAZARD CLASS Solid, corrosive, inorganic, N.O.S.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	*CAS NUMBER*	*WEIGHT PERCENT*	*OSHA PEL*	*ACGIH TLV*
Potassium Tetrafluoroborate	14075-53-7	15-30	2.5 mg/cum	2.5 mg/cum
Ammonium Tetrafluoroborate	13825-83-0	70-85	35 mg/cum	17 mg/cum

as Fluorides (F)
as Ammonia (NH3)

SECTION III - PHYSICAL DATA

(PUBLISHED or ESTIMATED VALUES)

BOILING POINT Deg. F. (760 mm Hg)	NA	*SPECIFIC GRAVITY (H_2O=1)*	NE
		NA	
VAPOR PRESSURE (mm Hg AT 20 Deg. C.)	NA	*% VOLATILE by WEIGHT*	NA
VAPOR DENSITY (AIR=1)	NA	*EVAPORATION RATE*	NA
SOLUBILITY IN WATER	Complete	*pH (10% aqueous soln.)*	3.5

APPEARANCE AND ODOR White, crystalline solid, irritating odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) LEL:NA UEL:NA

FLASH POINT Deg. F. NA

EXTINGUISHING MEDIA Not combustible. Select extinguishing agent appropriate to other materials involved.

SPECIAL FIRE FIGHTING PROCEDURES Wear full protective clothing and self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARD Dangerous when exposed to heat or flame. Decomposition products include toxic and corrosive fumes.

...Overexposure)

...ere irritation to nose, throat
...t and possibly lung damage, wheezing,
...y with breathing, headache, nausea, vomiting.

INGESTION: Swallowing may cause corrosion of mouth, throat and digestive tract. Systemic effects similar to those resulting from inhalation.

SKIN: Will cause chemical burns. Absorption may be a significant route for exposure. Contact may have systemic effects similar to those resulting from inhalation.

EYES: Dust will cause severe conjunctival irritation and corneal damage.

CARCINOGENICITY: None known.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY: None known.

SECTION V(b) - HEALTH HAZARD DATA

(Emergency & First Aid Procedures)

INHALATION Remove from exposure. Keep warm and at rest. If breathing stops or shows signs of failing, give artificial respiration. If loss of consciousness occurs, place in recovery position. Obtain medical attention urgently.

INGESTION Wash out mouth with water. Contact Poison Control Center immediately. IF CONSCIOUS, give 1-3 glasses of water. DO NOT induce vomiting. If breathing stops or shows signs of failing, apply artificial respiration. Obtain medical attention urgently.

SKIN CONTACT Immediately flood the skin with large quantities of water, preferably under a shower. Remove contaminated clothing as washing proceeds. Obtain medical attention urgently.

EYE CONTACT Immediately flood the eye(s) with plenty of water for at least 15 minutes, holding the eye lids open. Obtain medical attention urgently.

SECTION VI - REACTIVITY DATA

STABILITY
STABLE: X *UNSTABLE:*

CONDITIONS TO AVOID Heat or flame.

INCOMPATIBILITY (Materials to Avoid) Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS Combustion will generate toxic fluorine compounds.

HAZARDOUS POLYMERIZATION
WILL OCCUR: *WILL NOT OCCUR:* X

CONDITIONS TO AVOID None

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear respiratory protection and appropriate protective clothing.
Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal. Avoid creating dust.
Environmental Precautions: See Section X.

WASTE DISPOSAL

Must be in accordance with Federal, State, and Local Laws and Regulation

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY	If threshold limit value is exceeded, use MSHA/NIOSH approved dust respirator for corrosive fumes.
EYEWEAR	Chemical goggles or face shield in compliance with OSHA regulations are advised. DO NOT wear contact lenses. Provide eye bath near work site.
CLOTHING/GLOVES	Wear butyl, natural rubber or neoprene gloves and rubber apron. Provide safety shower near work site.
VENTILATION	Provide process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions to maintain exposure levels below TLVs.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool dry area, under cover. Store in original containers. Avoid creating a dust. Avoid inhaling dust. Avoid contact with eyes, skin and clothing. Keep containers tightly closed when not in use.

OTHER PRECAUTIONS:

CONTAINERS: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

symptomatically. Keep under medical surveillance for 48 hours.

SPILL OR LEAK PROCEDURES: (continued)
Try to prevent the material from entering drains or water courses. Advise authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

TOXICOLOGICAL INFORMATION:
ACUTE TOXICITY: The product contains components that are harmful by the following route of exposure; ingestion, inhalation and skin contact.
IRRITANCY-EYES: Data for a closely related material suggests that ths product will produce severe conjunctival irritation and corneal damage.
IRRITANCY-SKIN: Data for a closely related material suggests that this product will produce burns.
SKIN SENSITIZATION: None known.
ECOLOGICAL INFORMATION:
MOBILITY: The product will dissolve rapidly in water.
PERSISTANCE/DEGRADABILITY: The product is readily biodegradable.
BIO-ACCUMULATION: Product is not expected to bioaccumulate.
ECOTOXICITY: The product is rated as slightly toxic to aquatic species.

REGULATORY INFORMATION
Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):
Components present in this product at a level which could require reporting under the statute are:
None

California State Proposition 65:
This product does not contain chemicals which the State of California has found to cause cancer, birth defects or other reproductive harm.

EMERGENCY TELEPHONE NUMBER

CHEMTREC	1-800-424-9300	DAY or NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information of the use of any materials designated.

THE MOREY CORPORATION

M.S.D.S. BINDER

MOR 000924

'orey Drive | Woodridge Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

THE
MOREY
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MOR 000925

100 Morey Drive Woodridge Illinois 60517 | Tel: 630.754.2300 | Fax: 630.754.2001 | www.moreycorp.com

SDS: 7S597 ITEM: 2W757 DROP LOCATION: P3-221

ORDER: 0091426971

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - 7S597

TMC# 1300116
LOT# 224037

Associated Grainger Items

2W757

2W757

B2W757

01 00

MANUFACTURER'S NAME
DISTRIBUTED BY
W. W. GRAINGER
CHICAGO, IL 60069

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
30-MAR-98

INFORMATION TELEPHONE NO.
(800) 240-0248

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER
B2W757

HMIS CODES
HEALTH: 2
FLAMMABILITY: 4
REACTIVITY: 0

PRODUCT NAME
2W757-B T.F.E. DRY LUBE

PRODUCT CLASS
AEROSOL LUBRICANT

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT / CAS NO.	% BY WT	ACGIH TLV	OSHA PEL	UNITS	V.
PROPANE 74-98-6	13		1000	PPM	760
BUTANE 106-97-8	13	800	800	PPM	760
HEPTANE 142-82-5	57 STEL	400 500	400 500	PPM PPM	50
2-PROPANOL 67-63-0	16 STEL	400 500	400 500	PPM PPM	33

2W757

SECTION III - PHYSICAL DATA

PRODUCT WEIGHT: 5.53 LB./GAL. EVAPORATION RATE: FASTER THAN ETHER

SPECIFIC GRAVITY: 0.67 VAPOR DENSITY: HEAVIER THAN AIR

BOILING POINT: LT 0 -212 F. MELTING POINT: N.A.

VOLATILE VOLUME: 99% SOLUBILITY IN WATER: N.A.

VOLATILE WEIGHT: 98.05% (LESS FEDERALLY EXEMPT SOLVENTS)

HMIS: 3 4 0

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	LEL	UEL
PROPELLANT LT 0 F.	1.1	12.7

EXTINGUISHING MEDIA:

CARBON DIOXIDE, DRY CHEMICAL, FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS: ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTRE HEAT. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS. DURING EMERGENCY CONDITIONS OVEREXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEA HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION.

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIV IF WATER IS USED, FOG NOZZLES ARE PREFERABLE. WATER MAY BE USED TO COOL CLO CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOS WHEN EXPOSED TO EXTREME HEAT.

SECTION V - HEALTH HAZARD DATA

ROUTES OF EXPOSURE: EXPOSURE MAY BE BY INHALATION AND/OR SKIN OR EYE CONTAC DEPENDING ON CONDITIONS OF USE. TO MINIMIZE EXPOSURE, FOLLOW RECOMMENDATION FOR PROPER USE, VENTILATION, AND PERSONAL PROTECTIVE EQUIPMENT.

ACUTE HEALTH HAZARDS:

EFFECTS OF OVEREXPOSURE: IRRITATION OF EYES, SKIN AND RESPIRATORY SYSTEM. M CAUSE NERVOUS SYSTEM DEPRESSION. EXTREME OVEREXPOSURE MAY RESULT IN UNCONSCIOUSNESS AND POSSIBLY DEATH.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: HEADACHE, DIZZINESS, NAUSEA, AND LOSS O COORDINATION ARE INDICATIONS OF EXCESSIVE EXPOSURE TO VAPORS OR SPRAY MISTS

REDNESS AND ITCHING OR BURNING SENSATION MAY INDICATE EYE OR EXCESSIVE SKIN EXPOSURE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE GENERALLY RECOGNIZED.

2W757

EMERGENCY AND FIRST AID PROCEDURES:

IF INHALED: IF AFFECTED, REMOVE FROM EXPOSURE. RESTORE BREATHING. KEEP WARM QUIET.

IF ON SKIN: WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE RE-USE.

IF IN EYES: FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDI ATTENTION.

IF SWALLOWED: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DO NOT INDUCE VOMITING. GIVE CONSCIOUS PATIENT SEVERAL GLASSES OF WATER. SEEK MEDI ATTENTION.

CHRONIC HEALTH HAZARDS:

NO INGREDIENT IN THIS PRODUCT IS AN IARC, NTP OR OSHA LISTED CARCINOGEN.

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WIT PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE.

CONDITIONS TO AVOID: NONE KNOWN.

INCOMPATIBILITY: NONE KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS: BY FIRE: CARBON DIOXIDE, CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: REMOVE ALL SOURC OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT.

WASTE DISPOSAL METHOD: WASTE FROM THIS PRODUCT MAY BE HAZARDOUS AS DEFINED UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261.

WASTE MUST BE TESTED FOR IGNITABILITY TO DETERMINE THE APPLICABLE EPA HAZAR WASTE NUMBERS.

DO NOT INCINERATE. DEPRESSURIZE CONTAINER. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING POLLUTION.

2M757

SECTION VIII - PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE: USE ONLY WITH ADEQUATE VENTILATION. AVOID BREATHING VAPOR AND SPRAY MIST. AVOID CONTACT WITH SKIN AND EYES. WASH HAND AFTER USING.

VENTILATION: LOCAL EXHAUST PREFERABLE. GENERAL EXHAUST ACCEPTABLE IF THE EXPOSURE TO MATERIALS IN SECTION II IS MAINTAINED BELOW APPLICABLE EXPOSURE LIMITS. REFER TO OSHA STANDARDS 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION: IF PERSONAL EXPOSURE CANNOT BE CONTROLLED BELOW APPLICABLE LIMITS BY VENTILATION, WEAR A PROPERLY FITTED ORGANIC VAPOR/ PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA FOR PROTECTION AGAINST MATERI IN SECTION II.

PROTECTIVE GLOVES: NONE REQUIRED FOR NORMAL APPLICATION OF AEROSOL PRODUCTS WHERE MINIMAL SKIN CONTACT IS EXPECTED. FOR LONG OR REPEATED CONTACT, WEAR CHEMICAL RESISTANT GLOVES.

EYE PROTECTION: WEAR SAFETY SPECTACLES WITH UNPERFORATED SIDESHIELDS.

SECTION IX - PRECAUTIONS

DOL STORAGE CATEGORY: 1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP AWAY FROM HEAT, SPARK AND OPEN FLAME. VAPORS WILL ACCUMULATE READILY AND MAY IGNITE EXPLOSIVELY.

DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA VENTILATED - DO NOT SMO EXTINGUISH ALL FLAMES, PILOT LIGHTS, AND HEATERS - TURN OFF STOVES, ELECTRI TOOLS AND APPLIANCES, AND ANY OTHER SOURCES OF IGNITION.

CONSULT NFPA CODE. USE APPROVED BONDING AND GROUNDING PROCEDURES.

CONTENTS UNDER PRESSURE. DO NOT PUNCTURE, INCINERATE, OR EXPOSE TO TEMPERAT ABOVE 120 F. HEAT FROM SUNLIGHT, RADIATORS, STOVES, HOT WATER, AND OTHER HE SOURCES COULD CAUSE CONTAINER TO BURST. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN.

OTHER PRECAUTIONS: INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.

SECTION X - OTHER REGULATORY INFORMATION:

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION:

CAS NO.	CHEMICAL/COMPOUND	% BY WT	% ELEMENT

NO INGREDIENTS IN THIS PRODUCT ARE SUBJECT TO SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION.

2W757

CALIFORNIA PROPOSITION 65:
WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA T CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

TSCA CERTIFICATION: ALL CHEMICALS IN THIS PRODUCT ARE LISTED, OR ARE EXEMPT FROM LISTING, ON THE TSCA INVENTORY.

THE ABOVE INFORMATION PERTAINS TO THIS PRODUCT AS CURRENTLY FORMULATED, AND BASED ON THE INFORMATION AVAILABLE AT THIS TIME. ADDITION OF REDUCERS OR OT ADDITIVES TO THIS PRODUCT MAY SUBSTANTIALLY ALTER THE COMPOSITION AND HAZAR OF THE PRODUCT. SINCE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL, WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND ASSUME NO LIABILITY IN CONNECTION WITH USE OF THIS INFORMATION.

LIQUID MASK TMC# 1090257

Techform Laboratories Material Safety Data Sheet

to comply with 29 CFR 1910.1200, OSHA's Hazard Communication Standard

TC 533

Section I:

Techform Laboratories
2021 N. Glassell Street
Orange, CA 92665

Emergency Telephone 1-(714)-921-9054
CHEMTREC after hours 1-(800)-424-9300
Revised: 1/4/94

Section II: Hazardous Ingredients/Identity information

Hazardous Component	CAS#	OSHA PEL	ACGIH TLV	Other limits	%
AMMONIUM HYDROXIDE	1336-21-6	50.0	18.00mg/m^3	NE	< 1%

Only those ingredients listed in this section have been determinded to be hazardous as defined in 29CFR 1910.1200. An ingredient marked with an asterisk(*) is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.
+ Denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (Section 313).

Section III: Physical/Chemical Characteristics

Boiling Point: 212°F
Vapor Pressure (mm Hg): = Water
Vapor Density: = Water
Solubility in water: (10.0 - 99.9%)
Specific Gravity: 1.0
Melting Point: NE
Evaporation Rate (butyl acetate=1): <1.0
Appearance and odor: Milky liquid, slight ammonia odor.

Section IV: Fire and Explosion Hazard Data

Flash Point: NE
Flammable limits lel NE uel NE
Extinguishing media: Dry chemical, water, CO^2
Special fire fighting procedures: Use self contained breathing apparatus.
Unusual Fire and Explosion Hazards: NONE

Section V: Reactivity Data

Stability : STABLE Conditions to avoid : none
Incompatability (materials to avoid): NE
Hazardous Decomposition or Byproducts: CO, CO2
Hazardous Polymerization: WILL NOT OCCUR Conditions to avoid: none

Product name: TC 533 **Revised: 1/4/94**

Section VI: Health Hazard Data
Routes of entry: Inhalation Yes Skin No Ingestion No
Health Hazards (acute and chronic)
Contact may cause irritation. Prolonged or repeated contact may cause allergic dermatitis.
Carcinogenicity: not determined NTP? no IARC Monographs? no OSHA Regulated? no

Signs and symptoms of exposure: Inhalation-Headache, dizziness, difficulty breathing. Ingestion-nausea, vomiting. Skin-redness, burning, rash, dryness.
Eye-redness, burning, tearing, blurred vision.
Medical Conditions Aggravated by exposure: Skin allergies and respiratory conditions.

EMERGENCY FIRST AID PROCEDURES:

Skin:	Flush with water immediately - Seek medical attention if irritation persists
Eyes:	Flush with water for 15 minutes - Seek medical attention if irritation persists
Ingestion:	Drink large amounts of water - seek medical attention. Never give liquids to an unconscious person.
Inhalation:	Remove to fresh air. Support respiration. If required - Seek medical attention.

Section VII: Precautions for Safe Handling and Use
Steps to be taken if material is released or spilled: Flush into a chemical sewer or soak up with a suitable absorbant.
Waste Disposal Method: dispose of in accordance with all local state and federal regulations
Other Precautions: Avoid contact as much as possible.

Section VIII: Control Measures
Respiratory Protection (type): Organic vapor mask for fumes over TLV.
Ventilation Local Exhaust preferred Special NE
Mechanical OK Other NE
Protective Gloves: plastic or rubber Eye Protection: Goggles or face shield
Other Protective Clothing or Equipment: as required to avoid contact.
Work/Hygienic Practices: Wash after use. Follow good industrial hygienic practices.

Section IX: Additional Information
DOT Hazard Classification: None
NFPA Hazard Class:(NFPA 325M, 8th Edition)(Health, Flammability, Reactivity):1-0-0
Other: None

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to TECHFORM LABORATORIES at the time of issue. No warranty, guarantee or representation is made by TECHFORM LABORATORIES nor does TECHFORM LABORATORIES assume any responsibility in connection therewithin; nor can it be assumed that all acceptable safety measures or toher safety measures may not be required under particular or exceptional conditions or circumstances.

NE = not established

This MSDS should be attached or kept with the respective product with which it is associated.

****

MATERIAL SAFETY DATA SHEET - A0671

Rec. 1/12/01

Associated Grainger Items

5E229

LOCTITE CORPORATION 01/30/00

ROCKY HILL, CONNECTICUT 06067

EMERGENCY PHONE: (860) 571-5100

OF 05

COLOR GUARD(R) TOUGH RUBBER COATING - BLUE

81814

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ITEM NO.: 81814

PRODUCT TYPE: SOLVENT BASED COATING MATERIAL.

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENTS	CAS NO.	%
HYDROTREATED HEAVY NAPHTHA	64742-48-9	30-35
THERMOPLASTIC RUBBER	66070-58-4	25-30
N-HEXANE*	110-54-3	15-20
TOLUENE*	108-88-3	15-20
METHYL ETHYL KETONE*	78-93-3	5-10

* THIS COMPONENT IS LISTED AS A SARA SECTION 313 TOXIC CHEMICAL.

INGREDIENTS WHICH HAVE EXPOSURE LIMITS

EXPOSURE LIMITS (TWA)	ACGIH	OSHA	OTHER
INGREDIENTS	(TLV)	(PEL)	
HYDROTREATED HEAVY NAPHTHA	5MG/M3 TWA MIST	5MG/M3 TWA MIST	400 PPM
N-HEXANE	50 PPM TWA	50 PPM TWA 180MG/M3	NONE
TOLUENE	50 PPM SKIN 188 MG/M3 SKIN	100 PPM 375MG/M3	NONE
METHYL ETHYL KETONE	200 PPM TWA 590 MG/M3	200 PPM TWA 590 MG/M3	NONE
EXPOSURE LIMITS (STEL)	ACGIH	OSHA	
INGREDIENTS	(TLV)	(PEL)	
HYDROTREATED HEAVY NAPHTHA	10 MG/M3 MIST	NONE	
TOLUENE	NONE	150 PPM 560MG/M3	
METHYL ETHYL KETONE	300 PPM 885 MG/M3	300 PPM 885 MG/M3	

3. HAZARDS IDENTIFICATION

TOXICITY: BRAIN AND NERVOUS SYSTEM DAMAGE. DRYING OR CRACKING SKIN.

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE AND SKIN CONTACT.

SIGNS AND SYMPTOMS OF EXPOSURE: HEADACHE, DIZZINESS, FATIGUE,DROWSINESS, IRREGULAR HEARTBEAT, SKIN AND EYE IRRITATION.

LOCTITE CORPORATION 01/30/00

ROCKY HILL, CONNECTICUT 06067

EMERGENCY PHONE: (860) 571-5100

OF 05

ITEM NO.: 81814

3. HAZARDS IDENTIFICATION (CONTINUED)

EXISTING CONDITIONS

AGGRAVATED BY EXPOSURE: TOLUENE; EYE, LIVER, SKIN, RESPIRATORY,AND CENTRAL
NERVOUS SYSTEM DISEASES, AND ALCOHOLISM.
HEART, KIDNEY, AND LUNG DISORDERS.

INGREDIENTS	LITERATURE REFERENCED TARGET ORGAN AND OTHER HEALTH EFFECTS	CARCINOGEN NTP	IARC	OSHA
HYDROTREATED HEAVY NAPHTHA	NTO	NO	NO	NO
THERMOPLASTIC RUBBER	NO DATA	NO	NO	NO
N-HEXANE	DEV IRR LUN NER REP	NO	NO	NO
TOLUENE	BEH CAR CNS DEV EAR IRR	NO	NO	NO
METHYL ETHYL KETONE	CNS IRR	NO	N/A	NO

ABBREVIATIONS

N/A NOT APPLICABLE	BEH BEHAVIORAL
CAR CARDIAC	CNS CENTRAL NERVOUS SYSTEM
DEV DEVELOPMENTAL	EAR EAR
IRR IRRITANT	LUN LUNG
NER NERVOUS SYSTEM	NTO NO TARGET ORGANS
REP REPRODUCTIVE	

OTHER POSSIBLE TARGET ORGANS: CARDIOVASCULAR SYSTEM, KIDNEY, SKIN, LIVER, LUNG, RESPIRATORY SYSTEM, AND CENTRAL AND PERIPHERAL NERVOUS SYSTEMS.

4. FIRST AID MEASURES

INGESTION: DO NOT INDUCE VOMITING. KEEP INDIVIDUAL CALM. OBTAIN MEDICAL ATTENTION.

INHALATION: REMOVE TO FRESH AIR. IF SYMPTOMS PERSIST, OBTAIN MEDICAL ATTENTION. ADMINISTER OXYGEN OR ARTIFICIAL
RESPIRATION IF NECESSARY.

SKIN CONTACT: WASH WITH SOAP AND WATER.

EYE CONTACT: FLUSH AT LEAST 15 MINUTES WITH WATER. OBTAIN MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

FLASH POINT: LESS THAN 2F METHOD: TAG CLOSED CUP

RECOMMENDED
EXTINGUISHING AGENTS: CARBON DIOXIDE, FOAM, DRY CHEMICAL.

SELF CONTAINED BREATHING APPARATUS WITH A FULL FACE PIECE OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE SHOULD BE USED WHEN

5. FIRE FIGHTING MEASURES (CONTINUED)

CONFRONTED WITH LARGE FIRES.

SPECIAL FIREFIGHTING
PROCEDURES: NOT AVAILABLE

HAZARDOUS PRODUCTS FORMED
BY FIRE OR THERMAL DECOMP OXIDES OF CARBON.

UNUSUAL FIRE OR
EXPLOSION HAZARDS: THIS MATERIAL IS FLAMMABLE AND MAY BE IGNITED BY HEAT, SPARKS, FLAME OR STATIC ELECTRICITY.

EXPLOSIVE LIMITS:
(% BY VOLUME IN AIR)LOWER 1.0%
(% BY VOLUME IN AIR)UPPER 11.5%

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK: REMOVE SOURCES OF IGNITION. MAINTAIN ADEQUATE VENTILATION. SOAK UP WITH AN INERT ABSORBENT. STORE IN A CLOSED CONTAINER UNTIL DISPOSAL.

7. HANDLING AND STORAGE

SAFE STORAGE: STORE BELOW 120F IN CLOSED CONTAINER.

(CONTACT LOCTITE CUSTOMER SERVICE 1-800-243-4874 FOR SHELF LIFE INFORMATION)

HANDLING: KEEP AWAY FROM EYES. AVOID PROLONGED BREATHING OF VAPORS OR PROLONGED SKIN CONTACT. KEEP AWAY FROM SPARKS, FLAMES, OR HIGH HEAT SOURCES.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EYES: CHEMICAL SPLASH GOGGLES.

SKIN: IMPERVIOUS RUBBER OR PLASTIC GLOVES RECOMMENDED. IMPERVIOUS CLOTHING OR BOOTS AS NEEDED.

VENTILATION: SUFFICIENT TO MAINTAIN VAPOR CONCENTRATION BELOW TLV.

RESPIRATORY NIOSH/MSHA APPROVED ORGANIC VAPOR CARTRIDGE RESPIRATOR IF INDICATED. SEE SECTION 2 FOR EXPOSURE LIMITS.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: BLUE LIQUID

ODOR: MODERATE

BOILING POINT: 151-300F

PH: DOES NOT APPLY

SOLUBILITY IN WATER: INSOLUBLE

9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

SPECIFIC GRAVITY 0.93

VOLATILE ORGANIC COMPOUND (EPA METHOD 24) 74%; 5.3 POUNDS/GALLON.

VAPOR PRESSURE: 118MM HG

VAPOR DENSITY: 2.5 TO 4.1

EVAPORATION RATE (ETHER = 1) 2.5

10. STABILITY AND REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

INCOMPATIBILITY: STRONG ACIDS, BASES, OXIDIZING AGENTS, SELECTED AMINES WITH ALKALI METALS AND HALOGENS.

CONDITIONS TO AVOID: NOT AVAILABLE

HAZARDOUS DECOMPOSITION PRODUCTS (NON-THERMAL): OXIDES OF CARBON, FORMIC ACID, DIMETHYLAMINE, PEROXIDES.

11. TOXICOLOGICAL INFORMATION

SEE SECTION 3.

12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE

13. DISPOSAL CONSIDERATIONS

RECOMMENDED METHODS OF DISPOSAL: INCINERATE FOLLOWING EPA AND LOCAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER D001/D035 - HAZARDOUS WASTE PER 40CFR 261.21 AND A TCLP WASTE PER 261.24/METHYL ETHYL KETONE.

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)

DOMESTIC GROUND TRANSPORT

PROPER SHIPPING NAME: CONSUMER COMMODITY (NOT MORE THAN ONE LITER);
COATING SOLUTION (MORE THAN ONE LITER)

HAZARD CLASS OR
DIVISION: ORM-D (NOT MORE THAN ONE LITER);
CLASS 3, PACKING GROUP II (MORE THAN ONE LITER)

IDENTIFICATION NUMBER: NONE (NOT MORE THAN ONE LITER);
UN 1139 (MORE THAN ONE LITER)

MARINE POLLUTANT: NONE

IATA

LOCTITE CORPORATION 01/30/00

ROCKY HILL, CONNECTICUT 06067

EMERGENCY PHONE: (860) 571-5100

OF 05

ITEM NO.: 81814

14. TRANSPORTATION INFORMATION (CONTINUED)

PROPER SHIPPING NAME: COATING SOLUTION

CLASS OR DIVISION: CLASS 3, PACKING GROUP II

UN OR ID NUMBER: UN 1139

15. REGULATORY INFORMATION

CA PROPOSITION 65: WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO
THE STATE OF CALIFORNIA TO CAUSE BIRTH
DEFECTS OR OTHER REPRODUCTIVE HARM.
TOLUENE

16. OTHER INFORMATION

ESTIMATED NFPA(R) CODE:

HEALTH HAZARD: 2

FIRE HAZARD: 3

REACTIVITY HAZARD: 0

SPECIFIC HAZARD: NONE

ESTIMATED HMIS(R) CODE:

HEALTH HAZARD: 2

FLAMMABILITY HAZARD: 3

REACTIVITY HAZARDS: 1

PERSONAL PROTECTION: SEE SECTION 8.

NFPA IS A REGISTERED TRADEMARK OF THE NATIONAL FIRE PROTECTION ASSN.

HMIS IS A REGISTERED TRADEMARK OF THE NATIONAL PAINT AND COATINGS ASSN.

PREPARED BY: STEPHEN REPETTO

TITLE: RESEARCH CHEMIST, ENVIRONMENTAL HEALTH & SAFETY

COMPANY: LOCTITE CORP., 1001 TR BR CR, ROCKY HILL CT 06067

(24HR.) PHONE: (860) 571-5100

REVISION DATE: JANUARY 27, 1999 REVISION: 0008

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0067395516 HAZARDOUS MATERIAL WARNING (HAZMAT) 5E229

When shipment is complete, retain for daily Hazmat audit.

****

GRAINGER SHIPPING INFORMATION

STOCK # : 5E229

MSDS # : A0671

FREIGHT CODE : 0800

DOT PROPER SHIP NAME : CONSUMER COMMODITY, ORM-D

UPS RESTRICTIONS : 20 LB. & UNDER REQUIRES 200 LB. BSC/32 ECT,
21 LB. & OVER REQUIRES 275 LB. BSC/44 ECT.

HAZARDOUS CLASS NUMBER :

UN ID # :

PACKING GROUP :

SHIPPING LABEL : ORM-D

:

LIMITED QUANTITY : N

CARTON INSTRUCTIONS : CAN REPACK IN GRAINGER S CARTON

EXCEPTION :

DOT/UPS EXEMPTION NO. :

COMMENTS 1 : HAZARDOUS MATERIAL. DO NOT SHIP AIR!!

COMMENTS 2 :

SHIPPING PAPERS : AUTOMATED BILL OF LADING REQUIRED FOR TRUCK SHIPMENTS.

PLACARD OFFERED ? YES ( ) NO ( ) PLEASE MARK ONE

ERG TO ACCOMPANY SHIPMENT

****

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 8/12/99
35:54
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Flexible Anaerobic Gasket Flange Sealant
Item No.: 17430 — TMC 1-99414
Product Type: Anaerobic Adhesive

Rec. 8/18/99

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Urethane Methacrylate Resin	Proprietary	55-60
Substituted hydroxyalkyl methacrylate	Proprietary	20-25
Poly(ethylene)	9002-88-4	15-20
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
*CUMENE HYDROPEROXIDE**	80-15-9	0.1-1
SACCHARIN	81-07-2	0.1-1

TMC#1099414

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Estimated oral LD50 greater than 5000 mg/kg.
Estimated dermal LD50 greater than 2000 mg/kg.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact with sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Urethane Methacrylate Resin	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Poly(ethylene)	NTO	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	*NO*	*NO*	*NO*
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	YES	2B	NO

Abbreviations

N/A Not Applicable
ALG Allergen
CNS Central nervous system
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
BLO Blood
COR Corrosive
KID Kidney
NTO No Target Organs
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Does not apply
Skin Contact: Wash with soap and water.
Eye Contact: *Flush at least 15 minutes with water.* Obtain medical attention.

Product Name: Flexible Anaerobic Gasket Flange Sealant
Item No.: 17430

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Nitrile or neoprene gloves.
Ventilation:	Does not apply
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue gel
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.020
Volatile Organic Compound (EPA Method 24)	Not available
Vapor Pressure:	Less than 5mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted

Product Name: Flexible Anaerobic Gasket Flange Sealant
Item No.: 17430

Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: *This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.*
Traces of ethylene oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Louis Fabrizio
Title: Regulatory Affairs Specialist
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0030

Rec 8/24/99

LOCTITE CORPORATION 07/01/99
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 05

5900 Flange Sealant
20166

TMC # 1258387

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Item No.: 20166
Product Type: Elastomeric Rubber

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Calcium carbonate	471-34-1	25-50
Poly(dimethylsiloxane), hydroxy terminated	70131-67-8	20-40
Poly(dimethylsiloxane), dimethyl	63148-62-9	5-20
Oximinosilane	Proprietary	1-10
Silica, amorphous, treated	71889-01-5	1-5
CARBON BLACK	1333-86-4	1-3
Stearic acid	57-11-4	0.5-2
Methyl ethyl ketoxime	Proprietary	***

***When this product is exposed to moisture, up to 10% methyl ethyl ketoxime may be formed.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Calcium carbonate	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 respir.	None
Silica, amorphous, treated	10 mg/m3	15 mg/m3 dust 5 mg/m3 respir.	None
CARBON BLACK	3.5 mg/m3 TWA	3.5 mg/m3 TWA	5ppm
Methyl ethyl ketoxime	None	None	3 ppm TWA 10 ppm STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Skin and eye irritant. Moderately toxic ingestion.
When heated to temperatures above 300°F (150°C) in the presence of air, this product can form

LOCTITE CORPORATION 07/01/99
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

Item No.: 20166

3. HAZARDS IDENTIFICATION (continued)

MOR 000940

formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate eyes, nose and throat. Safe handling conditions may be maintained by keeping vapor concentrations below the OSHA permissible limit for formaldehyde.

Primary Routes of Entry: Skin, ingestion, inhalation.

Signs and Symptoms of Exposure: Methyl ethyl ketoxime produced during cure is toxic and irritates eyes, nose and throat.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Calcium carbonate	NUI	NO	NO	NO
Poly(dimethylsiloxane), hydroxy terminated	NTO	NO	NO	NO
Poly(dimethylsiloxane), dimethyl	IRR	NO	NO	NO
Oximinosilane	No Data	NO	NO	NO
Silica, amorphous, treated	No Data	NO	NO	NO
CARBON BLACK	RES	NO	2B	NO
Stearic acid	IRR	NO	NO	NO
Methyl ethyl ketoxime	ALG BLO CNS EYE IRR SOM	NO	NO	NO

Abbreviations

2B Possibly carcinogenic to humans	ALG Allergen
BLO Blood	CNS Central nervous system
EYE Eyes	IRR Irritant
NTO No Target Organs	NUI Nuisance dust
RES Respiratory	SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Wipe off paste with paper towel or cloth. Wash thoroughly with soap and water

Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: More than 200°F Method: Tag Closed Cup

Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical

Special Firefighting Procedures: Not available

Hazardous Products formed by Fire or Thermal Decomp: Formaldehyde, silica fume, oxides of carbon.

Unusual Fire or

Explosion Hazards:	None
Explosive Limits:	
(% by volume in air) Lower	Not available
(% by volume in air) Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Wipe or scrape up spilled material. Maintain good ventilation for large spills. Place scrap material in a well ventilated area and allow to cure to rubber.

7. HANDLING AND STORAGE

Safe Storage:	Store in a dry area below 90°F. Keep containers closed when not in use.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid skin and eye contact. Avoid breathing vapor.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles. Avoid contact lenses.
Skin:	Rubber or plastic gloves.
Ventilation:	Provide local ventilation for prolonged use in a confined area.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Base: Black paste.
Odor:	Mild.
Boiling Point:	Not Applicable, Polymeric
pH:	7-8
Solubility in Water:	Polymerized
Specific Gravity	1.31

9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

Volatile Organic Compound (EPA Method 24)	4.01%; 52.5 grams per liter
Vapor Pressure:	Less than 5mm at 70°F.
Vapor Density:	3.0
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers. Polymerized by contact with moisture.
Conditions to Avoid:	Not available
Hazardous Decomposition	

Products (non-thermal): Methyl ethyl ketoxime

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Cured rubber can be incinerated or landfilled following EPA and local regulations
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport

Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted
Identification Number:	None
Marine Pollutant:	None

IATA

Proper Shipping Name:	Unrestricted
Class or Division:	Unrestricted
UN or ID Number:	None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Traces of ethylene oxide, propylene oxide and dioxane.

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	1
Fire Hazard:	1
Reactivity Hazard:	0
Specific Hazard:	No water

Estimated HMIS(R) Code:

Health Hazard:	1
Flammability Hazard:	1
Reactivity Hazards:	0
Personal Protection:	See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By:	Stephen Repetto
Title:	Research Chemist, Environmental Health & Safety
Company:	Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone:	(860) 571-5100
Revision Date:	January 27, 1999 Revision: 0010

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LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 7/28/00
51:27
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

TMC# 126598
Rec. 8/7/00

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FLANGE SEALANT 509 300ML CQ
Item No.: 21525
Product Type: Anaerobic Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Urethane Methacrylate Resin	Proprietary	55-60
Substituted hydroxyalkyl methacrylate	Proprietary	20-25
Poly(ethylene)	9002-88-4	15-20
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
Polyglycol dimethacrylate	25852-47-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
CUMENE HYDROPEROXIDE*	80-15-9	0.1-1
SACCHARIN	81-07-2	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Possible mild eye irritant.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact with sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Urethane Methacrylate Resin	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Poly(ethylene)	NTO	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO

Abbreviations

N/A Not Applicable
ALG Allergen
CNS Central nervous system
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
BLO Blood
COR Corrosive
KID Kidney
NTO No Target Organs
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Does not apply
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water.

Product Name: FLANGE SEALANT 509 300ML CQ
Item No.: 21525

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Does not apply
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue liquid
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.12
Volatile Organic Compound (EPA Method 24)	12.88%; 131.4 grams per liter
Vapor Pressure:	Less than 5mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172) Domestic Ground Transport Proper Shipping Name:	Unrestricted

Product Name: FLANGE SEALANT 509 300ML CQ
Item No.: 21525

Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None

IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene Oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1*
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
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Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0010

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077
Product Type: Conductive Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
SILVER*	7440-22-4	50-70
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	1-10
Amine hardener	Proprietary	1-5
HARDENER	Proprietary	1-5
Carbitol acetate	112-15-2	1-5

* This component is listed as a SARA Section 313 Toxic Chemical.

The following numbers have been used to register components of this product as trade secrets for the State of New Jersey:
NJ 06-070-1067-5041P
NJ 06-070-1067-5042P
NJ 06-070-1067-5090P
NJ 06-070-1067-5091P
NJ 06-070-1067-5092P

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILVER	0.1 mg/m3 TWA	0.01mg/m3 TWA	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: May irritate eyes, skin, and gastrointestinal tract. Prolonged or repeated exposure may cause allergic skin reaction. Prolonged expoxure to silver may cause argyria which is a pigmentation of skin and other body tissue.

Primary Routes of Entry: Inhalation, ingestion, eyes, skin.

Signs and Symptoms of Exposure: Inhalation may produce allergic reactions in some individuals. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Eye contact may cause severe irritation, burning sensation, blurred vision. Skin contact may produce allergic reaction in some individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
SILVER	ALG EYE IRR RES SKI	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	No Data	NO	NO	NO
Amine hardener	No Data	NO	NO	NO
HARDENER	No Data	NO	NO	NO
Carbitol acetate	CNS IRR KID	NO	NO	NO

Abbreviations

ALG Allergen
EYE Eyes
KID Kidney
SKI Skin
CNS Central nervous system
IRR Irritant
RES Respiratory

MOR 000948

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Seek medical attention immediately.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing, wash immediately

	with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, obtain medical attention.
Eye Contact:	Flush thoroughly with water. If irritation persists, obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method:Pensky-Martens Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Use self-contained breathing supply.
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Take up with an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 80°F. Refrigerated storage (-40°F) is recommended to extend shelf life
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged inhalation of mists or vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Wear chemical splash goggles.
Skin:	Wear solvent resistant gloves.
Ventilation:	Provide sufficient local exhaust ventilation to maintain exposure below TLV(s).
Respiratory	If the TLV of the product is exceeded, a mechanical or self contained breathing appartus is advised.
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver liquid\paste
Odor:	Faint epoxy
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Not available
Specific Gravity	2.44
Volatile Organic Compound (EPA Method 24)	3.04 %; 74.26 grams/liter
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Amines, aldehydes

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Do not landfill. Dispose of commercial material and empty containers through a licensed/permitted disposal contractor.

EPA Hazardous Waste Number: D011 / TCLP hazardous when disposed of per 40 CFR 261.24 (Silver).

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
epichlorohydrin

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2*
- Flammability Hazard: 1
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

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HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Gary Pierson
Title: Health and Safety Specialist
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0005

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 8/29/00
52:51
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Rec. 9/8/00 SV

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FLANGE SEALANT 509 850 CQ
Item No.: 50965
Product Type: Anaerobic Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Urethane Methacrylate Resin	Proprietary	55-60
Substituted hydroxyalkyl methacrylate	Proprietary	20-25
Poly(ethylene)	9002-88-4	15-20
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
Polyglycol dimethacrylate	25852-47-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
CUMENE HYDROPEROXIDE*	80-15-9	0.1-1
SACCHARIN	81-07-2	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Possible mild eye irritant.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact with sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Urethane Methacrylate Resin	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Poly(ethylene)	NTO	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO

Abbreviations

N/A Not Applicable
ALG Allergen
CNS Central nervous system
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
BLO Blood
COR Corrosive
KID Kidney
NTO No Target Organs
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Does not apply
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water.

Product Name: FLANGE SEALANT 509 850 CQ
Item No.: 50965

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Does not apply
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue liquid
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.12
Volatile Organic Compound (EPA Method 24)	12.88%; 131.4 grams per liter
Vapor Pressure:	Less than 5mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted

Product Name: FLANGE SEALANT 509 850 CQ
Item No.: 50965

Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None

IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene Oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1*
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0010

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100 FAX: (860) 571-5465

Rec. 10/12/01

ISSUED 10/02/01 23:32:03

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Loctite(R) 5900(R) Flange Sealant Sensor-Safe
Item No.: 20167
Product Type: Elastomeric Rubber

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Calcium carbonate	471-34-1	25-50
Poly(dimethylsiloxane), hydroxy terminated	70131-67-8	20-40
Poly(dimethylsiloxane), dimethyl	63148-62-9	5-20
Oximinosilane	Proprietary	1-10
Silica, amorphous, treated	71889-01-5	1-5
CARBON BLACK	1333-86-4	1-3
Stearic acid	57-11-4	0.5-2
Methyl ethyl ketoxime	96-29-7	***

***When this product is exposed to moisture, up to 10% methyl ethyl ketoxime may be formed.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Calcium carbonate	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 respir.	None
Silica, amorphous, treated	10mg/m3 (Inhal) 3mg/m3 (Resp)	20 mppcf	6 mg/m3
CARBON BLACK	3.5 mg/m3 TWA	3.5 mg/m3 TWA	5ppm
Methyl ethyl ketoxime	None	None	3 ppm TWA 10 ppm STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Skin and eye irritant. Moderately toxic ingestion.
When heated to temperatures above 300°F (150°C) in the presence of air, this product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate eyes, nose and throat. Safe handling conditions may be maintained by keeping vapor concentrations below the OSHA permissible limit for formaldehyde.

Primary Routes of Entry: Skin, ingestion, inhalation.

Signs and Symptoms of Exposure: Methyl ethyl ketoxime produced during cure is toxic and irritates eyes, nose and throat.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Calcium carbonate	NUI	NO	NO	NO
Poly(dimethylsiloxane), hydroxy terminated	NTO	NO	NO	NO
Poly(dimethylsiloxane), dimethyl	IRR	NO	NO	NO
Oximinosilane	No Data	NO	NO	NO
Silica, amorphous, treated	No Data	NO	NO	NO
CARBON BLACK	RES	NO	2B	NO
Stearic acid	IRR	NO	NO	NO
Methyl ethyl ketoxime	ALG BLO CNS EYE IRR SOM	NO	NO	NO

Abbreviations

2B Possibly carcinogenic to humans
ALG Allergen
BLO Blood
CNS Central nervous system
EYE Eyes
IRR Irritant
NTO No Target Organs
NUI Nuisance dust
RES Respiratory
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wipe off paste with paper towel or cloth. Wash thoroughly with soap and water
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Formaldehyde, silica fume, oxides of carbon.
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Wipe or scrape up spilled material. Maintain good ventilation for large spills. Place scrap material in a well ventilated area and allow to cure to rubber.

7. HANDLING AND STORAGE

Safe Storage:	Store in a dry area below 90°F. Keep containers closed when not in use.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid skin and eye contact. Avoid breathing vapor.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles. Avoid contact lenses.
Skin:	Rubber or plastic gloves.
Ventilation:	Provide local ventilation for prolonged use in a confined area.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black paste.
Odor:	Mild.
Boiling Point:	Not Applicable, Polymeric
pH:	7-8
Solubility in Water:	Polymerized
Specific Gravity	1.31
Volatile Organic Compound (EPA Method 24)	4.01%; 52.5 grams per liter
Vapor Pressure:	Less than 5mm at 70°F.
Vapor Density:	3.0
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers. Polymerized by contact with moisture.
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Methyl ethyl ketoxime

Product Name: Loctite(R) 5900(R) Flange Sealant Sensor-Safe
Item No.: 20167

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Cured rubber can be incinerated or landfilled following EPA and local regulations

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Traces of ethylene oxide, propylene oxide and dioxane.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 1
- Fire Hazard: 1
- Reactivity Hazard: 0
- Specific Hazard: No water

Estimated HMIS(R) Code:
- Health Hazard: 1
- Flammability Hazard: 1
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist - Health & Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0010

Rec 1/26/01
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 300ML HIGH TEMP FLANGE SLT
Item No.: 12666
Product Type: Anaerobic

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Polyurethane methacrylate resin	Proprietary	65-70
Aromatic dimethacrylate ester	24448-20-2	5-10
Hydroxyalkyl methacrylate	868-77-9	5-10
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	5-10
ACRYLIC ACID*	79-10-7	5-7
CUMENE HYDROPEROXIDE*	80-15-9	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
SACCHARIN	81-07-2	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Hydroxyalkyl methacrylate	None	None	3 ppm ceiling
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
ACRYLIC ACID	2 ppm TWA skin 5.9 mg/m3 skin	10 ppm TWA skin 30 mg/m3 skin	1 ppm TWA skin 3 ppm STEL skin
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Liquid is an eye and skin irritant.
Vapors may irritate eye, nose and throat.
Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.

Primary Routes of Entry: None known

Signs and Symptoms of Exposure: Irritation of eyes, skin , nose or throat. May cause dermatitis on,prolonged contact in sensitive individuals.

Existing Conditions Aggravated by Exposure: Acrylic acid: Upper respiratory and lung diseases, dermatitis

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyurethane methacrylate resin	No Data	NO	NO	NO
Aromatic dimethacrylate ester	ALG IRR	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
ACRYLIC ACID	ALG COR IRR KID LIV	NO	N/A	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	NO	NO	NO
SACCHARIN	NTO	NO	N/A	NO

Abbreviations

N/A Not Applicable
BLO Blood
COR Corrosive
KID Kidney
MUT Mutagen
NUI Nuisance dust
ALG Allergen
CNS Central nervous system
IRR Irritant
LIV Liver
NTO No Target Organs
SOM Evidence of some carcinogenicity

Product Name: 300ML HIGH TEMP FLANGE SLT
Item No.: 12666

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	2.0% Acrylic acid
(% by volume in air)Upper	8.0% Acrylic acid

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Scrape up as much as possible and store in a half filled, closed container until disposal. Residues may be cleaned up with solvent.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged breathing of vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Must be adequate to avoid exceeding TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue Gel
Odor:	Sharp
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Low
Specific Gravity	1.1 at 80°F
Volatile Organic Compound (EPA Method 24)	Not available
Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

Product Name: 300ML HIGH TEMP FLANGE SLT
Item No.: 12666

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene Oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 1
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 26, 1999 Revision: 0032

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 7/13/00
44:55
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Loctite(R) Flexible Anaerobic Gasket Flange Slnt
Item No.: 17430
Product Type: Anaerobic Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Urethane Methacrylate Resin	Proprietary	55-60
Substituted hydroxyalkyl methacrylate	Proprietary	20-25
Poly(ethylene)	9002-88-4	15-20
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
CUMENE HYDROPEROXIDE*	80-15-9	0.1-1
SACCHARIN	81-07-2	0.1-1

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* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Estimated oral LD50 greater than 5000 mg/kg.
Estimated dermal LD50 greater than 2000 mg/kg.

Primary Routes of Entry: None known

Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact with sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Urethane Methacrylate Resin	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Poly(ethylene)	NTO	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO

Abbreviations

N/A Not Applicable	2B Possibly carcinogenic to humans
ALG Allergen	BLO Blood
CNS Central nervous system	COR Corrosive
IRR Irritant	KID Kidney
MUT Mutagen	NTO No Target Organs
NUI Nuisance dust	SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Does not apply

Skin Contact: Wash with soap and water.

Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

Product Name: Loctite(R) Flexible Anaerobic Gasket Flange Slnt
Item No.: 17430

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Nitrile or neoprene gloves.
Ventilation:	Does not apply
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue gel
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.020
Volatile Organic Compound (EPA Method 24)	Not available
Vapor Pressure:	Less than 5mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted

Product Name: Loctite(R) Flexible Anaerobic Gasket Flange Slnt
Item No.: 17430

Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Traces of ethylene oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Louis Fabrizio
Title: Regulatory Affairs Specialist
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0030

Received 7/24/00

LOCTITE CORPORATION 07/23/00

ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 06

Loctite(R) ODC-Free Cleaner & Degreaser
20260

Tmc 128260

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Item No.: 20260
Product Type: Hydrocarbon blend

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Hydrotreated heavy naphtha	64742-48-9	75-85
d-Limonene	5989-27-5	15-25

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Hydrotreated heavy naphtha	5mg/m3 TWA mist	5mg/m3 TWA mist	400 ppm
d-Limonene	None	None	30 ppm

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
Hydrotreated heavy naphtha	10 mg/m3 mist	None

3. HAZARDS IDENTIFICATION

Toxicity: High concentrations of vapors may be mildly irritating to lungs and mucous membranes of the nose and throat.
Vapors will irritate and may harm eyes.
Contact may defat skin.
Ingestion causes irritation and effects similar to inhalation. If swallowed, may be aspirated into the lungs resulting in inflamation and possible fluid accumulation.

Primary Routes of Entry: Inhalation, eye and skin contact.

Signs and Symptoms of Exposure: Inhalation: dizziness, excitation, headache, drowsiness, incoordination, and anesthesia.
Eye contact: tearing, swelling, irritation.
Skin contact: irritation, reddening, swelling, rash.
Ingestion: irritation, dizziness, excitation, drowsiness, incoordination, anesthesia, and headache.

LOCTITE CORPORATION 07/23/00

ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 02 of 06

Item No.: 20260

3. HAZARDS IDENTIFICATION (continued)

Existing Conditions
Aggravated by Exposure: Skin disorders, asthma-like disorders

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Hydrotreated heavy naphtha	NTO	NO	NO	NO
d-Limonene	IRR	NO	N/A	NO

Abbreviations

N/A Not Applicable
NTO No Target Organs
IRR Irritant

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get medical attention immediately.

Inhalation: Remove to fresh air. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and obtain immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing Obtain medical attention if irritation persists.

Eye Contact: Immediately flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: 120°F Method: Tag Closed Cup

Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical (B-C)

Special Firefighting Procedures: The use of self contained breathing apparatus is recommeneded for fire fighters. Water may be unsuitable as an extingushing media, but helpful in keeping adjacent containers cool. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Products formed by Fire or Thermal Decomp: Oxides of carbon.

5. FIRE FIGHTING MEASURES (continued)

Unusual Fire or Explosion Hazards: Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drums (even empty) because product or

residues can ignite explosively. Keep work areas free of hot metal surfaces and other sources of ignition.

Explosive Limits:
(% by volume in air)Lower 0.7%
(% by volume in air)Upper 4.4%

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Spilled liquid is combustible and can be ignited by heat, sparks, flames, or other sources of ignition. REmove all sources of ignition. Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Keep sources of ignition and hot metal surfaces isolated from the spill. Maintain adequate ventilation. Do not allow liquid to enter sewers, storm drains, other unauthorized treatment facilities, and natural waterways. Use explosion-proof equipment. Absorb spilled liquid with inert material and place in a closed chemical waste container until disposal.

7. HANDLING AND STORAGE

Safe Storage: Do not store near fire, sparks, or flame. Do not puncture or incinerate container.

(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)

Handling: Use with adequate ventilation. Avoid prolonged skin contact. Keep away from eyes. Avoid breathing vapors. Do not use near heat, sparks, open flame or other sources of ignition. Keep out of the reach of children.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses, chemical goggles, and/or face shields.

Skin: Impermeable nitrile gloves and aprons.

Ventilation: General mechanical ventilation may be sufficient to keep vapor/mist concentrations within specified time-weighted TLV ranges. If general ventilation proves inadequate to maintain safe vapor/mist concentrations, supplemental local exhaust may be required.

Respiratory NIOSH approved respirator if ventilation is inadequate.

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Slightly hazy liquid
Odor:	Citrus
Boiling Point:	310°F-410°F
pH:	Does not apply
Solubility in Water:	Insoluble
Specific Gravity	0.72-0.78
Volatile Organic Compound (EPA Method 24)	100%; 720-780 grams per liter
Vapor Pressure:	20.8 mm Hg at 72.5°F
Vapor Density:	Heavier than air
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizing agents, strong acids or bases, selected amines.
Conditions to Avoid:	Do not use or store near fire, sparks, or flame. Do not puncture or incinerate container. Exposure to temperatures above 120°F may cause container to burst.
Hazardous Decomposition Products (non-thermal):	Hydrocarbons

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	D001 - Hazardous waste per 40CFR 261.21

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Unrestricted (Not more than 450 liters); Petroleum distillates, n.o.s. (More than 450 liters)
Hazard Class or Division:	Unrestricted (Not more than 450 liters); Combustible liquid (More than 450 liters)
Identification Number:	None (Not more than 450 liters); UN 1268 (More than 450 liters)
Marine Pollutant:	None
IATA	
Proper Shipping Name:	Consumer Commodity (Not more than 500 ml); Petroleum distillates, n.o.s. (More than 500 ml)

Class or Division:	Class 9 (Not more than 500 ml) Class 3, Packing Group III (More than 500 ml)
UN or ID Number:	ID 8000 (Not more than500 ml); UN 1268 (More than 500 ml)

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	1
Fire Hazard:	2
Reactivity Hazard:	0
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	1
Flammability Hazard:	2
Reactivity Hazards:	0
Personal Protection:	See Section 8.

16. OTHER INFORMATION (continued)

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By:	Stephen Repetto
Title:	Research Chemist- Safety,Health&Regulatory Affairs
Company:	Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone:	(860) 571-5100
Revision Date:	February 17, 1999 Revision: 0009

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637
Product Type: Aerosol accelerator

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ACETONE	67-64-1	70-75
ISOBUTANE	75-28-5	15-20
PROPANE	74-98-6	10-15
N,N-Dialkyltoluidine	99-97-8	0.1-1

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ACETONE	750 ppm TWA 1780 mg/m3	750 ppm TWA 1800 mg/m3	None
PROPANE	Asphyxiant	1000 ppm 1800 mg/m3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETONE	1000 ppm 2380 mg/m3	1000 ppm 2400 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Possible eye irritant.
Moderately toxic by ingestion.
Estimated dermal LD50 more than 2000 mg/kg.

Primary Routes of Entry: Inhalation, ingestion, contact.

Signs and symptoms of Exposure: Vapors irritate eyes, nose and throat.
Liquid is an eye irritant and may irritate skin.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ACETONE	BLO CNS IRR	NO	NO	NO
ISOBUTANE	CAR CNS LUN	NO	NO	NO
PROPANE	CAR CNS IRR	NO	NO	NO
N,N-Dialkyltoluidine	MUT	NO	NO	NO

Abbreviations

BLO Blood
CNS Central nervous system
LUN Lung
CAR Cardiac
IRR Irritant
MUT Mutagen

4. FIRST AID MEASURES

Ingestion: Give water to dilute. Do not induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Wash with soap and water.

Eye Contact: Flush with water for at least 15 minutes. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	144°F (Base)	Method: Tag Closed Cup
	-165°F (Propellants)	Method: Open Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical	
Special Firefighting Procedures:	Not available	
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors	
Unusual Fire or Explosion Hazards:	Cans may explode in fires.	
Explosive Limits: (% by volume in air) Lower	1.2% N,N-Dialkyltoluidine 2.6% Acetone 1.8% Isobutane 2.1% Propane	
(% by volume in air) Upper	7% N,N-Dialkyltoluidine 13% Acetone 8.4% Isobutane 9.8% Propane	

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Avoid flame, sparks and other sources of ignition. Maintain adequate ventilation. Soak up in an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store away from flame, sparks and other sources of ignition. Store below 100°F.
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)	
Handling:	Avoid prolonged breathing of fumes. Avoid skin or eye contact. Do not use near heat, sparks, or open flame.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to amber liquid
Odor:	Acetone
Boiling Point:	135°F (Base only)
pH:	Does not apply
Solubility in Water:	Miscible
Specific Gravity	0.7926 (Base only)
Volatile Organic Compound (EPA Method 24)	1.02%;808 grams per liter of material (Base only)
Vapor Pressure:	Approximately 180mm at 68°F (Base only)
Vapor Density:	Approximately 2 (Base only)
Evaporation Rate (Ether = 1)	1.9 (Base only)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations. Do not incinerate cans still under pressure.

EPA Hazardous Waste Number: D001 - Hazardous waste per 40CFR 261.21

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Consumer Commodity
- Hazard Class or Division: ORM-D
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Aerosols, flammable, n.o.s.
- Class or Division: Division 2.1
- UN or ID Number: UN 1950

15. REGULATORY INFORMATION

A Proposition 65: This product does not contain any chemicals regulated by California Proposition 65.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 4
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 4
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 22, 1996 Revision: 0012

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1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name:	Removable Threadlocker 242
Item No.:	24231
Product Type:	Anaerobic

II. COMPOSITION

Ingredients	CAS No.	%
Polyglycol dimethacrylate	25852-47-5	60-65
Polyglycol oleate	9004-96-0	25-30
SACCHARIN	81-07-2	3-5
CUMENE HYDROPEROXIDE*	80-15-9	1-3
METHYL ALCOHOL*	67-56-1	1-3
SILICA, AMORPHOUS TREATED	112945-52-5	1-3
N,N-Dialkyltoluidines	613-48-9	0.1-1
TITANIUM DIOXIDE	13463-67-7	0.1-0.5

* This component is listed as a SARA Section 313 Toxic Chemical.

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Solubility in Water:	Slight
Specific Gravity:	1.1 at 75°F
Boiling Point:	More than 300°F
Volatile Organic Compound (EPA Method 24)	13.3%; 146 grams per liter
Evaporation Rate (Ether = 1)	Not available
[illegible]:	Does not apply
Appearance:	Blue liquid
Odor:	Mild

IV. FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point:	More than 200°F Method: Tag Closed Cup
Estimated NFPA Code:	
Health Hazard:	1
Fire Hazard:	1
Reactivity Hazard:	1
Specific Hazard:	Does not apply
Estimated HMIS Code:	
Health Hazard:	1
Flammability Hazard:	1
Reactivity Hazard:	1
Personal Protection:	See Section X.
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Hazardous Products Formed by Fire or Thermal Decomp	Irritating organic vapors; oxides of carbon.
Unusual Fire or Explosion Hazards:	None
Compressed Gases:	None
Pressure at Room Temp.:	Does not apply

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V. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak:	Soak up in an inert absorbent. Store in a partly filled, closed container until disposal.
[illegible]commended methods of disposal:	Incinerate following EPA and local regulations

Product Name: Removable Threadlocker 242
Item No.: 24231

VI. STORAGE AND HANDLING PROCEDURES

Safe Storage: Store below 100°F.
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling: Avoid prolonged skin contact. Keep away from eyes.

VII. SHIPPING REGULATIONS

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted
Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

VIII. REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products (non-thermal): None
Incompatability: None

IX. EMERGENCY TREATMENT PROCEDURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention
Inhalation: Does not apply
Skin Contact: Wash with soap and water
Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

X. PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Neoprene, rubber, or butyl rubber gloves.
Ventilation: Does not apply

XI. HEALTH HAZARD DATA

Toxicity: Mild eye irritant
Oral LD50 more than 10000 mg/kg.
Dermal LD50 more than 5000 mg/kg.

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Primary Routes of Entry: Eye, skin contact.

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Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact in sensitive individuals

Existing Conditions Aggravated by Exposure: None known

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
METHYL ALCOHOL	200ppm TWA skin 262 mg/m3 skin	200ppm TWA skin 262 mg/m3 skin	None
SILICA, AMORPHOUS TREATED	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
TITANIUM DIOXIDE	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 resp	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL ALCOHOL	250 ppm skin 328 mg/m3 skin	250 ppm skin 325 mg/m3 skin

Ingredients for which no Exposure Limits have been established are not listed above.

Product Name: Removable Threadlocker 242
Item No.: 24231

XI. HEALTH HAZARD DATA (continued)

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
Polyglycol oleate	IRR	NO	NO	NO
SACCHARIN	No Data	YES	2B	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
METHYL ALCOHOL	EYE IRR MET NER	NO	NO	NO
SILICA, AMORPHOUS TREATED	NUI	NO	N/A	NO
N,N-Dialkyltoluidines	No Data	NO	NO	NO
TITANIUM DIOXIDE	IRR NUI	NO	NO	NO

Abbreviations

N/A Not Applicable
ALG Allergen
COR Corrosive
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
CNS Central nervous system
EYE Eyes
MET Metabolic
NER Nervous System

XII. PREPARATION INFORMATION

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 03, 1995 Revision: 0028

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1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

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MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION THREADLOCKER 620

Product Name: Retaining Compound 620 High Temperature
Item No.: 62040
Product Type: Anaerobic

II. COMPOSITION

Ingredients	CAS No.	%
Aromatic dimethacrylate ester	24448-20-2	75-80
Maleimide resin	3006-93-7	10-15
CUMENE HYDROPEROXIDE*	80-15-9	1-3
Hydroxyalkyl methacrylate	27813-02-1	1-3
METHYL ALCOHOL*	67-56-1	1-3
SILICA, AMORPHOUS TREATED	112945-52-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
N,N-Dialkyltoluidines	613-48-9	0.1-1
MALEIC ACID	110-16-7	0.1-1
SACCHARIN	81-07-2	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure: Less than 5mm at 80°F
Vapor Density: Not available
Solubility in Water: Slight
Specific Gravity: 1.1 at 80°F
Boiling Point: More than 300°F
Volatile Organic Compound
(EPA [illegible]) 0.[illegible], 01.[illegible] [illegible]
Vaporation Rate
(Ether = 1) Not available
pH: Does not apply
Appearance: Green liquid
Odor: Mild

IV. FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point: More than 200°F Method: Tag Closed Cup
Estimated NFPA Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply
Estimated HMIS Code:
Health Hazard: 1
Flammability Hazard: 1
Reactivity Hazard: 1
Personal Protection: See Section X.
Explosive Limits:
(% by volume in air)Lower 6% Methanol
(% by volume in air)Upper 36% Methanol
Recommended
Extinguishing Agents: Carbon dioxide, foam, dry chemical
Hazardous Products Formed
by Fire or Thermal Decomp Irritating organic vapors
Unusual Fire or
Explosion Hazards: None
Compressed Gases: None
Pressure at Room Temp.: Does not apply

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V. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak: Soak up in an inert absorbent. Store in partly filled, closed container until disposal.

Recommended methods of disposal: Incinerate following EPA and local regulations

Product Name: Retaining Compound 620 High Temperature
Item No.: 62040

VI. STORAGE AND HANDLING PROCEDURES

Safe Storage: Store below 100°F.
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling: Avoid prolonged skin contact. Keep away from eyes.

VII. SHIPPING REGULATIONS

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted
Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

VIII. REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products (non-thermal): None
Incompatability: None

IX. EMERGENCY TREATMENT PROCEDURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Does not apply
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

X. PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Rubber or plastic gloves.
Ventilation: Does not apply

XI. HEALTH HAZARD DATA

Toxicity: Eye irritant.
Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact in sensitive individuals.
Existing Conditions Aggravated by Exposure: Malemide resin: dermatitis

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Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Hydroxyalkyl methacrylate	None	None	3 ppm ceiling
METHYL ALCOHOL	200ppm TWA skin 262 mg/m3 skin	200ppm TWA skin 262 mg/m3 skin	None
SILICA, AMORPHOUS TREATED	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL ALCOHOL	250 ppm skin 328 mg/m3 skin	250 ppm skin 325 mg/m3 skin

Ingredients for which no Exposure Limits have been established are not listed above

Product Name: Retaining Compound 620 High Temperature
Item No.: 62040

XI. HEALTH HAZARD DATA (continued)

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Aromatic dimethacrylate ester	ALG IRR	NO	NO	NO
Maleimide resin	No Data	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
METHYL ALCOHOL	EYE IRR MET NER	NO	NO	NO
SILICA, AMORPHOUS TREATED	NUI	NO	N/A	NO
1-Acetyl-2-phenylhydrazine	ALG	NO	NO	NO
N,N-Dialkyltoluidines	No Data	NO	NO	NO
MALEIC ACID	IRR	NO	NO	NO
SACCHARIN	No Data	YES	2B	NO

Abbreviations

N/A Not Applicable
ALG Allergen
COR Corrosive
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
CNS Central nervous system
EYE Eyes
MET Metabolic
NER Nervous System

XII. PREPARATION INFORMATION

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 03, 1995 Revision: 0027

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EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 04

290 Threadlocker Wicking Grade
29005

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Item No.: 29005
Product Type: Anaerobic

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Polyglycol dimethacrylate	25852-47-5	90-95
CUMENE HYDROPEROXIDE*	80-15-9	3-5
SACCHARIN	81-07-2	1-3
N,N-Dialkyltoluidines	613-48-9	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Estimated oral LD50 more than 10000 mg/kg.
Estimated dermal LD50 more than 5000 mg/kg.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact in sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO
N,N-Dialkyltoluidines	NTO	NO	NO	NO

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MATERIAL SAFETY DATA SHEET Page 02 of 04

Item No.: 29005

3. HAZARDS IDENTIFICATION (continued)

Abbreviations

2B Possibly carcinogenic to humans	ALG Allergen
CNS Central nervous system	COR Corrosive
IRR Irritant	MUT Mutagen
NTO No Target Organs	

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None

Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

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MATERIAL SAFETY DATA SHEET Page 03 of 04

Item No.: 29005

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Neoprene, rubber, or butyl rubber gloves.
Ventilation:	Use adequate ventilation.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green liquid

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Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.07 at 80°F
Volatile Organic Compound (EPA Method 24)	12.6%; 135 grams per liter
Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. *TOXICOLOGICAL INFORMATION*

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

Item No.: 29005

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted
Identification Number:	None
Marine Pollutant:	None
IATA	
Proper Shipping Name:	Unrestricted
Class or Division:	Unrestricted
UN or ID Number:	None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
(ppb levels of Arsenic, Cd, Pb, Ni),

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	1
Fire Hazard:	1
Reactivity Hazard:	1
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	1
Flammability Hazard:	1
Reactivity Hazards:	1
Personal Protection:	See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0027

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EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 3201 Medical Device Adhesive Light Curing
Item No.: 19727
Product Type: UV Adhesive

TMC# 1143919
RT# 114008
9-2-97

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Aliphatic urethane acrylate oligomer	Proprietary	35-40
High boiling acrylate monomer	Proprietary	35-40
Hydroxyalkyl methacrylate	868-77-9	15-20
Phosphine compound	Proprietary	1-3
Photoinitiator	24650-42-8	1-3
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
Substituted silane	Proprietary	1-3

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Hydroxyalkyl methacrylate	None	None	3 ppm ceiling
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust

Exposure Limits (STEL) gredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: May be harmful if swallowed. Eye, skin, and inhalation irritant. Possible sensitizer.

Primary Routes of Entry: Dermal, eye contact, skin absorbtion.

Signs and symptoms of Exposure: Irritation of eyes, skin, or respiratory tract. This irritation may be delayed up to two days. Ingestion may cause nausea, abdominal discomfort, vomiting, or diarrhea.

Existing Conditions Aggravated by Exposure: Eczema and other skin allergies, asthma and other respiratory disorders; systemic diseases.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Aliphatic urethane acrylate oligomer	No Data	NO	NO	NO
High boiling acrylate monomer	ALG IRR	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Phosphine compound	No Data	NO	NO	NO
Photoinitiator	No Data	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
Substituted silane	IRR	NO	NO	NO

Abbreviations

A Not Applicable
IRR Irritant
ALG Allergen
NUI Nuisance dust

Product Name: 3201 Medical Device Adhesive Light Curing
Item No.: 19727

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Hazardous Products formed by Fire or Thermal Decomp	Oxides of carbon and nitrogen.
Unusual Fire or Explosion Hazards:	Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupturing of storage containers.
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Spontaneous hazardous polymerization may occur. Eliminate sources of ignition. Use eye and skin protection. Maintain adequate ventilation. Soak up with an inert absorbent. Store in a half filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store between 50°F and 90°F.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf Life information)
Handling:	Avoid eye and skin contact. Avoid breathing vapors. Do not use near sources of ignition.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Chemical splash safety goggles conforming to ANSI 287.1 - 1990.
Skin:	Neoprene gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pale yellow liquid
Odor:	Mild
Boiling Point:	More than 200°F
pH:	Does not apply
Solubility in Water:	Low
Specific Gravity	1.09
Volatile Organic Compound (EPA Method 24)	55.9%; 609 grams per liter
Vapor Pressure:	Not available
Vapor Density:	More than 1
Evaporation Rate (Ether = 1)	Not available

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10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong acids, bases, strong oxidizers, peroxides, copper alloys, carbon steel, rust, iron, and other

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1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Product Name: 3201 Medical Device Adhesive Light Curing
Item No.: 19727

10. STABILITY AND REACTIVITY (continued)

polymerization initiators.

Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted
Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene Oxide, Toluene

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 2
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 2
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist, Health and Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(hr.) Phone: (860) 571-5100
Revision Date: January 22, 1996 Revision: 0005

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EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: LiteTak(R) 375 Surface Curing UV Adhesive
Item No.: 37590
Product Type: UV

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Polyurethane acrylate resin	116958-43-1	60-65
N-Vinyl-2-pyrrolidinone	88-12-0	25-30
Acrylate ester	7328-17-8	5-10
Photoinitiator	947-19-3	3-5
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
N-Vinyl-2-pyrrolidinone	None	None	0.1 ppm
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Severe eye irritant. Skin, inhalation, and ingestion irritant. Possible sensitizer. Toxic by ingestion and inhalation.

Primary Routes of Entry: N-Vinyl-2-pyrrolidinone: Absorbtion or contact.

Signs and Symptoms of Exposure: Skin contact: May cause allergenic response in sensitive individuals; nausea, vomiting, convulsions.
Inhalation of high concentrations: Headache, nausea, dizziness, narcosis, pallor, lack of coordination, stupor.
Ingestion: Nausea, vomiting, diarrhea.
Eye contact: Burning, stinging, watering, inflammation.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyurethane acrylate resin	No Data	NO	NO	NO
N-Vinyl-2-pyrrolidinone	CRC IRR LIV SEN	NO	N/A	NO
Acrylate ester	ALG IRR	NO	NO	NO
Photoinitiator	No Data	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO

Abbreviations

N/A Not Applicable
CRC Carcinogen
LIV Liver
SEN Sensory
ALG Allergen
IRR Irritant
NUI Nuisance dust

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MATERIAL SAFETY DATA SHEET

Product Name: LiteTak(R) 375 Surface Curing UV Adhesive
Item No.: 37590

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up with an inert absorbent. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store between 40°F and 110°F away from light.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged breathing of vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.1
Volatile Organic Compound (EPA Method 24)	34.1%
Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

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10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers, peroxides, copper and alloys, carbon steel, iron, rust, strong bases. These incompatibilities do not preclude the use of this product as an adhesive for any substrate mentioned above; however, this product should not

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MATERIAL SAFETY DATA SHEET

Product Name: *LiteTak(R) 375 Surface Curing UV Adhesive*
Item No.: 37590

10. STABILITY AND REACTIVITY (continued)

be stored in a container composed in whole or in part of these substrates. See Technical Data Sheet for any restrictions other than incompatibility.

Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 1
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 22, 1996 Revision: 0024

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: LiteTak(R) 3751 Adhesive
Item No.: 21362
Product Type: UV

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Polyurethane acrylate resin	116958-43-1	50-55
Modified acrylamide	2680-03-7	15-20
Substituted hydroxyalkyl methacrylate	Proprietary	10-15
Acrylate ester	7328-17-8	5-10
Triacrylate ester	28961-43-5	5-10
Photoinitiator	24650-42-8	3-5
Benzoic acid derivative	10287-53-3	1-3
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Contact may injure eyes, skin or respiratory tract Eye, skin, and inhalation irritant. Possible sensitizer. Moderately toxic by ingestion. Tests have indicated that the triacrylate ester may cause lymphoma in mice. Breathing heated vapors may cause nausea, dizziness, or respiratory irritation resulting in severe or permanent allergic respiratory reaction.

Primary Routes of Entry: Eyes, skin.

Signs and Symptoms of Exposure: Irritation of eyes, skin, or respiratory tract.

Existing Conditions Aggravated by Exposure: Skin, eye, lung, and systemic diseases.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyurethane acrylate resin	No Data	NO	NO	NO
Modified acrylamide	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Acrylate ester	ALG IRR	NO	NO	NO
Triacrylate ester	ALG IRR	NO	NO	NO
Photoinitiator	No Data	NO	NO	NO
Benzoic acid derivative	No Data	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO

Abbreviations

N/A Not Applicable
IRR Irritant
ALG Allergen
NUI Nuisance dust

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MATERIAL SAFETY DATA SHEET

Product Name: LiteTak(R) 3751 Adhesive
Item No.: 21362

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	189°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors; oxides of carbon and nitrogen.
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Remove sources of ignition. Maintain adequate ventilation. Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F away from sources of ignition.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid breathing vapors. Keep away from sources of ignition.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Local, explosion-proof exhaust ventilation should be used.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, water-white liquid
Odor:	Mild ester and amine
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.062
Volatile Organic Compound (EPA Method 24)	32.94%; 350 grams per liter
Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

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10. STABILITY AND REACTIVITY

Stability:	Unstable
Hazardous Polymerization:	May occur
Incompatibility:	Strong oxidizers, peroxides, copper and alloys,

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MATERIAL SAFETY DATA SHEET

Product Name: LiteTak(R) 3751 Adhesive
Item No.: 21362

10. STABILITY AND REACTIVITY (continued)

carbon steel, iron, rust, strong bases, amines, acids, free radical producing initiators. These incompatibilities do not preclude the use of this product as an adhesive for any substrate mentioned above; however, this product should not be stored in a container composed in whole or in part of these substrates. See Technical Data Sheet for any restrictions other than incompatibility.

Conditions to Avoid: Not available

Hazardous Decomposition Products (non-thermal): *Dimethylamine*

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (N,N-Dimethylacrylamide solution)(More than 450 liters)
- Hazard Class or Division: Unrestricted (Not more than 450 liters); Combustible liquid (More than 450 liters)
- Identification Number: None (Not more than 450 liters); NA 1993 (More than 450 liters)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
toluene, phenyl glycidyl ether, ethylene oxide, acetaldehyde, dioxane

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 2
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 2
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Product Name: LiteTak(R) 3751 Adhesive
Item No.: 21362

16. OTHER INFORMATION (continued)

Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: September 24, 1997 Revision: 0006

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MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

UV ADHESIVE 495

Product Name:	Super Bonder(R) 495 General Purpose Inst Adh
Item No.:	49550
Product Type:	Cyanoacrylate Ester

II. COMPOSITION

Ingredients	CAS No.	%
Ethyl cyanoacrylate	7085-85-0	95-100
Poly (methyl methacrylate)	9011-14-7	3-5
HYDROQUINONE	123-31-9	0.1-1

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure:	Less than 0.2mm at 75°F
Vapor Density:	Approximately 3
Solubility in Water:	Polymerized by water.
Specific Gravity:	1.05 at 75°F
Boiling Point:	More than 300°F
Volatile Organic Compound (EPA Method 24)	94.7%; 994.35 g/l
Evaporation Rate (Ether = 1)	Not available
pH:	Not Applicable
Appearance:	Clear liquid
Odor:	Sharp, irritating.

IV. FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point:	150-200°F Method: Tag Closed Cup
Estimated NFPA Code:	
Health Hazard:	2
Fire Hazard:	2
Reactivity Hazard:	2
Specific Hazard:	Does not apply
Estimated HMIS Code:	
Health Hazard:	2
Flammability Hazard:	2
Reactivity Hazard:	2
Personal Protection:	See Section X.
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Hazardous Products Formed by Fire or Thermal Decomp	Irritating organic fragments.
Unusual Fire or Explosion Hazards:	None
Compressed Gases:	None
Pressure at Room Temp.:	Does not apply

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V. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak:	Flood with water to polymerize. Soak up with an inert absorbent.
Recommended methods of disposal:	Polymerize as above. Incinerate following EPA and local regulations

VI. STORAGE AND HANDLING PROCEDURES

Safe Storage:	Store at or below 75°F
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information) Handling:	Avoid contact with skin and eyes. Avoid breathing vapors.

Product Name: Super Bonder(R) 495 General Purpose Inst Adh
Item No.: 49550

VII. SHIPPING REGULATIONS

DOT (49 CFR 172)
Domestic Ground Transport

Proper Shipping Name:	Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
Hazard Class or Division:	Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
Identification Number:	None (Not more than 450 liters); NA 1993 (More than 450 liters)
Marine Pollutant:	None

IATA

Proper Shipping Name:	Unrestricted (Not more than one pint); Other regulated substances (More than one pint)
Class or Division:	Unrestricted (Not more than one pint); Class 9 (More than one pint)
UN or ID Number:	None (Not more than one pint) ID 8027 (More than one pint)

VIII. REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products (non-thermal):	None
Incompatability:	Polymerized by contact with water, alcohols, amines, alkalies.

IX. EMERGENCY TREATMENT PROCEDURES

Ingestion:	Ingestion is not likely. See supplemental page for emergency procedures.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Soak in warm water. See supplemental page for emergency procedures.
Eye Contact:	Flush with water. See supplemental page for emergency procedures.

X. PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation:	Positive down-draft exhaust ventilation should be provide to maintain vapor concentration below TLV.

XI. HEALTH HAZARD DATA

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Toxicity:	Skin contact may cause burns. Bonds skin rapidly and strongly. Skin and eye irritant. Estimated oral LD50 more than 5000mg/kg. Estimated dermal LD 50 more than 2000 mg/kg.
Primary Routes of Entry:	None known
Signs and Symptoms of Exposure:	Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.
Existing Conditions Aggravated by Exposure:	None known

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Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Ethyl cyanoacrylate	None	None	2 ppm TWA 9.1 mg/m3
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA

XI. HEALTH HAZARD DATA (continued)

4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
Ethyl cyanoacrylate	(4 ppm) (18 mg/m3)	(4 ppm) (16 mg/m3)

Ingredients for which no Exposure Limits have been established are not listed above.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Ethyl cyanoacrylate	ALG IRR RES	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
HYDROQUINONE	BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable
BLO Blood
CNS Central nervous system
IMM Immune system
MUT Mutagen
SKI Skin
ALG Allergen
BNM Bone Marrow
EYE Eyes
IRR Irritant
RES Respiratory

XII. PREPARATION INFORMATION

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 03, 1995 Revision: 0026

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Item No.: 49550

Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT
Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION
First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION
In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL
Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH
If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

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It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS
Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY
It should never be necessary to use such a drastic method to separate accidentally bonded skin

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650
Product Type: Cyanoacrylate Ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
METHYL 2-CYANOACRYLATE	137-05-3	90-95
Poly (methyl methacrylate)	9011-14-7	5-10
HYDROQUINONE	123-31-9	0.1-0.5

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
METHYL 2-CYANOACRYLATE	2 ppm TWA 9.1 mg/M3	2 ppm TWA 8 mg/M3	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL 2-CYANOACRYLATE	4 ppm 18 mg/M3	4 ppm 16 mg/M3

3. HAZARDS IDENTIFICATION

Toxicity: Skin contact may cause burns.
Bonds skin rapidly and strongly.
Skin and eye irritant.
Estimated oral LD50 more than 5000mg/kg.
Estimated dermal LD 50 more than 2000 mg/kg.

Primary Routes of Entry: None known

Signs and symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
METHYL 2-CYANOACRYLATE	ALG IRR	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations —

N/A Not Applicable
ALG Allergen
BNM Bone Marrow
EYE Eyes
IRR Irritant
SKI Skin
AC3 ACGIH animal carcinogen.
BLO Blood
CNS Central nervous system
IMM Immune system
MUT Mutagen

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4. FIRST AID MEASURES

Ingestion: Ingestion is not likely. See supplemental page for emergency procedures.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Soak in warm water. See supplemental page for emergency procedures.

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MATERIAL SAFETY DATA SHEET

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

4. FIRST AID MEASURES (continued)

Eye Contact: Flush with water. See supplemental page for emergency procedures.

5. FIRE FIGHTING MEASURES

Flash Point: 150-200°F Method: Tag Closed Cup
Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical
Hazardous Products formed by Fire or Thermal Decomp: Irritating organic fragments.
Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air) Lower: Not available
(% by volume in air) Upper: Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Flood with water to polymerize. Soak up with an inert absorbent.

7. HANDLING AND STORAGE

Safe Storage: Store at or below 75 deg. F
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)
Handling: Avoid contact with skin and eyes. Avoid breathing vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation: Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV.

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Sharp, irritating.
Boiling Point: More than 300°F
pH: Does not apply
Solubility in Water: Polymerized by water.
Specific Gravity: 1.09 at 75°F
Volatile Organic Compound (EPA Method 24): 92.6%; 1009.31 g/l
Vapor Pressure: Less than 0.2mm at 75°F
Vapor Density: Approximately 3
Evaporation Rate (Ether = 1): Not available

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: Polymerized by contact with water, alcohols, amines, alkalies.
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

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MATERIAL SAFETY DATA SHEET

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Polymerize as above. Incinerate in accordance with EPA and local regulations.

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
- Hazard Class or Division: Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
- Identification Number: None (Not more than 450 liters); NA 1993 (More than 450 liters)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted (Not more than one pint); Other regulated substances (More than one pint)
- Class or Division: Unrestricted (Not more than one pint); Class 9 (More than one pint)
- UN or ID Number: None (Not more than one pint) ID 8027 (More than one pint)

15. REGULATORY INFORMATION

CA Proposition 65: No California Proposition 65 chemicals are known to be present.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 2
- Reactivity Hazard: 1
- Specific Hazard: *Does not apply*

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 2
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

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HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0025

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MATERIAL SAFETY DATA SHEET

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT

Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION

First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION

In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL

Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH

If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS

Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn.
Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY

It should never be necessary to use such a drastic method to separate accidentally bonded skin.

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Loctite(R) 712 Accelerator Tak Pak(R)
Item No.: 20352
Product Type: Activator

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ISOPROPYL ALCOHOL	67-63-0	95-100
N,N-Dialkyltoluidine	99-97-8	1-3
HYDROQUINONE	123-31-9	0.01-0.1

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ISOPROPYL ALCOHOL	400 ppm TWA 983 mg/m3	400 ppm TWA 980 mg/m3	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ISOPROPYL ALCOHOL	500 ppm 1230 mg/m3	500 ppm 1225 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Eye and skin irritant. Also see "Signs and symptoms of exposure".
Primary Routes of Entry: Inhalation, ingestion, skin and eye contact.
Signs and symptoms of Exposure: Headache, nausea, dizziness, vomiting, drowziness, irritation of respiratory tract, loss of consciousness, pulmonary edema, temporary corneal damage, gastrointestinal irritation, central nervous system depression.
Existing Conditions Aggravated by Exposure: Isopropyl alcohol: Skin disorders, eye problems, respiratory disorder

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ISOPROPYL ALCOHOL	ALG CNS IRR	NO	N/A	NO
N,N-Dialkyltoluidine	MUT	NO	NO	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable
ALG Allergen
BNM Bone Marrow
EYE Eyes
IRR Irritant
SKI Skin
AC3 ACGIH animal carcinogen.
BLO Blood
CNS Central nervous system
IMM Immune system
MUT Mutagen

MOR 000999

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	53°F Method: Tag closed cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Oxides of carbon
Unusual Fire or Explosion Hazards:	Distant ignition sources may ignite vapors traveling with moving air currents.
Explosive Limits:	
(% by volume in air)Lower	2.0% Isopropyl alcohol 1.2% Dialkyl toluidine
(% by volume in air)Upper	12.7% isopropyl alcohol at 200°F 7% Dialkyltoluidine

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Remove sources of ignition. Allow to evaporate with good ventilation.

7. HANDLING AND STORAGE

Safe Storage:	Store below 110°F away from sources of ignition.
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)	
Handling:	Avoid prolonged breathing of vapor. Keep away from eyes. Avoid prolonged skin contact.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Provide adequate local ventilation to maintain vapor concentration below TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Odor:	Alcoholic
Boiling Point:	180°F
pH:	Does not apply
Solubility in Water:	95-100%
Specific Gravity	0.79
Volatile Organic Compound (EPA Method 24)	99.9%; 789 grams/liter
Vapor Pressure:	33 mm at 70°F
Vapor Density:	2.1
Evaporation Rate (Ether = 1)	7.7

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizing agents, aluminum, nitric acid, sulfuric acid, amines, ammonia, halogen acids and chlorides, aldehydes
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3

Product Name: Loctite(R) 712 Accelerator Tak Pak(R)
Item No.: 20352

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number: D001 - Hazardous waste per 40CFR 261.21

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Consumer Commodity (Not more than one liter); Isopropanol solution (More than one liter)
- Hazard Class or Division: ORM-D (Not more than one liter); Class 3, Packing Group II (More than one liter)
- Identification Number: None (Not more than one liter); UN 1219 (More than one liter)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Isopropanol solution
- Class or Division: Class 3, Packing Group II
- UN or ID Number: UN 1219

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 3
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 3
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0017

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1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637 Part of Kit: 20420
Product Type: Aerosol accelerator

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ACETONE	67-64-1	70-75
ISOBUTANE	75-28-5	15-20
PROPANE	74-98-6	10-15
N,N-Dialkyltoluidine	99-97-8	0.1-1

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ACETONE	750 ppm TWA 1780 mg/m3	750 ppm TWA 1800 mg/m3	None
PROPANE	Asphyxiant	1000 ppm 1800 mg/m3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETONE	1000 ppm 2380 mg/m3	1000 ppm 2400 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Possible eye irritant. Moderately toxic by ingestion. Estimated dermal LD50 more than 2000 mg/kg.
Primary Routes of Entry: Inhalation, ingestion, contact.
Signs and symptoms of Exposure: Vapors irritate eyes, nose and throat. Liquid is an eye irritant and may irritate skin.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ACETONE	BLO CNS IRR	NO	NO	NO
ISOBUTANE	CAR CNS LUN	NO	NO	NO
PROPANE	CAR CNS IRR	NO	NO	NO
N,N-Dialkyltoluidine	MUT	NO	NO	NO

Abbreviations

BLO Blood
CNS Central nervous system
LUN Lung
CAR Cardiac
IRR Irritant
MUT Mutagen

4. FIRST AID MEASURES

Ingestion: Give water to dilute. Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with water for at least 15 minutes. Obtain medical attention.

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MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637

5. FIRE FIGHTING MEASURES

Flash Point:	1.4°F (Base)	Method: Tag Closed Cup
	-165°F (Propellants)	Method: Open Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical	
Special Firefighting Procedures:	Not available	
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors	
Unusual Fire or Explosion Hazards:	Cans may explode in fires.	
Explosive Limits:		
(% by volume in air)Lower	1.2% N,N-Dialkyltoluidine 2.6% Acetone 1.8% Isobutane 2.1% Propane	
(% by volume in air)Upper	7% N,N-Dialkyltoluidine 13% Acetone 8.4% Isobutane 9.8% Propane	

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Avoid flame, sparks and other sources of ignition. Maintain adequate ventilation. Soak up in an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store away from flame, sparks and other sources of ignition. Store below 100°F.
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)	
Handling:	Avoid prolonged breathing of fumes. Avoid skin or eye contact. Do not use near heat, sparks, or open flame.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to amber liquid
Odor:	Acetone
Boiling Point:	135°F (Base only)
pH:	Does not apply
Solubility in Water:	Miscible
Specific Gravity	0.7926 (Base only)
Volatile Organic Compound (EPA Method 24)	1.02%;808 grams per liter of material (Base only)
Vapor Pressure:	Approximately 180mm at 68°F (Base only)
Vapor Density:	Approximately 2 (Base only)
Evaporation Rate (Ether = 1)	1.9 (Base only)

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10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637 Part of Kit: 20420
Product Type: Aerosol accelerator

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ACETONE	67-64-1	70-75
ISOBUTANE	75-28-5	15-20
PROPANE	74-98-6	10-15
N,N-Dialkyltoluidine	99-97-8	0.1-1

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ACETONE	750 ppm TWA 1780 mg/m3	750 ppm TWA 1800 mg/m3	None
PROPANE	Asphyxiant	1000 ppm 1800 mg/m3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETONE	1000 ppm 2380 mg/m3	1000 ppm 2400 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Possible eye irritant.
Moderately toxic by ingestion.
Estimated dermal LD50 more than 2000 mg/kg.
Primary Routes of Entry: Inhalation, ingestion, contact.
Signs and symptoms of Exposure: Vapors irritate eyes, nose and throat.
Liquid is an eye irritant and may irritate skin.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ACETONE	BLO CNS IRR	NO	NO	NO
ISOBUTANE	CAR CNS LUN	NO	NO	NO
PROPANE	CAR CNS IRR	NO	NO	NO
N,N-Dialkyltoluidine	MUT	NO	NO	NO

Abbreviations

BLO Blood
CNS Central nervous system
LUN Lung
CAR Cardiac
IRR Irritant
MUT Mutagen

4. FIRST AID MEASURES

Ingestion: Give water to dilute. Do not induce vomiting.
Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush with water for at least 15 minutes. Obtain medical attention.

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MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637

5. FIRE FIGHTING MEASURES

Flash Point:	1.4°F (Base)	Method: Tag Closed Cup
	-165°F (Propellants)	Method: Open Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical	
Special Firefighting Procedures:	Not available	
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors	
Unusual Fire or Explosion Hazards:	Cans may explode in fires.	
Explosive Limits: (% by volume in air)Lower	1.2% N,N-Dialkyltoluidine 2.6% Acetone 1.8% Isobutane 2.1% Propane	
(% by volume in air)Upper	7% N,N-Dialkyltoluidine 13% Acetone 8.4% Isobutane 9.8% Propane	

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Avoid flame, sparks and other sources of ignition. Maintain adequate ventilation. Soak up in an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store away from flame, sparks and other sources of ignition. Store below 100°F.
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)	
Handling:	Avoid prolonged breathing of fumes. Avoid skin or eye contact. Do not use near heat, sparks, or open flame.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to amber liquid
Odor:	Acetone
Boiling Point:	135°F (Base only)
pH:	Does not apply
Solubility in Water:	Miscible
Specific Gravity	0.7926 (Base only)
Volatile Organic Compound (EPA Method 24)	1.02%;808 grams per liter of material (Base only)
Vapor Pressure:	Approximately 180mm at 68°F (Base only)
Vapor Density:	Approximately 2 (Base only)
Evaporation Rate (Ether = 1)	1.9 (Base only)

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10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

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FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 7452 Accelerator Metered Mist
Item No.: 18637

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations. Do not incinerate cans still under pressure.

EPA Hazardous Waste Number: D001 - Hazardous waste per 40CFR 261.21

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Consumer Commodity
- Hazard Class or Division: ORM-D
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Aerosols, flammable, n.o.s.
- Class or Division: Division 2.1
- UN or ID Number: UN 1950

15. REGULATORY INFORMATION

CA Proposition 65: This product does not contain any chemicals regulated by California Proposition 65.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 4
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 4
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

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Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 22, 1996 Revision: 0012

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LOCTITE CORPORATION ROCKY HILL, CONNECTICUT 06067
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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Loctite(R) 4471 Instant Adhesive Prism(R) Surface Insensitive
Item No.: 44740
Product Type: Cyanoacrylate ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Ethyl cyanoacrylate	7085-85-0	85-90
Poly (methyl methacrylate)	9011-14-7	5-10
HYDROQUINONE	123-31-9	0.1-0.5

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Ethyl cyanoacrylate	0.2 ppm TWA	None	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Skin contact may cause burns. Bonds skin rapidly and strongly. Skin and eye irritant. Estimated oral LD50 more than 5000mg/kg. Estimated dermal LD 50 more than 2000 mg/kg.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Ethyl cyanoacrylate	ALG IRR RES	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR LIV MUT SKI THY	NO	N/A	NO

Abbreviations

N/A Not Applicable	AC3 ACGIH animal carcinogen.
ALG Allergen	BLO Blood
BNM Bone Marrow	CNS Central nervous system
EYE Eyes	IMM Immune system
IRR Irritant	LIV Liver
MUT Mutagen	RES Respiratory
SKI Skin	THY Thyroid

4. FIRST AID MEASURES

Ingestion: Ingestion is not likely. See supplemental page for emergency procedures.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Soak in warm water. See supplemental page for emergency procedures.
Eye Contact: Flush with water. See supplemental page for emergency procedures.

Provided By Electrical Insulation Suppliers Inc.

5. FIRE FIGHTING MEASURES

Flash Point: 150 - 200 F Method: Tag Closed Cup
Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical
Special Firefighting Procedures: Not available
Hazardous Products formed by Fire or Thermal Decomp Irritating organic vapors
Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air)Lower Not available
(% by volume in air)Upper Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Flood with water to polymerize. Soak up with an inert absorbent.

7. HANDLING AND STORAGE

Safe Storage: Store at or below 75 deg. F
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling: Avoid contact with eyes and skin. Avoid breathing of vapors

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation: Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV
Respiratory: Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Odor:	Sharp, irritating
Boiling Point:	More than 300 F
pH:	Does not apply
Solubility in Water:	Polymerized by water
Specific Gravity	1.05
Volatile Organic Compound (EPA Method 24)	87.2%; 916 grams per liter
Vapor Pressure:	Less than 0.2mm
Vapor Density:	Approximately 3
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability. Stable
Hazardous Polymerization: Will not occur
Incompatibility: Polymerized by contact with water, alcohols, amines, or alkalies.
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Polymerize as above. Incinerate in accordance with EPA and local regulations.
EPA Hazardous Waste Number NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport

Proper Shipping Name:	Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
Hazard Class or Division:	Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
Identification Number:	None (Not more than 450 liters); NA 1993 (More than 450 liters)
Marine Pollutant:	None

IATA

Proper Shipping Name:	Unrestricted (Not more than one pint); Aviation regulated liquid, n.o.s., (Cyanoacrylate Ester) (More than one pint)
Class or Division:	Unrestricted (Not more than one pint); Class 9 (More than one pint)
UN or ID Number:	None (Not more than one pint) UN 3334 (More than one pint)

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	2
Fire Hazard:	2
Reactivity Hazard:	1
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	2
Flammability Hazard:	2
Reactivity Hazards:	1
Personal Protection:	See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 26, 1999 Revision: 0009

17. Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT: Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin. Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of

adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION: First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION: In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL: Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH: If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS: Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY: It should never be necessary to use such a drastic method to separate accidentally bonded skin.

Provided By Electrical Insulation Suppliers Inc.

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100
ISSUED 6/01/01 23:48:43
FAX: (860) 571-5465

TMC-1282429

MATERIAL SAFETY DATA SHEET

Rec. 6/8/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077
Product Type: Conductive Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
SILVER*	7440-22-4	50-70
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	10-30
Epoxy resin	Proprietary	1-10
Amine hardener	Proprietary	1-5
HARDENER	Proprietary	1-5
Carbitol acetate	112-15-2	1-5

* This component is listed as a SARA Section 313 Toxic Chemical.

The following numbers have been used to register components of this product as trade secrets for the State of New Jersey:
NJ 06-070-1067-5041P
NJ 06-070-1067-5042P
NJ 06-070-1067-5090P
NJ 06-070-1067-5091P
NJ 06-070-1067-5092P

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILVER	0.1 mg/m3 TWA	0.01mg/m3 TWA	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: May irritate eyes, skin, and gastrointestinal tract. Prolonged or repeated exposure may cause allergic skin reaction. Prolonged expoxure to silver may cause argyria which is a pigmentation of skin and other body tissue.

Primary Routes of Entry: Inhalation, ingestion, eyes, skin.

Signs and Symptoms of Exposure: Inhalation may produce allergic reactions in some individuals. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Eye contact may cause severe irritation, burning sensation, blurred vision. Skin contact may produce allergic reaction in some individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
SILVER	ALG EYE IRR RES SKI	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	ALG IRR	NO	NO	NO
Epoxy resin	No Data	NO	NO	NO
Amine hardener	No Data	NO	NO	NO
HARDENER	No Data	NO	NO	NO
Carbitol acetate	CNS IRR KID	NO	NO	NO

Abbreviations

ALG Allergen
CNS Central nervous system
EYE Eyes
IRR Irritant
KID Kidney
RES Respiratory
SKI Skin

MOR 001009

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Seek medical attention immediately.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Remove contaminated clothing, wash immediately

	with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, obtain medical attention.
Eye Contact:	Flush thoroughly with water. If irritation persists, obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method:Pensky-Martens Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Use self-contained breathing supply.
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Take up with an inert absorbent. Store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 80°F. Refrigerated storage (-40°F) is recommended to extend shelf life
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged inhalation of mists or vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Wear chemical splash goggles.
Skin:	Wear solvent resistant gloves.
Ventilation:	Provide sufficient local exhaust ventilation to maintain exposure below TLV(s).
Respiratory	If the TLV of the product is exceeded, a mechanical or self contained breathing appartus is advised.
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver liquid\paste
Odor:	Faint epoxy
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Not available
Specific Gravity	2.44
Volatile Organic Compound (EPA Method 24)	3.04 %; 74.26 grams/liter
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Amines, aldehydes

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

Product Name: 3880 Adhesive Electrically Conductive
Item No.: 30077

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Do not landfill. Dispose of commercial material and empty containers through a licensed/permitted disposal contractor.

EPA Hazardous Waste Number: D011 / TCLP hazardous when disposed of per 40 CFR 261.24 (Silver).

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
epichlorohydrin

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2*
- Flammability Hazard: 1
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Gary Pierson
Title: Health and Safety Specialist
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0005

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Loctite(R) 509 Gasket Eliminator(R) Flange Sealant
Item No.: 21525
Product Type: Anaerobic Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Rec. 12/4/00 Stp

Ingredients	CAS No.	%
Urethane Methacrylate Resin	Proprietary	55-60
Substituted hydroxyalkyl methacrylate	Proprietary	20-25
Poly(ethylene)	9002-88-4	15-20
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
Polyglycol dimethacrylate	25852-47-5	1-3
1-Acetyl-2-phenylhydrazine	114-83-0	0.1-1
CUMENE HYDROPEROXIDE*	80-15-9	0.1-1
SACCHARIN	81-07-2	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Possible mild eye irritant.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact with sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Urethane Methacrylate Resin	No Data	NO	NO	NO
Substituted hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Poly(ethylene)	NTO	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
1-Acetyl-2-phenylhydrazine	ALG BLO KID MUT SOM	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO

Abbreviations

N/A Not Applicable
ALG Allergen
CNS Central nervous system
IRR Irritant
MUT Mutagen
NUI Nuisance dust
2B Possibly carcinogenic to humans
BLO Blood
COR Corrosive
KID Kidney
NTO No Target Organs
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Does not apply
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water.

Product Name: Loctite(R) 509 Gasket Eliminator(R) Flange Sealant
Item No.: 21525

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Does not apply
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue liquid
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.12
Volatile Organic Compound (EPA Method 24)	12.88%; 131.4 grams per liter
Vapor Pressure:	Less than 5mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport Proper Shipping Name:	Unrestricted

Product Name: Loctite(R) 509 Gasket Eliminator(R) Flange Sealant
Item No.: 21525

Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None

IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene Oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1*
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0010

LOCTITE CORPORATION 08/14/00
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 04

271(TM) High Strength Threadlocker
27131

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 271(TM) High Strength Threadlocker
Item No.: 27131
Product Type: Anaerobic

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Polyglycol dimethacrylate	25852-47-5	65-70
Bisphenol A fumarate resin	39382-25-7	20-25
SACCHARIN	81-07-2	3-5
CUMENE HYDROPEROXIDE*	80-15-9	1-3
N,N-Dialkyltoluidines	613-48-9	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Eye irritant.
Estimated oral LD50 more than 5000mg/kg
Estimated dermal LD50 more than 2000mg/kg
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact in sensitive individuals.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
Bisphenol A fumarate resin	ALG IRR	NO	NO	NO
SACCHARIN	NTO	NO	2B	NO

LOCTITE CORPORATION 08/14/00
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 02 of 04

Product Name: 271(TM) High Strength Threadlocker
Item No.: 27131

MOR 001015

3. HAZARDS IDENTIFICATION (continued)

CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
N,N-Dialkyltoluidines	NTO	NO	NO	NO

Abbreviations

2B Possibly carcinogenic to humans	ALG Allergen
CNS Central nervous system	COR Corrosive
IRR Irritant	MUT Mutagen
NTO No Target Organs	

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Does not apply
Skin Contact:	Flush with water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Soak up in an inert absorbent. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 100 deg. F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

MOR 001016

Eyes:	Safety glasses or goggles.
Skin:	Neoprene, rubber, or butyl rubber gloves.
Ventilation:	Does not apply

Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red liquid
Odor:	Mild
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.10 at 80°F
Volatile Organic Compound (EPA Method 24)	12.0%; 132 g/l
Vapor Pressure:	Less than 5mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted
Identification Number:	None
Marine Pollutant:	None
IATA	
Proper Shipping Name:	Unrestricted
Class or Division:	Unrestricted
UN or ID Number:	None

MOR 001017

15. *REGULATORY INFORMATION*

CA Proposition 65: This product contains Saccharin. No prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 1
- Fire Hazard: 1
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 1
- Flammability Hazard: 1
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist; Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0027

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MOR 001018

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 11/24/99
18:46:55
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Received 12/7/99 SOP

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Output(TM) 3151 Thermally Conductive Adh.
Item No.: 18843
Product Type: UV/Heat Cure

Sample for Cat MSS

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Aluminum hydroxide, hydrated	21645-51-2	65-70
Polyurethane methacrylate resin	Proprietary	15-20
Hydroxyalkyl methacrylate	868-77-9	5-10
Hydroxyalkyl methacrylate	27813-02-1	1-3
METHACRYLIC ACID	79-41-4	1-3
ACRYLIC ACID*	79-10-7	0.1-1
tert-BUTYL PEROXYBENZOATE	614-45-9	0.1-1
Dyed melamine resin	39277-28-6	0.1-1
Photoinitiator	24650-42-8	0.1-1
SACCHARIN	81-07-2	0.1-1
Glass	65997-17-3	0.1-1
Substituted silane	2530-85-0	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

The polyurethane methacrylate resin is registered with the state of New Jersey as a trade secret: NJ TSRN 06-070-1067-5068P.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Aluminum hydroxide, hydrated	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 respir.	None
Hydroxyalkyl methacrylate	None	None	3 ppm ceiling
Hydroxyalkyl methacrylate	None	None	1 ppm TWA 3 ppm STEL
METHACRYLIC ACID	20 ppm TWA 70 mg/m3	20 ppm TWA skin 70 mg/m3 skin	4 ppm skin 10 ppm skinSTEL
ACRYLIC ACID	2 ppm TWA skin 5.9 mg/m3 skin	10 ppm TWA skin 30 mg/m3 skin	1 ppm TWA skin 3 ppm STEL skin
Glass	10 mg/m3(inhal) 3 mg/m3(resp)	15 mg/m3(total) 5 mg/m3(resp)	None

2. COMPOSITION, INFORMATION ON INGREDIENTS (continued)

Ingredients	Exposure Limits (STEL) ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Liquid is an eye and skin irritant. Eye irritation may be severe. Vapors may irritate eye, nose and throat. May be harmful if swallowed. May cause kidney or liver damage.

Primary Routes of Entry: Skin and eye contact, inhalation, dermal absorbtion.

Signs and Symptoms of Exposure: Irritation of eyes, skin, nose or throat. May cause severe dermatitis on prolonged contact in sensitive individuals.

Existing Conditions Aggravated by Exposure: Acrylic acid: Upper respiratory and lung diseases, dermatitis

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Aluminum hydroxide, hydrated	IRR LUN RES	NO	NO	NO
Polyurethane methacrylate resin	No Data	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
METHACRYLIC ACID	ALG COR IRR	NO	NO	NO
ACRYLIC ACID	ALG COR IRR KID LIV	NO	N/A	NO
tert-BUTYL PEROXYBENZOATE	CNS IRR MUT	NO	NO	NO
Dyed melamine resin	No Data	NO	NO	NO
Photoinitiator	NTO	NO	NO	NO
SACCHARIN	NTO	YES	2B	NO
Glass	ALG RES	NO	NO	NO
Substituted silane	ALG IRR	NO	NO	NO

Abbreviations

N/A Not Applicable	2B Possibly carcinogenic to humans
ALG Allergen	CNS Central nervous system
COR Corrosive	IRR Irritant
KID Kidney	LIV Liver
LUN Lung	MUT Mutagen
NTO No Target Organs	RES Respiratory

Product Name: Output(TM) 3151 Thermally Conductive Adh.
Item No.: 18843

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush with water at least 15 minutes. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None

Explosive Limits:		
(% by volume in air)Lower	2.0%	Acrylic acid
(% by volume in air)Upper	8.0%	Acrylic acid

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Maintain adequate ventilation. Soak up in an inert absorbent. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 90°F. Avoid exposure to light.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged breathing of vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.
Respiratory	NIOSH/MSHA approved respirator if ventilation is inadequate.

See Section 2 for Exposure Limits.

Product Name: Output(TM) 3151 Thermally Conductive Adh.
Item No.: 18843

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pink liquid
Odor:	Sharp, irritating
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	1.8
Volatile Organic Compound (EPA Method 24)	Not available
Vapor Pressure:	Less than 3mm at 80°F
Vapor Density:	Not available
Evaporation Rate (Ether - 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Some acids, bases, oxidizing agents, reducing agents, some free radical initiators, some organic peroxides, mild steel (other than substrates).
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD 50 more than 2000 mg/kg.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport

Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted
Identification Number:	None
Marine Pollutant:	None

Product Name: Output(TM) 3151 Thermally Conductive Adh.
Item No.: 18843

14. TRANSPORTATION INFORMATION (continued)

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Ethylene oxide, toluene diisocyanate toluene, propylene oxide

This product contains Saccharin. No Prop65 hazard warning is necessary if this product is used as reasonably anticipated.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2*
- Flammability Hazard: 1
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist- Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0018

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 3870 Thermally Conductive Adhesive --High Modulus
Item No.: 23978
Product Type: UV-Heat Cure Adhesive

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ALUMINUM OXIDE	1344-28-1	70-75
Hydroxyalkyl methacrylate	27813-02-1	10-15
Urethane methacrylate resin	Proprietary	10-15
Aromatic dimethacrylate ester	24448-20-2	1-3
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
tert-BUTYL PEROXYBENZOATE	614-45-9	0.1-1
Photoinitiator	947-19-3	0.1-1
Glass	65997-17-3	0.1-1

Ingredients which have *exposure limits*

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ALUMINUM OXIDE	10 mg/m3 (Al)	15mg/m3 Al dust 5mg/m3Al respir	None
Hydroxyalkyl methacrylate	None	None	1 ppm TWA 3 ppm STEL
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
Photoinitiator	None	None	10 mg/m3
Glass	10 mg/m3(inhal) 3 mg/m3(resp)	15 mg/m3(total) 5 mg/m3(resp)	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Eye, skin, and inhalation irritant. May irritate throat and stomach if swallowed.
Primary Routes of Entry: None known
Signs and Symptoms of Exposure: Irritation of eyes, skin, or respiratory system. Irritation of throat or stomach if swallowed.
Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ALUMINUM OXIDE	COR IRR NUI	NO	NO	NO
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
Urethane methacrylate resin	No Data	NO	NO	NO
Aromatic dimethacrylate ester	ALG IRR	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
tert-BUTYL PEROXYBENZOATE	CNS IRR MUT	NO	NO	NO
Photoinitiator	No Data	NO	NO	NO
Glass	ALG RES	NO	NO	NO

Abbreviations

N/A Not Applicable
CNS Central nervous system
IRR Irritant
NUI Nuisance dust
ALG Allergen
COR Corrosive
MUT Mutagen
RES Respiratory

MOR 001024

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

Product Name: 3870 Thermally Conductive Adhesive --High Modulus
Item No.: 23978

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors; oxides of carbon, silicon.
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Scrape up as much as possible. Store in a half-filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store below 40°F.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid skin or eye contact. Do not breathe vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficeint to maintain vapor concentration below TLV.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light gray paste
Odor;	Mild
Boiling Point:	Not available
pH:	Does not apply
Solubility in Water:	Slight
Specific Gravity	Approximately 2.5
Volatile Organic Compound (EPA Method 24)	11.24%; 556 grams per liter
Vapor Pressure:	Less than 5 mm
Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	None
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Methacrylic acid, phenol.

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

Product Name: 3870 Thermally Conductive Adhesive --High Modulus
Item No.: 23978

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer. Propylene oxide

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 1
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist - Health & Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: February 12, 1999 Revision: 0005

Rec. 3/19/01

TMC-118086

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: LOW BREAKLOOSE PST 250ML TUBE
Item No.: 11415
Product Type: Anaerobic

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
DIETHYL PHTHALATE	84-66-2	55-60
SILICA, MICA	12001-26-2	15-20
Polyglycol dimethacrylate	25852-47-5	5-10
Poly(tetrafluoroethylene)	9002-84-0	5-10
Cellulose ester	9004-36-8	3-5
CUMENE HYDROPEROXIDE*	80-15-9	1-3
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
TITANIUM DIOXIDE	13463-67-7	1-3

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
DIETHYL PHTHALATE	5 mg/m3 TWA	5 mg/m3 TWA	None
SILICA, MICA	3 mg/m3 TWA	20 mppcf	None
Poly(tetrafluoroethylene)	None	None	AEL (DuPont) 5mg/m3 8hr dust
CUMENE HYDROPEROXIDE	None	None	1ppm(6mg/m3) Skin(WEEL)
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
TITANIUM DIOXIDE	10 mg/m3	15 mg/m3 Total dust	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Estimated Oral LD50 greater than 5000 mg/kg.
Estimated Dermal LD50 greater than 2000 mg/kg.

Primary Routes of Entry: Not Available

Signs and Symptoms of Exposure: May cause dermatitis on prolonged contact in sensitive individuals.

Existing Conditions Aggravated by Exposure: Mica: Respiratory

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
DIETHYL PHTHALATE	CNS IRR REP	NO	NO	NO
SILICA, MICA	LUN	NO	NO	NO
Polyglycol dimethacrylate	ALG IRR	NO	NO	NO
Poly(tetrafluoroethylene)	NTO	NO	N/A	NO
Cellulose ester	NTO	NO	NO	NO
CUMENE HYDROPEROXIDE	ALG CNS COR IRR MUT	NO	NO	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
TITANIUM DIOXIDE	IRR RES	NO	NO	NO

Abbreviations

N/A Not Applicable
CNS Central nervous system
IRR Irritant
MUT Mutagen
NUI Nuisance dust
RES Respiratory
ALG Allergen
COR Corrosive
LUN Lung
NTO No Target Organs
REP Reproductive

MOR 001027

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Remove to fresh air. If symptoms persist, obtain

medical attention.

Skin Contact: Flush with water.
Eye Contact: Flush with water.

5. FIRE FIGHTING MEASURES

Flash Point: More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical
Special Firefighting Procedures: Not available
Hazardous Products formed by Fire or Thermal Decomp Toxic fluorides.
Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air)Lower 0.75% at 187°C Diethyl phthalate
(% by volume in air)Upper Decomposes Diethyl phthalate

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Soak up with an inert absorbent. Store in partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage: Store below 100 deg. F
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling: Avoid prolonged skin contact. Do not use for prolonged periods in confined area without adaquate ventilation.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles recommended.
Skin: Rubber or plastic gloves recommended.
Ventilation: Local ventilation recommended for prolonged use.
Respiratory Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White Paste
Odor: Mild
Boiling Point: Greater than 300°F
pH: Does not apply
Solubility in Water: Slight
Specific Gravity 1.32 at 72°F
Volatile Organic Compound (EPA Method 24) Not available
Vapor Pressure: Less than 10mm at 80°F
Vapor Density: Not available
Evaporation Rate (Ether = 1) Not Available

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: None
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

MOR 001028

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number U088 - Hazardous waste per 40CFR 261.11(3)/ Diethyl Phthalate

Product Name: LOW BREAKLOOSE PST 250ML TUBE
Item No.: 11415

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted
Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 1
Flammability Hazard: 1
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0029

Rec. 9/8/99

CHEMTRONICS INC. MSDS #0707L

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Static Free Hand Guard Lotion.

Company Address:
8125 Cobb Center Drive
Kennesaw, GA 30152

Product Information: 800-TECH-401 Emergency: (Chemtrec) 800-424-9300
Customer Service: 800-645-5244 Revision Date: October 6, 1997

Product Identification

STATIC FREE™ HAND GUARD™ (Liquid)
(Formerly Hand Guard)

Product Code: C105, C805

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt. % Range
Deionized Water	7732-18-5	80.00-85.00
Stearic Acid	57-11-4	6.00-10.00
Isopropyl Palmitate	142-91-6	1.00-5.00
Propylene Glycol	57-55-6	1.00-4.00
Glyceral Stearate	31566-31-1	1.00-3.00

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Opaque, off-white cream. Nontoxic and nonhazardous. This product is not flammable.

Potential Health Effects:
Eyes: May cause slight irritation with prolonged contact.
Skin: No acute or chronic effects from contact expected.
Ingestion: May cause slight stomach upset if ingested in large quantities.
Inhalation: No acute or chronic effects expected from prolonged contact.

Pre-Existing Medical Conditions Aggravated by Exposure: None known.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.
Skin: No acute chronic effects expected from prolonged contact.
Ingestion: Swallowing less than an ounce will not cause significant harm. For larger amounts, DO NOT induce vomiting, but give one or two glasses of water to drink and get medical attention.
Inhalation: No acute or chronic effects expected from prolonged contact.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: None LEL/UEL: Not established (% by volume in air)
Extinguishing Media: Alcohol foam, carbon dioxide, or water spray are compatible when fighting fires in proximity to this material.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Scrape up spilled product and place in waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE INFORMATION

Special precautions are usually not required. Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

No published data are available on the exposure guidelines for the ingredients of this product.
Work/Hygienic Practices: Special precautions are usually not required.

NFPA and HMIS Codes:	NFPA	HMIS
Health	0	0
Flammability	0	0
Reactivity	0	0
Personal Protection	-	A

SECTION 9; PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Opaque cream
Odor: Non-descript
pH: NA
Vapor Pressure: NA
(Air 1)
Vapor Density: NA
(Air =1)
Color: White to off-white

Solubility in Water: Miscible
Specific Gravity: (Water =1) 1.05
Evaporation Rate: >>1
(Butyl acetate=1):
Viscosity: 4900 cps @ Room temperature
Percent Volatile: 85% by weight approximately.
Boiling Point: N/A
Melting Point: N/A

MOR 001030

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable.

Conditions to Avoid: None known.

Incompatibility: Strong oxidizing agents, acids or bases.

Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and incompletely burned hydrocarbons.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: NA

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation:
No signs or symptoms indicative of an adverse health effect are with this product.

Ingestion:
No signs or symptoms indicative of toxicity expected on contact are expected.

Skin: No irritation expected.

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC

SECTION 12: ECOLOGICAL INFORMATION

Environmental Impact Information

No other information is available.

Environmental Impact Data
Percent by weight

CFC	0.0%	VOC	0.0%
HFC	0.0%	HFC	0.0%
Cl. Solv.	0.0%	ODP	0.0%

For more information call:
1-800-645-5244

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations.

SECTION 14: TRANSPORTATION INFORMATION - This product is not currently regulated under IATA or DOT.

SECTION 15: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION

Product does not contain any Section 313 listed chemicals.

SECTION 16: OTHER INFORMATION

Do not puncture or incinerate containers. Normal ventilation for standard manufacturing practices is usually adequate.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.

MOR 001031

FISKE BROTHERS REFINING COMPANY

LUBRIPLATE DIVISION

1500 OAKDALE AVENUE
TOLEDO, OHIO 43605

Phone: (419) 691-2491
Fax: (419) 693-3806

Rec by Mary Cop
3/22/99 Cop

Fax Transmittal

Transmit To:

Name:	Andy Anderson
Firm:	Morey Co.
City:	Chicago
Fax No:	630-960-7484

From:	Jackie
Date:	3/18
Time:	2:10 p.m.

Total number of pages sent (including transmittal): 3

Comments: MSDS for Lubriplate DS-ES

If you do not receive all the pages, or they are not legible, please call back as soon as possible.

LUBRIPLATE®

MATERIAL SAFETY DATA SHEET

Section 1

PRODUCT NAME OR NUMBER
LUBRIPLATE DS-ES

FORMULA
Lithium Soap, Mineral Oil and Additives

GENERIC/CHEMICAL NAME:
Petroleum Lubricating Grease

USDA AUTHORIZATION:
H-2

Manufacturer's Name
Fiske Brothers Refining Co.

Emergency Telephone Number
1-800-255-3924 - CHEM-TEL (24 hour)

Address
1500 Oakdale Ave., Toledo, Ohio 43605 - 129 Lockwood St., Newark, NJ 07105

Telephone Number for Information
419-691-2491 - Toledo Office

Section 2 - Hazardous Ingredients/Identity Information

Hazardous Components	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Non-hazardous				

Hazardous Material Identification System (HMIS): Health - 1, Flammability - 1, Reactivity - 0
Not a Controlled Product under (WHMIS) - Canada **Special Protection:** See Section 9

Section 3 - Health Hazard Data

Threshold Limit Value 5 mg/m^3 for oil mist in air. OSHA Regulation 29 CFR 1910.1000

Effects of Overexposure Prolonged or repeated skin contact may cause skin irritation. Product contacting the eyes may cause eye irritation. Human health risks vary from person to person. As a precaution, exposure to liquids, vapors, mists and fumes should be minimized. This product has a low order of acute oral toxicity, but minute amounts aspirated into the lungs during ingestion may cause mild to severe pulmonary injury.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Section 4 - Emergency and First Aid Procedures

EYE CONTACT: Flush with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

SKIN CONTACT: Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance or its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of the body.

INHALATION: Vapor pressure is very low and inhalation at room temperature is not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician.

INGESTION: If ingested, call a physician immediately. Do not induce vomiting.

Section 5 - Fire and Explosion Hazard Data

Flash Point (Method Used) COC - 425°F **Flammable Limits** LEL 0.9% UEL 7.0%

Extinguishing Media Foam, Dry Chemical, Carbon Dioxide or Water Spray (Fog)

Special Fire Fighting Procedures Cool exposed containers with water. Use air-supplied breathing equipment for enclosed or confined spaces.

Unusual Fire and Explosion Hazards Do not store or mix with strong oxidants. Empty containers retain residue. Do not cut, drill, grind, or weld, as they may explode.

PRODUCT NAME OR NUMBER - LUBRIPLATE DS-ES

Section 6 - Physical/Chemical Characteristics

Boiling Point	>550°F	**Specific Gravity (H_2O = 1)**	0.91
Vapor Pressure (mm Hg.)	<0.01	**Melting Point**	Semi-solid
Vapor Density (AIR = 1)	>5	**Evaporation Rate (Butyl Acetate = 1)**	<0.01
Solubility in Water	Negligible		
Appearance and Odor	Off-white grease with mineral oil odor.		

Section 7 - Reactivity Data

Stability Unstable / Stable X — **Conditions to Avoid** N/A

Incompatibility (Materials to Avoid) Avoid contact with strong oxidants like liquid chlorine, concentrated oxygen.

Hazardous Decomposition or Byproducts May form SO_2. If incomplete combustion, Carbon Monoxide.

Hazardous Polymerization May Occur / Will Not Occur X — **Conditions to Avoid** N/A

Section 8 - Spill or Leak Procedures

Steps to be taken in case material is released or spilled
Scrape up grease, wash remainder with suitable petroleum solvent or add absorbent. Keep petroleum products out of sewers and water courses. Advise authorities if product has entered or may enter sewers and water courses.

Waste disposal method
Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste disposal facility or site.

SARA/TITLE III, Section 313 Status - Zinc Compounds - <5%

Section 9 - Special Protection Information

Respiratory Protection (Specify type) Normally not needed

Ventilation Local Exhaust / Mechanical (General) — Used to capture fumes and vapors — **Special** N/A / **Other** N/A

Protective Gloves Use oil-resistant gloves, if needed. **Eye Protection** If chance of eye contact, wear goggles.

Other Protective Equipment Use oil-resistant apron, if needed.

Section 10 - Special Precautions

Precautions to be taken in handling and storing
Keep containers closed when not in use. Do not handle or store near heat, sparks, flame, or strong oxidants.

Other Precautions
Remove oil-soaked clothing and launder before reuse. Cleanse skin thoroughly after contact.

The above information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Fiske Brothers Refining Company. The data on these sheets relates only to the specific material designated herein. Fiske Brothers Refining Company assumes no legal responsibility for use or reliance upon this data.

Date Prepared: January, 1999 **Prepared by:** James R. Kontak

FISKE BROTHERS REFINING COMPANY

LUBRIPLATE DIVISION

1500 OAKDALE AVENUE
TOLEDO, OHIO 43605

Phone: (419) 691-2491
Fax: (419) 693-3806

Fax

Transmit To:

To:	'Tom O'Donnell'
City, State:	Tech info DS-ES
Fax number:	+1 (419) 1-630-887-2101

From:	Mike Kontak
Date/Time:	3/15/99 4:28:43 PM
Pages:	3

Note:

MOR 001035

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MAR 16 1999

If you do not receive all the pages, or they are not legible, please call back as soon as possible.

2-4

EXECUTIVE OFFICE: NEWARK, N.J. 07105
PHONE: 201-589-9150 FAX: 201-589-4432
MIDWEST OFFICE: TOLEDO, OH 43605
PHONE: 419-691-2491 FAX: 419-693-3806

LUBRIPLATE DS-ES LUBRICANT

LUBRIPLATE DS-ES Lubricant is developed specifically for the electrical and electronics industry. LUBRIPLATE DS-ES Lubricant is being used extensively in automotive switches and contact units where performance is exceeding all of the new safety standards set for this equipment.

LUBRIPLATE DS-ES Lubricant is also highly recommended as a bearing lubricant for electrical motors, spindles and other mechanical devices where low torque, high speeds and long life are essential. Due to the aniline point of this product, seal compatibility is excellent.

LUBRIPLATE DS-ES Lubricant is recommended in the Automotive Industry by these specifications or part numbers:

Chrysler/AMC	MS-3701 MS-8677
Ford Motor Company	ESB-MIC-158-A
Delco-Remy Div., General Motors	5384-011
ITT Automotive Electrical Products	1502-20007-D116
Saginaw Steering Gear Div.,	
General Motors	7809311 7813685 7826313
White Truck Group	16109-5002

LUBRIPLATE DS-ES Lubricant is recommended for:

Battery Posts - Head Lamps - Tail Lamps
Electrical Harness Plug Assemblies
Backup Lamp Connector Sockets
Electrical Switch Contacts - Radio Antenna Assemblies
Aircraft Switch Assemblies
High Voltage Breaker Assemblies
Connectors in the Primary Circuit of Solid-State Ignition

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THE GILLETTE CORP.

Advantages

- Exceptional oxidation resistance for extended operating life.
- Low Torque start-up capabilities especially in cold weather conditions.
- Excellent metal, rubber, and plastic compatibility.

(over)

Typical Tests

Type of Thickener	Lithium
Worked Penetration @ 77°F	310 to 340
NLGI No.	1
ASTM Dropping Point	360°F/182°C
Mineral Oil Viscosity	
SUS @ 100°F	200
cSt @ 40°C	39
Aniline Point	219
Norma Hoffman Oxidation Bomb Test	3 psi Max./1,000 Hrs.

Packaging Available	Part No.
Carton 24/14 oz. Cans	L0137-001
Carton 6/6 lb. Cans	L0137-006
35 lb. Pail	L0137-035
120 lb., Quarter Size, Drum	L0137-039
410 lb., Full Size, Drum	L0137-040
Carton 144/1¾ oz. Tubes (1x6)	L0137-087

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MAR 16 1999
The Lubrizol Corp.

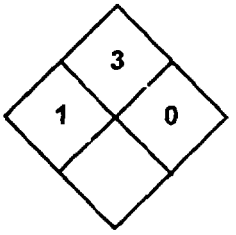
Printed in USA
Revised 11/96

tmc = 1224256

Rec. [illegible] 10/12/01

MATERIAL SAFETY DATA SHEET

ALPHA METALS
600 Route 440
Jersey City, NJ 07304
Telephone: 201-434-6778



NUMBER: **P086**

REVISION: 01/21/97

SECTION I - GENERAL INFORMATION

PRODUCT NAME (NUMBER)	**Lonco SLS 65 Flux**
CHEMICAL FAMILY	Mixture.
D.O.T HAZARD CLASS	Flammable liquid.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	*CAS NUMBER*	*WEIGHT PERCENT*	*OSHA PEL*	*ACGIH TLV*
Isopropyl Alcohol(2-Propanol)	67-63-0	90-92	400 ppm Stel 500 ppm	400 ppm Stel 500 ppm
Aliphatic Dibasic Ester Dicarboxylic Acids	1119-40-0 68937-72-4	4.0 <2.5	NE NE	NE NE

SECTION III - PHYSICAL DATA

(*PUBLISHED or ESTIMATED VALUES*)

BOILING POINT Deg. F. (760 mm Hg)	180	*SPECIFIC GRAVITY (H_2O=1)* (@ 77 deg F)	0.801
VAPOR PRESSURE (mm Hg AT 20 Deg. C.)	30	*% VOLATILE by WEIGHT*	90-92
VAPOR DENSITY (AIR=1)	>2	*EVAPORATION RATE*(BUAC=1)	2.3
SOLUBILITY IN WATER	Appreciable	*pH* (5% aqueous soln.)	3.4
APPEARANCE AND ODOR	Clear, colorless liquid, alcohol odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) *LEL*:2.0 *UEL*:12.7

FLASH POINT Deg. F. 53 closed cup.

EXTINGUISHING MEDIA Alcohol type or all-purpose-type foam for large fires.
Carbon dioxide or dry chemical media for small fires.

SECTION V(a) - HEALTH HAZARD DATA
(Symptoms/Effects of Overexposure)

INHALATION: Can cause irritation of the respiratory tract with coughing and chest discomfort. High concentrations of vapor may cause headache and drowsiness.

INGESTION: Slightly toxic. May cause abdominal discomfort, nausea, vomiting and diarrhea. Drowsiness and/or loss of consciousness may occur.

SKIN: May cause minor irritation with itching and possible slight local redness. Prolonged or repeated contact may cause defatting and drying. Absorption; exposure to small quantities are not anticipated to cause adverse health effects. Widespread and prolonged exposure may result in the absorption of harmful amounts of material, leading to signs and symptoms as described for ingestion.

EYES: Causes irritation, may cause corneal injury.

LISTED CARCINOGENS: None of the materials in this product are listed in NTP, IARC, or OSHA as carcinogens.

SECTION V(b) - HEALTH HAZARD DATA
(Emergency & First Aid Procedures)

INHALATION Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult administer oxygen. Obtain medical attention.

INGESTION If fully conscious give two glasses of water, INDUCE vomiting. Never give anything by mouth to an unconscious person.

SKIN CONTACT Remove contaminated clothing. Wash with soap and water. If irritation persists or if contact has been prolonged obtain medical attention.

EYE CONTACT Immediately flush with water for several minutes. Obtain medical attention.

SECTION VI - REACTIVITY DATA

STABILITY
STABLE: X *UNSTABLE:*

CONDITIONS TO AVOID Heat, sparks and open flames.

INCOMPATIBILITY (Materials to Avoid) Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Burning can produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION
WILL OCCUR: *WILL NOT OCCUR:*X

CONDITIONS TO AVOID None

SPECIAL FIRE FIGHTING PROCEDURES	Use NIOSH approved self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.
UNUSUAL FIRE AND EXPLOSION HAZARD	Vapors are heavier than air and may travel along ground. Never use welding torch on or near containers (even empty). May produce a floating fire hazard.

SECTION VII - SPILL or LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Ventilate if in enclosed area. Eliminate all ignition sources.
SMALL SPILL: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood.
LARGE SPILL: See Section X.

WASTE DISPOSAL Destroy by approved incineration or deposit in approved landfill.

Must be in accordance with Federal, State, and Local Laws and Regulation

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY No special requirements with adequate ventilation present, approved respiratory protective equipment used when vapor or mist concentrations exceed applicable standards.

EYEWEAR Chemical type protective goggles.
Provide eye bath near work site.

CLOTHING/GLOVES Wear resistant gloves such as rubber, neoprene or plastic.

VENTILATION Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Observe precautions for a flammable liquid. Keep container closed when not in use. Store away from ignition sources in cool dry area. Use adequate ventilation. Read all container labeling.

Avoid the use of metal drum spigots. Use Polyethylene, Polypropylene or Teflon.

OTHER PRECAUTIONS:

CONTAINERS: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

SECTION X - ADDITIONAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (continued)

LARGE SPILL:

Persons not wearing protective equipment should be excluded from area.
Dike area of spill to prevent spreading. Pump liquid to salvage tank.
Take up remaining liquid with absorbent material. Shovel into containers.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

---------- REGULATORY INFORMATION ----------

Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):
Components present in this product at a level which could require *reporting under the statute are:*
None

EMERGENCY TELEPHONE NUMBER

CHEMTREC	1-800-424-9300	DAY or NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information of the use of any materials designated.

THE
MOREY
CORPORATION

MOR 001043

100 Morey Drive Woodridge Illinois 60517 Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

Rec 10/7/99

CHEMTRONICS® INC. MSDS #0716

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Company Address:
8125 Cobb Center Drive
Kennesaw, GA 30152

Product Information: 800-TECH-401 Emergency: (Chemtrec) 800-424-9300
Customer Service: 800-645-5244 Revision Date: February 26, 1999

Product Identification

CHEMASK® DA

Product Code: CDA1, CDA5, CDA8

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Product Ingredient Information	CAS#	Wt. % Range
Deionized water	7732-18-5	35.0-60.0
Acrylic polymer	mixture	25.0-50.0
Polyurethane resin	mixture	1.0-5.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Viscous, opaque white liquid. This product is not flammable. Liquid may irritate eyes and skin under repeated or prolonged exposure.

Potential Health Effects:

Eyes: Liquid and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Contact causes skin irritation. Sensitizer - may cause allegic skin reaction.

Ingestion: Harmful if swallowed. Irritating to mouth, throat and stomach. May cause nausea, vomiting, and diarrhea.

Inhalation: High concentrations of vapors may cause headaches, nausea, dizziness, and respiratory irritation if inhaled.

Pre-Existing Medical Conditions Aggravated by Exposure: Lung, eye, skin.

SECTION 4: FIRST AID MEASURES

Eyes: *Immediately flush with large amounts of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.* Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash clothing separately before reuse.

Ingestion: If swallowed, seek medical attention immediately.

Inhalation: In case of exposure to high concentrations of vapor, remove to fresh air. If breathing is difficult, give oxygen and get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: None to boiling (TCC) LEL/UEL: NA (% by volume in air)

Extinguishing Media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Shut off leak if possible and safe to do so. Wear self-contained breathing apparatus and appropriate personal protective equipment. Absorb spill with inert absorbant material, then place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

Small Spills: Absorb spill with absorbent material, then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with eyes, skin, and clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place away from heat, sparks and flame. Keep container closed when not in use. Do not store in direct sunlight.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TWA	OSHA PEL	OSHA STEL
Acrylic polymer	NA	NA	NA
Polyurethane resin	NA	NA	NA

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Wear safety glasses with side shields (or goggles) and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:	NFPA	HMIS
Health	1	1
Flammability	0	0
Reactivity	0	0
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Opaque, viscous material
Odor: Mild, latex-like
Vapor Pressure: NA
Vapor Density (Air=1) NA
Color: White
Boiling Range: >212°F
pH: 6.0-8.0

Solubility in Water: Dispersible
Specific Gravity: NA
Evaporation Rate: >1
(Butyl Alcohol= 1)
Viscosity: NA
Percent Volatile: <0.5

MOR 001044

SECTION 10: STABILITY AND CHEMICAL PROPERTIES

Stability - Stable.
Conditions to Avoid: Storage above 120° F, exposure to light, loss of polymerization inhibitor, contamination with incompatible materials.
Incompatibility: Do not mix with powdered alkali and alkaline earth metals or strong oxidizing agents.
Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide, HCN, and hydrocarbons.
Hazardous Polymerization. Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation: NA
Ingestion: NA
Skin: NA
Cancer Information: No ingredients listed as human carcinogens by NTP or IARC

SECTION 12: ECOLOGICAL INFORMATION

Environmental Impact Information
Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.
REPORTING
US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is:
1-800-424-8802

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations. Water runoff can cause environmental damage.

SECTION 14: TRANSPORTATION INFORMATION

Air: Coating Compound, Not Regulated
Ground: Coating Compound, Not Regulated

SECTION 15: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION
This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).
This product contains no reportable chemicals listed under Section 313
This information should be included on all MSDSs copied and distributed for this material.
TOXIC SUBSTANCES CONTROL ACT (TSCA).
All ingredients of this product are listed on the TSCA Inventory.

SECTION 16: OTHER INFORMATION

Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released
WHMIS Ingredient Disclosure list. None
Status: Noncontrolled

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.

MOR 001045

MATERIAL SAFETY DATA SHEET
MCLUBE 1775X

TMC-109 0369

Rec. 8/13/99

IDENTIFICATION

Manufacturer's Name and Address:
McGee Industries Inc.
9 Crozerville Road
Aston, PA 19014

Chemical Name and Synonyms:
Fluoropolymer/Organic Resin Binder

Emergency Telephone No:
Business Hours: (800)262-5823
After Hours: (800)424-9300

Effective Date:
October, 1992

Trade Name and Synonyms:
McLube 1775X

INGREDIENTS

Hazardous:	CAS No.	% By Wt.	TLV
2-Butanone	78-93-3	35-42	200 ppm
Toluene	108-88-3	35-40	100 ppm
Isopropyl alcohol	67-63-0	5-8	400 ppm
Organic resin mixture	N/A	3-8	N/A

Nonhazardous:

PHYSICAL DATA

Boiling Pt. (760 mm.Hg.) (°F): 175-231
Melting Point: N/A
Specific Gravity: 0.9
Vapor Pressure(mm.Hg.20°C): 70
Vapor Density (Air=1): 2-5
Solubility in Water(% by Wt.): Nil
% Volatiles by Weight: 87-94
Evaporation Rate (Ether=1): 0.2
Appearance and Odor: Yellowish-white, translucent liquid, slight ethereal odor.

FIRE AND EXPLOSION DATA

Flash Point (Test Method): 16°F. (TOC), 30°F. (TCC).

	Lower	Upper
Flammable Limits (Wt. % 77°F):	1.8	10

Extinguishing Media: CO_2, dry chemical, freon
Special Fire Fighting Procedures: Full protective equipment including self-contained breathing apparatus should be used.
Unusual Fire and Explosion Hazards: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat.

REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to avoid): Oxidizing materials.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, possibly small quantities hydrogen fluoride and organic fluorides.
Polymerization: Will not occur.

HEALTH HAZARD INFORMATION

Exposure Limit: TLV 100 ppm.

ROUTES OF EXPOSURE AND EFFECTS

Inhalation: 220 ppm for prolonged periods may cause headache, dizziness, loss of balance; higher levels can lead to unconsciousness or even death.

Skin Contact: Irritation; prolonged contact may cause dermatitis.

Eye Contact: Irritation.

Ingestion: Harmful if swallowed.

Carcinogenicity: None of the components in this product is listed by IARC, NTP, or OSHA as a carcinogen.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with water. Call a physician.

Skin: Wash off in flowing water.

Inhalation: Remove to fresh air. Call a physician.

Ingestion: Do not induce vomiting. Call a physician.

PROTECTION INFORMATION

Ventilation: Control vapor to standard, OSHA standard 100 ppm.

Personal Protective Equipment

Respiratory: In absence of environmental control, approved organic vapor-type respirator.

Eye: Safety glasses.

Gloves: Impermeable gloves recommended.

Other: Boots and apron may be necessary depending on extent and severity of exposure.

DISPOSAL PROCEDURES

Spill or Leak: Eliminate ignition sources. Soak up with inert absorbent such as sand, earth or vermiculite and put in closed container for prompt disposal.

Waste Disposal: Incinerate in compliance with local, state and federal regulations.

PRECAUTIONARY STATEMENTS AND ADDITIONAL INFORMATION

Keep containers closed.

Contents may be under pressure; open containers slowly to release pressure.

When transferring product, follow proper grounding procedures.

Avoid breathing of vapor; use with adequate ventilation especially in enclosed areas.

Flammable liquid and vapor - keep away from flames and other ignition sources.

Avoid contact with eyes or skin; wash hands thoroughly after handling.

Empty containers retain product residue; follow label warnings even after container is emptied; residual vapors may explode on ignition; do not cut, drill or weld on or near container.

2-Butanone and toluene are toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR 372.

Toluene contains traces of benzene and the resin mixture is reported to contain traces of formaldehyde, chemicals which are on the California Proposition 65 list of chemicals classed as carcinogens.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

Tmc # 1127753

MATERIAL SAFETY DATA SHEET

McLUBE 2003 (MIL-L-60326 Type III)

Rec. 8/13/99

IDENTIFICATION

Manufacturer's Name and Address:
McGee Industries, Inc.
9 Crozerville Road
Aston, PA 19014

Emergency Telephone No:
Business Hours: (800) 262-5823
After Hours: (800) 424-9300

Effective Date:
January, 1992

Chemical Name and Synonyms:
Fluorochemical Polymer Dispersion

Trade Name and Synonyms:
McLube 2003

INGREDIENTS

Hazardous:	CAS No.	% By Wt.	TLV
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	95-99	1000 ppm

Nonhazardous:

PHYSICAL DATA

Boiling Pt. (760 mm.Hg.) (°F): 117.6
Melting Point: (Solids) 572°F.
Specific Gravity: 1.65
Vapor Pressure(mm.Hg. 20°C): 334
Vapor Density (Air=1): 6.4
Solubility in Water (% by Wt.): Nil
% Volatiles by Weight: 95-99
Evaporation Rate (Ether=1): 0.5
Appearance and Odor: White, translucent liquid, slight ethereal odor.

FIRE AND EXPLOSION DATA

	Lower	Upper
Flash Point (Test Method): None (TOC, TCC, COC)		
Flammable Limits (Wt. % 77°F):	N/A	N/A

Extinguishing Media: Water fog.

Special Fire Fighting Procedures: Nothing special.

Unusual Fire and Explosion Hazards: In presence of open flame, can produce toxic fumes requiring respirator.

REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to avoid): Avoid reactive metals, especially powders.

Hazardous Decomposition Products: Hydrogen chloride, hydrogen fluoride, and possibly carbonyl halides.

Polymerization: Will not occur.

HEALTH HAZARD INFORMATION

Exposure Limit: TLV 1000 ppm.

Routes of Exposure and Effects

Inhalation: Prolonged breathing of high concentrations of vapor may cause light-headedness, dizziness and loss of balance and may lead to cardiac irregularities, unconsciousness or even death.

Skin Contact: Mild irritation, not a sensitizer.

Eye Contact: Mild irritation.

Ingestion: Low oral toxicity.

Carcinogenicity: None of the components in this product is listed by IARC, NTP or OSHA as a carcinogen.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with water immediately for at least 5 minutes.

Skin: Wash off in flowing water.

Inhalation: If large amounts inhaled, remove to fresh air; if not breathing, have qualified person give mouth-to-mouth resuscitation; if breathing difficult, give oxygen and call a physician.

Ingestion: Do not induce vomiting. Call a physician.

PROTECTION INFORMATION

Ventilation: Control vapor to standard, OSHA standard 1000 ppm.

Personal Protective Equipment

Respiratory: In absence of environmental control, approved organic vapor-type respirator required. For emergencies, positive-pressure breathing apparatus or full-face respirator with approved organic canister recommended.

Eye: Safety glasses when handling liquid.

Gloves: Impermeable gloves recommended.

Other: None.

DISPOSAL PROCEDURES

Spill or Leak: Soak up with inert absorbent such as sand, earth or vermiculite and put in closed container for prompt disposal.

Waste Disposal: Send to approved landfill in compliance with local, state and federal regulations.

PRECAUTIONARY STATEMENTS AND ADDITIONAL INFORMATION

Contents may be under pressure; open containers slowly to release pressure.
Heating solid active ingredient above 500°F may cause formation of potentially toxic substances.
Avoid breathing vapor.
Use with adequate ventilation especially in enclosed areas.
Keep away from flames and other ignition sources.
Do not smoke while using nor contaminate tobacco products.
Wash hands thoroughly after handling.

MOR 001049

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

MSDS: A0623 ITEM: 4ZF49 DROP LOCATION: P3-400

ORDER: 0075168312

Rec 9/4/01 SAP

APR 02 2001 MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A0623

Associated Grainger Items

4ZF49

644070-00 MOBILITH SHC 100

MATERIAL SAFETY DATA BULLETIN

---

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBILITH SHC 100

SUPPLIER: MOBIL OIL CORP.

NORTH AMERICA MARKETING AND REFINING

3225 GALLOWS RD.

FAIRFAX, VA 22037

24 - HOUR EMERGENCY (CALL COLLECT): 609-737-4411

PRODUCT AND MSDS INFORMATION: 800-662-6525 609-226-4644

CHEMTREC: 800-424-9300 202-483-7616

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2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:

THIS PRODUCT IS NOT FORMULATED TO CONTAIN INGREDIENTS WHICH HAVE EXPOSURE LIMITS ESTABLISHED BY U.S. AGENCIES. IT IS NOT HAZARDOUS TO HEALTH AS DEFINED BY THE EUROPEAN UNION DANGEROUS SUBSTANCES/PREPARATIONS DIRECTIVES. SEE SECTION 15 FOR A REGULATORY ANALYSIS OF THE INGREDIENTS.

SEE SECTION 15 FOR EUROPEAN LABEL INFORMATION.

SEE SECTION 8 FOR EXPOSURE LIMITS (IF APPLICABLE).

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3. HAZARDS IDENTIFICATION

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

EFFECTS OF OVEREXPOSURE: NO SIGNIFICANT EFFECTS EXPECTED.

EMERGENCY RESPONSE DATA: RED GREASE. DOT ERG NO. - NA

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4. FIRST AID MEASURES

EYE CONTACT: FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, CALL A PHYSICIAN.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. HIGH PRESSURE ACCIDENTAL INJECTION THROUGH THE SKIN REQUIRES IMMEDIATE MEDICAL ATTENTION FOR POSSIBLE INCISION, IRRIGATION AND/OR DEBRIDEMENT.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, SEEK MEDICAL ATTENTION.

---

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY

BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE. PREVENT RUNOFF FROM

FIRE CONTROL OR DILUTION FROM ENTERING STREAMS, SEWERS, OR

DRINKING WATER SUPPLY.

SPECIAL PROTECTIVE EQUIPMENT: FOR FIRES IN ENCLOSED AREAS, FIRE

FIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE. FLASH POINT C(F): >

204(400) (ASTM D-93). FLAMMABLE LIMITS - LEL: NA, UEL: NA.

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE. METAL OXIDES.

ELEMENTAL OXIDES.

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6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: REPORT SPILLS AS REQUIRED TO APPROPRIATE

AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE

REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING

INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE

NUMBER (800) 424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY

CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SHOVEL UP AND DISPOSE

OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH

CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT

CHARACTERISTICS AT TIME OF DISPOSAL.

ENVIRONMENTAL PRECAUTIONS: PREVENT SPILLS FROM ENTERING STORM SEWERS

OR DRAINS AND CONTACT WITH SOIL.

PERSONAL PRECAUTIONS: SEE SECTION 8

---

7. HANDLING AND STORAGE

HANDLING: HIGH PRESSURE INJECTION UNDER THE SKIN MAY OCCUR DUE TO THE

RUPTURE OF PRESSURIZED LINES. ALWAYS SEEK MEDICAL ATTENTION.

STORAGE: DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS. STORE AWAY

FROM STRONG OXIDIZING AGENTS OR COMBUSTIBLE MATERIAL.

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE

AND WITH ADEQUATE VENTILATION.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY

CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

EYE PROTECTION: GENERALLY EYE CONTACT IS UNLIKELY WITH THIS TYPE

MATERIAL. IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE

SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL

IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE

PRACTICES SHOULD ALWAYS BE FOLLOWED.

EXPOSURE LIMITS: THIS PRODUCT DOES NOT CONTAIN ANY COMPONENTS WHICH

HAVE RECOGNIZED EXPOSURE LIMITS.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

TYPICAL PHYSICAL PROPERTIES ARE GIVEN BELOW. CONSULT PRODUCT DATA SHEET

FOR SPECIFIC DETAILS.

APPEARANCE: GREASE

COLOR: RED

ODOR: MILD

ODOR THRESHOLD-PPM: NE

PH: NA

BOILING POINT C(F): NA

DROP POINT C(F): NE

FLASH POINT C(F): > 204(400) (ASTM D-93)

FLAMMABILITY: NE

AUTO FLAMMABILITY: NE

EXPLOSIVE PROPERTIES: NA

OXIDIZING PROPERTIES: NA

VAPOR PRESSURE-MMHG 20 C: & LT; 0.1

VAPOR DENSITY: NE

EVAPORATION RATE: NE

RELATIVE DENSITY, 15/4 C: 0.889

SOLUBILITY IN WATER: NEGLIGIBLE

PARTITION COEFFICIENT: > 3.5

VISCOSITY AT 40 C, CST: > 90.0

VISCOSITY AT 100 C, CST: 14.5

POUR POINT C(F): NA

FREEZING POINT C(F): NE

VOLATILE ORGANIC COMPOUND: NA

NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

---

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): STABLE.

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE. METAL OXIDES.

ELEMENTAL OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

---

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): PRACTICALLY NON-IRRITATING. (DRAIZE SCORE: GREATER THAN 6 BUT 15 OR LESS). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): PRACTICALLY NON-IRRITATING. (PRIMARY IRRITATION INDEX: GREATER THAN 0.5 BUT LESS THAN 3). ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

OTHER ACUTE TOXICITY DATA: THE ACUTE TOXICOLOGICAL RESULTS SUMMARIZED ABOVE ARE BASED ON TESTING OF REPRESENTATIVE MOBIL PRODUCTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

REPRESENTATIVE MOBIL FORMULATIONS HAVE BEEN TESTED AT THE MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATIONS TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS, INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY

FLUIDS, SHOWED NO ADVERSE EFFECTS.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

DERMAL EXPOSURE OF PREGNANT RATS TO REPRESENTATIVE FORMULATIONS DID NOT CAUSE ADVERSE EFFECTS IN EITHER THE MOTHERS OR THEIR OFFSPRING.

---SENSITIZATION (SUMMARY)---

REPRESENTATIVE MOBIL FORMULATIONS HAVE NOT CAUSED SKIN SENSITIZATION IN GUINEA PIGS.

---OTHER TOXICOLOGY DATA---

THIS PRODUCT IS FORMULATED WITH A SYNTHETIC HYDROCARBON AS THE BASE STOCK. THE MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY HAS TESTED REPRESENTATIVE SYNTHETIC BASE STOCKS TO ASSESS THEIR POTENTIAL ADVERSE EFFECTS ON HUMAN HEALTH. ASSESSMENT OF HUMAN HEALTH EFFECTS WAS BASED ON ACUTE ORAL, DERMAL, AND INHALATION TOXICITY; EYE AND SKIN IRRITATION; SUBCHRONIC DERMAL TOXICITY AND REPRODUCTIVE STUDIES; GUINEA PIG SENSITIZATION; AND MUTAGENICITY AND CHROMOSOMAL DAMAGE ASSAYS. NONE OF THESE BASE STOCKS APPEARS TO POSE A HEALTH HAZARD TO HUMANS UNDER CONDITIONS OF EXPECTED USE.

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12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: THIS PRODUCT IS EXPECTED TO BE INHERENTLY BIODEGRADABLE. THERE IS NO EVIDENCE TO SUGGEST BIOACCUMULATION WILL OCCUR.

ACUTE LC/EC50: JUVENILE RAINBOW TROUT: PRACTICALLY NON-TOXIC ---BASED ON TESTING OF SIMILAR PRODUCTS.

ACCIDENTAL SPILLAGE MAY LEAD TO PENETRATION IN THE SOIL AND GROUNDWATER. HOWEVER, THERE IS NO EVIDENCE THAT THIS WOULD CAUSE ADVERSE ECOLOGICAL EFFECTS.

---

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT AN APPROPRIATE GOVERNMENT WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED HAZARDOUS WASTES. IT DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

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14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

---

15. REGULATORY INFORMATION

GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS COMPLY WITH TSCA, AND EINECS/ELINCS.

EU LABELING: EU LABELING NOT REQUIRED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III:

THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: NONE.

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
LITHIUM HYDROXIDE (0.09%)	1310-65-2	22
LITHIUM-SOAP THICKENER (10.41%)	7620-77-1	22
HEXANEDIOIC ACID, MONOMETHYL ESTER, LITHIUM SALT (2.57%)	*64601-11-2*	22
PENTANEDIOIC ACID, MONOMETHYL ESTER, LITHIUM SALT (0.36%)	64601-12-3	22
FATTY ACIDS, C16-22, LITHIUM SALTS (1.29%)	68783-36-8	22

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5A2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5E	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12B	20=IL RTK	25=PA RTK
				26=RI RTK

CODE KEY: CARC=CARCINOGEN; SUS=SUSPECTED CARCINOGEN; REPRO=REPRODUCTIVE

---

16. OTHER INFORMATION

USE: MULTISERVICE GREASE

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

PLEASE CALL THE CUSTOMER RESPONSE CENTER ON 800-662-4525 FOR FORMULATION DISCLOSURE.

****

FOR INTERNAL USE ONLY: MEC: 1* 1* NA 1* 1*, MPPEC: A, TRN: 644070-00, GLIS: 400593, CMCS97: 971888, REQ: US - MARKETING, SAFE USE: L

EHS APPROVAL DATE: 19JUN1999

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LEGALLY REQUIRED INFORMATION IS GIVEN IN ACCORDANCE WITH APPLICABLE INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT *GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR* PARTICULAR USES ARE BEYOND OUR CONTROL; ALL *RISKS OF USE OF THE PRODUCT* ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING ANY LICENSE UNDER VALID PATENTS. APPROPIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDEDTO HANDLERS AND USERS. USE OR RE-TRANSMISSION OF THE INFORMATION CONTAINED HEREIN IN ANY OTHER FORMAT THAN THE FORMAT AS *PRESENTED IS* STRICTLY PROHIBITED. MOBIL NEITHER REPRESENTS NOR WARRANTS THAT THE FORMAT, CONTENT OR PRODUCT FORMULAS CONTAINED IN THIS DOCUMENT COMPLY WITH THE LAWS OF ANY OTHER COUNTRY EXCEPT THE UNITED STATES OF AMERICA.

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SECTION I

manufacturer : MOLINE PAINT MANUFACTURING CO.
address : 5400 23RD AVENUE
MOLINE, IL 61265-5096

telephone# : (309) 762-7546
emergency# : (309) 762-7546

- H M I S -

HEALTH	: 2*
FLAMMABILITY	: 3
REACTIVITY	: 0
PERSONAL PROTECT.	: I

product class: PAINT OR ALLIED PRODUCT
mfg. code id : 11 N103A
trade name : 1E1950E MOJAVE BROWN ENAMEL

(HAZARD RATING : 0=least, 1=slight, 2=moderate, 3=high, 4=extreme, *=chronic)
(I - safety glasses, gloves, combination dust and vapor respirator)

SECTION II-A HAZARDOUS COMPONENTS

no.	component	CAS#	% by wt.	SARA 313	vapor pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	ALIPHATIC PETROLEUM DISTILLATES	64742-89-8	15 - 20	NO	15.00 (@ 38 C)	0.90
2	MINERAL SPIRITS	8052-41-3	10 - 15	NO	2.60	0.70
3	MINERAL SPIRITS	64742 47 8	5 10	NO	1.90	1.00
4	YELLOW IRON OXIDE	51274-00-1	5 - 10	NO	N/A	N/A
5	ISOBUTYL ALCOHOL	78-83-1	1 - 5	NO	9.00	1.70 (@ 51 C)
6	1-METHOXY-2-PROPANOL	107-98-2	1 - 5	NO	12.50 (@ 25 C)	1.60
7	TALC	14807-96-6	1 - 5	NO	N/A	N/A
8	TITANIUM DIOXIDE	13463 67 7	1 5	NO	N/A	N/A
9	ZINC OXIDE	1314-13-2	1 - 5	YES	N/A	N/A
10	2-BUTOXYETHANOL	111-76-2	1 - 5	YES	0.60	1.10
11	ZINC	7440-66-6	1 - 5	YES	N/A	N/A
12	XYLENE	1330-20-7	1 - 5	YES	6.60	1.10
13	IRON OXIDE	1309 37 1	1 5	NO	N/A	N/A
14	1-METHOXY-2-PROPANE ACETATE	108-65-6	1 - 5	NO	3.70	1.50 (@ 200 C)

None of the components of this product are recognized as carcinogenic by NTP, OSHA, or IARC.
This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm (Proposition 65).

(N/A = not applicable)

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SECTION II B OCCUPATIONAL EXPOSURE LIMITS

	OSHA		ACGIH		MFG	
no.	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	PEL/TWA	PEL/CEILING
1	400 ppm	N/E	300 ppm	N/E	350 mg/m3 (ASHLAND NIOSH)	
2	100 ppm (AS STODDARD SOLVENT)		100 ppm (AS STODDARD SOLVENT)		N/E	N/E
3	100 ppm (as STODDARD SOLVENT)		100 ppm (as STODDARD SOLVENT)		N/E	N/E
4	10 mg/m3	N/E	N/E	N/E	N/E	N/E
5	100 ppm	N/E	50 ppm	N/E	N/E	N/E
6	100 ppm FINAL	N/E	100 ppm	150 ppm	N/E	N/E
7	20 mppcf	N/E	2 mg/m3 Resp. Dust	N/E	N/E	N/E
8	10 mg/m3 Total Dust	(FINAL)	10 mg/m3 Total Dust	N/E	N/E	N/E
9	10 mg/m3 Total Dust	N/E	10 mg/m3 Total Dust	N/E	N/E	N/E
10	25 ppm (SKIN) FINAL	N/E	25 ppm (SKIN)	N/E	N/E	N/E
11	N/E	N/E	5 mg/m3	N/E	N/E	N/E
12	100 ppm; 150 ppm STEL	N/E	100 ppm, 434 mg/m3	150 ppm, 651 mg/m3	N/E	N/E
13	10 mg/m3 as Dust	N/E	10 mg/m3 Nuisance Dust	N/E	N/E	N/E
14	N/E	N/E	100ppm	150ppm	N/E	N/E

The dried film of this product is hazardous when removed by sanding, grinding, or welding.
(SKIN) absorption may contribute to the overall exposure to this material. Take appropriate measures to prevent skin contact.
(N/E = not established)

SECTION III PHYSICAL DATA

boiling point	: not established	% volatile by volume	:	71.85	(Theoretical)
evaporation rate	: < 1 (ether = 1)	% volatile by weight	:	54.21	(Theoretical)
vapor density	: > 1 (air = 1)	weight per gallon	:	8.76	(Theoretical)
		specific gravity	:	1.051	(Theoretical)

SECTION IV HEALTH INFORMATION

EYE CONTACT

PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE EYES. EXPOSURE MAY CAUSE CORNEAL INJURY. PRODUCT VAPORS AND/OR MISTS MAY ALSO BE IRRITATING TO THE EYES.

SKIN CONTACT

BASED ON THE PRESENCE OF COMPONENT 10 PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED CONTACT MAY CAUSE DAMAGE TO THE SKIN. BASED ON THE PRESENCE OF COMPONENTS 6, 10 AND 14 ABSORPTION THROUGH THE SKIN MAY RESULT IN SYMPTOMS OF EXPOSURE AS THOSE DESCRIBED FOR INHALATION AND INGESTION. PROLONGED OR REPEATED CONTACT MAY RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN DERMATITIS.

INHALATION

EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

INGESTION

MODERATELY TOXIC. BASED ON THE PRESENCE OF COMPONENT 10 INGESTION MAY CAUSE RED BLOOD CELL HEMOLYSIS LEADING TO KIDNEY AND LIVER DAMAGE. SMALL AMOUNTS OF THE LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY RESULT IN SEVERE LUNG DAMAGE. INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

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SIGNS AND SYMPTOMS
SYMPTOMS OF EYE IRRITATION INCLUDE PAIN, TEARING, REDDENING AND SWELLING. SYMPTOMS OF SKIN IRRITATION INCLUDE REDDENING, SWELLING, RASH AND REDNESS. SYMPTOMS OF RESPIRATORY IRRITATION INCLUDE RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. SYMPTOMS OF GASTROINTESTIONAL IRRITATION INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CENTRAL NERVOUS SYSTEM DEPRESSION MAY BE EVIDENCED BY HEADACHE, DIZZINESS, NAUSEA AND SYMPTOMS OF INTOXICATION; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. SYMPTOMS OF CHRONIC OVEREXPOSURE INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED KIDNEY, LIVER, BLOOD, CENTRAL NERVOUS SYSTEM FUNCTIONS FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
BASED ON THE PRESENCE OF COMPONENTS 6, 10 AND 14 CHRONIC OVEREXPOSURE MAY CAUSE INJURY TO THE KIDNEYS AND LIVER. BASED ON THE PRESENCE OF COMPONENT 10 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE RED BLOOD CELLS. BASED ON THE PRESENCE OF COMPONENTS 6 AND 10 CHRONIC OVEREXPOSURE MAY CAUSE DAMAGE TO THE LUNGS. BASED ON THE PRESENCE OF COMPONENT 8 CHRONIC OVEREXPOSURE TO TiO2 DUST MAY CAUSE SLIGHT LUNG FIBROSIS. BASED ON THE PRESENCE OF COMPONENT 7 CHRONIC OVEREXPOSURE TO TALC DUST MAY CAUSE SCARRING OF THE LUNGS. BASED ON THE PRESENCE OF COMPONENT 4 CHRONIC OVEREXPOSURE TO PRODUCT DUST MAY PRODUCE A BENIGN PNEUMOCONIOSIS TERMED 'SIDEROSIS'.

SECTION V — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN. SEEK PROMPT MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING SPONTANEOUSLY OCCURS, KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. SINCE ASPIRATION INTO THE LUNGS CAN CAUSE VERY SERIOUS, PERMANENT DAMAGE, THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY A PHYSICIAN. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

>> COMPONENTS 1, 2, 3 AND 12 MAY CAUSE SEVERE, PERMANENT DAMAGE IF ASPIRATED AND VOMITING SHOULD NOT BE INDUCED.

SECTION VI — FIRE AND EXPLOSION HAZARDS

OSHA FLAMMABILITY CLASSIFICATION
FLAMMABLE LIQUID - CLASS IB

FLASH POINT : 68 degrees F. (Theoretical)

DOT PROPER SHIPPING NAME
PAINT
3
UN1263
PGII

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
WARNING, FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT HELMET, FACE SHIELD, BUNKER COAT, GLOVES, RUBBER BOOTS, AND A POSITIVE PRESSURE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

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SECTION VII REACTIVITY

STABILITY : STABLE HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
AVOID OXIDIZING MATERIALS. BASED ON THE PRESENCE OF COMPONENT 10 AVOID STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE. CARBON MONOXIDE. AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE VENTILATION AS REQUIRED TO CONTROL VAPOR. MIST. AND/OR DUST CONCENTRATIONS - AT LEAST 10 AIR CHANGES PER HOUR ARE RECOMMENDED FOR GOOD GENERAL ROOM VENTILATION. IF EXPOSURE EXCEEDS THE PEL/TLV. USE THE APPROPRIATE NIOSH-APPROVED RESPIRATOR.

PROTECTIVE CLOTHING
WEAR SAFETY GLASSES. GOGGLES. OR A SPLASH SHIELD TO PREVENT EYE CONTACT. CONTACT LENSES SHOULD NOT BE WORN. WEAR APPROPRIATE GLOVES AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS. WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY. SAND OR OTHER SUITABLE MATERIAL: PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE: DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON LEAKING CONTAINERS.

WASTE DISPOSAL
OBSERVE ALL FEDERAL. STATE. AND LOCAL REGULATIONS REGARDING PROPER DISPOSAL.

SECTION X ADDITIONAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT. SPARKS. AND FLAME. EXTINGUISH PILOT LIGHTS. CIGARETTES AND TURN OFF OTHER POSSIBLE SOURCES OF IGNITION PRIOR TO USE AND UNTIL VAPORS ARE GONE. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM HANDLING SITE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS. EVEN IF EMPTY. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT.DRILL. GRIND. OR WELD NEAR CONTAINERS.

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING. DRINKING. SMOKING. OR USING TOILET FACILITIES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER. WE MAKE NO WARRANTY. EXPRESSED OR IMPLIED. REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

NOV 17 1995
THE MOREY CORP.

RECEIVED
FEB 27 1996
THE MONEY CORP.

SPARTAN CHEMICAL CO., INC.
MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label)

SHINELINE MULTI-SURFACE CLEANER AT 1:64 DILUTION

MANUFACTURER'S NAME
Spartan Chemical Co., Inc. (Concentrate Only)

EMERGENCY TELEPHONE NO.
419/531-5551

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)
110 N Westwood Ave., Toledo, OH 43607

NFPA RATINGS:	HMIS RATINGS:
HEALTH-0 FIRE-0 REACT-0	HEALTH-0 FIRE-0 REACT-0 PERS. PROT.-A

SECTION II: HAZARDOUS INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)	TABLE Z-1-A TWA mg/m³	TABLE Z-1-A STEL mg/m³	TABLE Z-1-A CEILING mg/m³	CARCINOGEN

NO HAZARDOUS INGREDIENTS AT 1% CONCENTRATION OR GREATER

SECTION III: PHYSICAL DATA

BOILING POINT
212°F

SPECIFIC GRAVITY (H_2O = 1)
1.00

PERCENT SOLID BY WEIGHT
0.2

VAPOR PRESSURE
18mm Hg @ 75°F

EVAPORATION RATE (but. ace. = 1)
<1

VAPOR DENSITY (AIR = 1)
Unknown

SOLUBILITY IN WATER
Complete

APPEARANCE AND ODOR
Very light green, water thin liquid, very slight mint odor

IS MATERIAL: (LIQUID) SOLID
GAS PASTE POWDER

pH
10.0-10.6

SECTION IV: FIRE & EXPLOSION HAZARD DATA

FLASH POINT - None

METHOD USED - ASTM - D56

FLAMMABLE LIMITS - N/A

EXTINGUISHING MEDIA - N/A

SPECIAL FIRE FIGHTING PROCEDURES - N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS - N/A

FEB 27 1996
THE MUREY CORP.

SECTION V: HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - CONDITIONS TO AVOID
May cause eye irritation.

THRESHOLD LIMIT VALUE - Not established

PRIMARY ROUTES OF ENTRY INHALATION __ SKIN CONTACT X OTHER (SPECIFY) ___

CONDITIONS AGGRAVATED BY USE - Unknown

EMERGENCY AND FIRST AID PROCEDURES - EYES: In case of contact, immediately flush eyes with water for at least 15 minutes. Remove contact lenses. Call a physician. SKIN: Flush skin with water. INGESTION: If swallowed, give large quantities of water or fruit juice. Call a physician immediately.

SECTION VI: REACTIVITY DATA

STABILITY: STABLE X

INCOMPATIBILITY (MATERIALS TO AVOID) - Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS - None known

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR X

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Flush with water to sanitary sewer system.

WASTE DISPOSAL METHOD - Same as above

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) - None required

VENTILATION - Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PROTECTIVE GLOVES (SPECIFY TYPE)
None required

EYE PROTECTION (SPECIFY TYPE)
None required

OTHER PROTECTIVE EQUIPMENT - None required

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Keep from freezing

OTHER PRECAUTIONS - None

Spartan Chemical Co., Inc.
SHINELINE MULTI-SURFACE CLEANER AT 1:64 DILUTION
Ref: 29 CFR 1910.1200 (OSHA)

NAME Thomas J. Mitchell
TITLE Director of Research
DATE December 29, 1995

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AUG 27 1998

SPARTAN CHEMICAL COMPANY, INC.
MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT INFORMATION

PRODUCT NAME OR NUMBER (as it appears on label)
SHINELINE MULTI SURFACE CLEANER

MANUFACTURER'S NAME
Spartan Chemical Company, Inc.

EMERGENCY TELEPHONE NO.
800/537-8990

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)
110 N Westwood Ave., Toledo, OH 43607

NFPA RATINGS:	HMIS RATINGS:
HEALTH-1 FIRE-0 REACT-0	HEALTH-1 FIRE-0 REACT-0 PERS PROT -B

SECTION II: HAZARDOUS INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)	TABLE Z-1-A TWA mg/m³	TABLE Z-1-A STEL mg/m³	TABLE Z-1-A CEILING mg/m³	CARCINOGEN
64-02-8	1-5	Tetrasodium ethylene diaminetetraacetate	--- not established	---		No

SECTION III: PHYSICAL DATA

BOILING POINT
212°F
VAPOR PRESSURE
18mm Hg @ 75°F
VAPOR DENSITY (AIR = 1)
Unknown
SOLUBILITY IN WATER
Complete
pH
10.8-11.2

SPECIFIC GRAVITY (H_2O = 1)
1.03

EVAPORATION RATE (but. ace. = 1)
<1

APPEARANCE AND ODOR
Green, water thin, mint odor

PERCENT SOLID BY WEIGHT
11-13

IS MATERIAL: (LIQUID) SOLID
GAS PASTE POWDER

SECTION IV: FIRE & EXPLOSION HAZARD DATA

FLASH POINT - None

METHOD USED - ASTM - D56

FLAMMABLE LIMITS - N/A

EXTINGUISHING MEDIA - N/A

SPECIAL FIRE FIGHTING PROCEDURES - N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS - N/A

AUG 27 1998

SECTION V: HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - CONDITIONS TO AVOID
May cause eye irritation.

THRESHOLD LIMIT VALUE - Not established

PRIMARY ROUTES OF ENTRY INHALATION __ SKIN CONTACT X OTHER (SPECIFY) ___

CONDITIONS AGGRAVATED BY USE - Unknown

EMERGENCY AND FIRST AID PROCEDURES - EYES In case of contact, immediately flush eyes with water for at least 15 minutes Remove contact lenses Call a physician SKIN Flush skin with water. INGESTION If swallowed, give large quantities of water or fruit juice Call a physician immediately.

SECTION VI: REACTIVITY DATA

STABILITY: STABLE X

INCOMPATIBILITY (MATERIALS TO AVOID) - Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS - None known

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR X

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Flush with water to sanitary sewer system.

WASTE DISPOSAL METHOD - Same as above

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) - None required

VENTILATION - Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations

PROTECTIVE GLOVES (SPECIFY TYPE)
Rubber gloves

EYE PROTECTION (SPECIFY TYPE)
Safety glasses

OTHER PROTECTIVE EQUIPMENT - None required

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Keep from freezing
OTHER PRECAUTIONS - None

Spartan Chemical Company, Inc.
SHINELINE MULTI SURFACE CLEANER
Ref: 29 CFR 1910:1200 (OSHA)

NAME - Ronald T. Cook
TITLE Manager, Regulatory Affairs
DATE February 11, 1998
SUPERCEDES July 18, 1996

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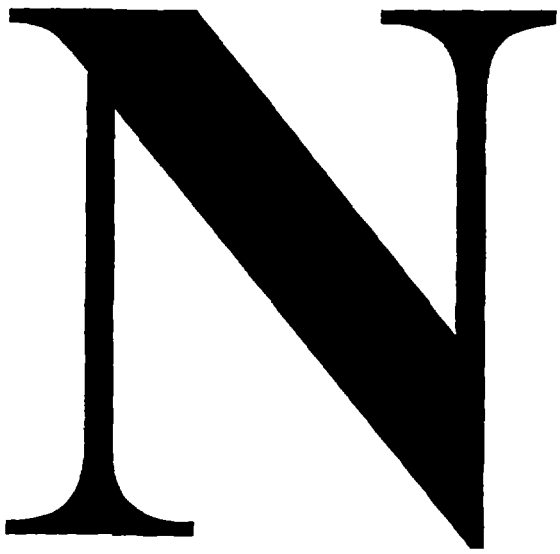
THE
MOREY
CORPORATION



MOR 001063

100 Morey Drive | Woodridge | Illinois | 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

Rec TAP 3/8/01

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE: November 25, 1985
REVISED: October 1, 1997

For Information or In An Emergency Call: (847) 455-7111

Section 1 - Product Identification

Manufacturer's Name: Various

Product Name / Trade Name: Nickel Based Alloy Steel

Common Name / Grade: Nickel 2XX, Monel Alloy 4XX, Inconel Alloy 6XX & 7XX Incoloy Alloy 8XX

Section 2 - Hazardous Ingredients

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings | CAS# | WT % (1) | OSHA PEL (mg/g³) (3) | ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)

Base and Alloying Elements

Ingredients	CAS #	PEL	TLV (2)	Ingredients	CAS #	PEL	TLV (2)
Aluminum (Al)	7429-90-5	15	10 (Total Dust)	Nickel (Ni)	7440-02-0	1	0.5
Chromium (Cr)	7440-47-3	.05	.5	Niobium (Nb)	7440-03-1	N.E.	N.E.
Cobalt (Co)	7440-48-4	0.1	0.02 (Dust & Fume)	Silicon (Si)	7740-21-3	15	10 (Total Dust)
Copper (Cu)	7440-50-8	1	1 (Dust & Mist)	Tantalum (Ta)	7440-25-7	5	5
Iron (Fe)	7439-89-6	10	5 (As Iron Oxide)	Titanium (Ti)	7440-32-6	15	10 (As TiO_2)
Manganese (Mn)	7439-96-5	5	0.2	Tungsten (W)	7440-37-7	N.E	5
Molybdenum (Mo)	7439-98-7	15	10 (Insoluble Compound)	Yittrium (Y)	7440-65-5	1	1

% Alloying Elements (1)

UNS Numbers	Al	Cr	Co	Cu	Fe	Mn	Mo	Ni	Nb	Si	Ta	Ti	W	Y
No 2200 Series (Commercially Pure Ni Alloy)		<2				<5		95-99				<5	<5	
No 4400 - No 5500 Series (Ni-Cu Alloy)	<5	<1		27-68	<1	<5		31-67		<1		<2		
No 6600 - No 7700 Series (Ni-Cr Alloy)	<5	15-48	0-13		1-40	<5	2-10	39-80	<5		<2	<3	<5	<1
No 8800 - No 9900 Series (Ni-Fe-Cr Alloy)	<5	.1-30	0-15	<2	30-84	<1	<5	.1-42	<5			<3		<1

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Section 3 - Physical Data

Material is (At Normal Conditions): Solid

Appearance and Odor: Gray-Black, Odorless

Melting Point (Base Metal): >2300° F

Specific Gravity: Approximately 7

Section 4 - Fire And Explosion

Extinguishing Media: NA

Special Firefighting Procedures: Steel products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards: NA

MOR 001064

Section 5 - Reactivity Data

Stability: Stable

Incompatability (Materials to Avoid): Reacts with strong acids to produce hydrogen gas.

Conditions to Avoid: NA

Hazardous Decomposition Products: Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining. Refer to ANSI Z49.1

Product
Nickel

Section 5 - Health Hazard Data

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ **Inhalation** ☐ **Skin Contact** ☐ **Skin Absorption** ☐ **Eye Contact** ☐ **Ingestion**

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese and copper may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenzalike symptoms.

Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

Chromium and nickel and their compounds are listed in the 3rd Annual Report on Carcinogens, as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitis, inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs.

Recent epidemiological studies of workers melting and working alloys containing nickel/chromium have found no increased risk of cancer.

Suspected Cancer Agent? _____ NO: This product's ingredients are not found in the lists below.
__X__ YES: ___ Federal OSHA __X__ NTP ___ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Section 7 - Spill or Leak Procedures

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Section 8 - Special Protection

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section 9 - Special Precautions

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

MOR 001065

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

Rec. 7/22/99

MATERIAL SAFETY DATA SHEET: NU-KOTE PAGE : 1

(002577-0139 -B0175574-1937) | DATE OF ISSUE 06/14/94 | SUPERSEDES 02/11/94

SECTION I - GENERAL INFORMATION

CHEMICAL NAME & SYNONYMS	TRADE NAME & SYNONYMS
N/A	NU-KOTE

CHEMICAL FAMILY :	FORMULA
SILICONE SOLUTION	X <--MIXTURE

MANUFACTURE'S NAME:
CHEMSEARCH DIV. OF NCH CORP.

ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE)
BOX 152170
IRVING, TEXAS 75015

PREPARED BY:	PRODUCT CODE NUMBER	EMERGENCY TELEPHONE NUMBER
R REEVES/CHEMIST	1937	214-438-1381

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

CHEMICAL NAME (INGREDIENTS) :
POLYETHYLENE GLYCOL MONOLAURYLOXY

HAZARD----->IRR.	TLV--->N/E 1.	PEL--->N/E 2.
STEL(TWA)*->N/E	CAS#-->61702-78-1	

SECTION IIA - NON-HAZARDOUS INGREDIENTS

NON-HAZARDOUS INGREDIENT NAMES AND CAS NUMBERS ARE PROTECTED UNDER NU TRADE SECRET REGISTRY # 409363-502OP

SECTION III - PHYSICAL DATA

BOILING PT. (F)	210	SPEC. GRAVITY (H2O=1)	1.015

MATERIAL SAFETY DATA SHEET: NU-KOTE PAGE : 2

(CONTINUED) - SECTION III - PHYSICAL DATA

VAPOR PR. (MM HG)	18	COLOR	WHITE
VAPOR DENSITY	0.6	ODOR	LEMON
PH. @ 100%	6.0	CLARITY	OPAQUE
% VOLATILE BY VOL	80	EVAPORATION RATE (BU A/C = 1)	0.10
H2O SOLUBILITY	COMPLETE		
VISCOSITY	NON-VISCOUS		

SECTION IV - FIRE AND EXPLOSION HAZARD

FLASH POINT: NON-FLAM T.C.C.	FLAMMABLE LIMITS N/A	LEL N/A	UEL N/A

EXTINGUISHING MEDIA	"ALCOHOL" FOAM	FOAM	CO2	DRY CHEMICAL	WATER SPRAY	OTHER
	X <--	X <--	X <--	X <--	X <--	X <--

SPECIAL FIRE FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING.

UNUSUAL FIRE AND EXPLOSION HAZARDS
SPRAY EXPOSED CONTAINERS WITH WATER TO PREVENT STEAM GENERATION.
BURNING MAY RELEASE SILICON DIOXIDE, CARBON DIOXIDE, AND TRACES OF INCOMPLETELY BURNED CARBON PRODUCTS.

NFPA HAZARD RATING (0=INSIGNIFICANT;1=SLIGHT;2=MODERATE;3=HIGH;4=EXTREME):

1 <--HEALTH	0 <--FLAMMABILITY	0 <--REACTIVITY	<--SPECIAL

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE:

NOT ESTABLISHED.

(CONTINUED) - SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE :

- ACUTE - (SHORT TERM EXPOSURE)

EYES: MAY CAUSE IRRITATION, REDNESS, SWELLING.
SKIN: MAY CAUSE IRRITATION, REDNESS, RASH.
INGESTION: SWALLOWING LARGE AMOUNTS MAY CAUSE DIGESTIVE DISCOMFORT.

- CHRONIC - (LONG TERM EXPOSURE)

NO CHRONIC DATA ESTABLISHED.
TARGET ORGANS: NONE KNOWN.
ALTHOUGH NO THERE IS NO PRIMARY ROUTE OF ENTRY INTO THE BODY, THE PRIMARY ROUTE OF EXPOSURE IS BY EYE AND SKIN CONTACT.

PRIMARY ROUTE OF ENTRY: <-- INHALATION <-- INGESTION <-- ABSORPTION

EMERGENCY & FIRST AID PROCEDURES

INHALATION :
REMOVE FROM THE AREA TO FRESH AIR. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION DEVELOPS OR IF BREATHING BECOMES DIFFICULT.

EYE CONTACT:
RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

SKIN CONTACT:
WASH AFFECTED AREAS WITH PLENTY OF SOAP AND WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

INGESTION :
GIVE 3 TO 4 GLASSES OF WATER. INDUCE VOMITING BY PLACING FINGER OR BLUNT OBJECT ON THE BACK OF THE VICTIM'S TONGUE. GIVE FLUIDS UNTIL THE VOMITUS IS CLEAR. SEEK MEDICAL ATTENTION.

NOTES TO PHYSICIAN :
N/A

SECTION VI - TOXICITY INFORMATION

(CONTINUED) - SECTION VI - TOXICITY INFORMATION

PRODUCT CONTAINS CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN BY:

IARC	NTP	OSHA	ACGIH	OTHER
<--YES	<--YES	<--YES	<--YES	<--YES
X<--NO	NTP X<--NO	OSHA X<--NO	ACGIH X<--NO	OTHER X<--NO

POLYETHYLENE GLYCOL MONOLAURYLOXY:
NO DATA FOUND.

SECTION VII - REACTIVITY DATA

STABILITY	X <--STABLE <--UNSTABLE	CONDITIONS TO AVOID
	N/A	

INCOMPATABILITY (MATERIALS TO AVOID) :
STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS
TRACES OF INCOMPLETELY BURNED CARBON PRODUCTS.
SILICONE DIOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION	WILL NOT <--OCCUR	MAY <--OCCUR	CONDITIONS TO AVOID
	X		
	N/A		

SECTION VIII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE ABSORBANT MATERIAL TO PICKUP AND PLACE MATERIAL INTO A LABELED CONTAINER FOR PROPER DISPOSAL. DIKE AND CONTAIN LARGE SPILLS UNTIL THEY ARE CLEANED UP.

(CONTINUED) - SECTION VIII - SPILL OR LEAK PROCEDURES

WASTE DISPOSAL METHOD(S):
DISPOSE OF IN ACCORDANCE WITH STATE, FEDERAL, AND LOCAL REGULATIONS.

NEUTRALIZING AGENT :
N/A

SECTION IX - SPECIAL PROTECTION INFORMATION

REQUIRED VENTILATION :

GENERAL EXHAUST IS USUALLY ADEQUATE.

RESPIRATORY PROTECTION :
NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.

GLOVE PROTECTION :
NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.

EYE PROTECTION :
WEAR PROTECTIVE EYEWEAR IF METHOD OF APPLICATION PRESENTS THE LIKELIHOOD OF EYE CONTACT.

OTHER PROTECTION :
N/A

SECTION X - STORAGE AND HANDLING INFORMATION

STORAGE TEMPERATURE MAX: 120 F. MIN: 35 F.	INDOOR	HEATED	REFRIGERATED	OUTDOOR
	X			

(CONTINUED) - SECTION X - STORAGE AND HANDLING INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING
KEEP FROM FREEZING. USE REASONABLE CARE AND CAUTION.

OTHER PRECAUTIONS
KEEP OUT OF REACH OF CHILDREN.
READ ENTIRE LABEL BEFORE USING. FOLLOW LABEL DIRECTIONS. AVOID GETTING IN EYES.

SECTION XI - REGULATORY INFORMATION

CHEMICAL NAME	C.A.S NUMBER	UPPER % LIMIT
N/A		

THOSE INGREDIENTS LISTED ABOVE ARE SUBJECT TO THE REPORTING REQUIRMENTS OF 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.
IF UE (USE EXEMPTION) APPEARS UNDER UPPER % LIMIT, END USERS ARE EXEMPT FROM NOTIFICATION BECAUSE THE PRODUCT IS USED AND LABELED FOR ROUTINE JANITORIAL WORK, OR THE PRODUCT IS USED AND LABELED FOR FACILITY GROUNDS MAINTENANCE (SUCH AS FERTILIZERS AND HERBICIDES), OR THE PRODUCT IS USED AND LABELED FOR MAINTAINING MOTOR VEHICLES.

CALIFORNIA PROPOSITION 65

WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE (1)CANCER OR (2)BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM:

NONE

SECTION XII - TRANSPORTATION * (FOR FUTURE USE)

LABELS	LIMITED QTY

(CONTINUED) - SECTION XII - TRANSPORTATION * (FOR FUTURE USE)

UNIT CONTAINER	
DOT SPS CONTAINER	NET EXPLOSIVE WT.
AEROSOL PROPELLANT(S)	

SECTION XIII - REFERENCES

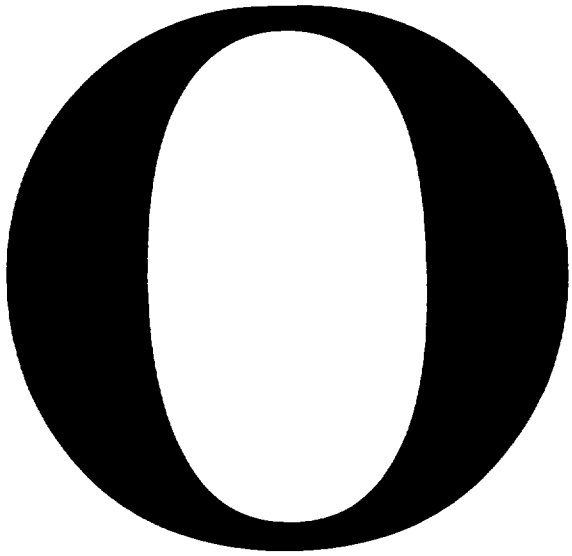
1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES. ACGIH, 1991-1992.
2. OSHA PEL.

* SHORT TERM EXPOSURE LIMIT (TWA) LISTED AS FINAL RULE LIMITS PUBLISHED IN THE FEDERAL REGISTER/VOL. 54 NO. 12, 1-19-89

THE INFORMATION CONTAINED HERIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

CHEMSEARCH DIV. OF NCH CORP. ASSUMES NO RESPONSIBILTY FOR PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY THE USE, STORAGE OR DISPOSAL OF THE PRODUCT IN A MANNER NOT RECOMMENDED ON THE PRODUCT LABEL. USERS ASSUME ALL RISKS ASSOCIATED WITH SUCH UNRECOMMENDED USE, STORAGE, OR DISPOSAL OF THE PRODUCT.

THE MOREY CORPORATION



1024K21,22

Material Safety Data Sheet

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

LUBRICATING OIL 100 SAE 30

MOTOR OIL, INC.
1490 JARVIS AVENUE
ELK GROVE VILLAGE, IL 60007
Phone (847) 956-7550 Fax (847) 956-0399

Rev. 8/17/99

CAS Registry Number	64742-54-7
Product Type	High quality lubricating oil and non-detergent motor oil. SAE 30.
Preparation/Revision Date	04/19/1995

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	OSHA PEL	ACGIH TLV	% (Optional)
Petroleum Lubricating Base Oil	64742-54-7	5 mg/m³	5 mg/m³	100

SECTION 3 HAZARDS IDENTIFICATION

Principal Hazard(s) Contains petroleum oil. Avoid breathing mists or vapors. Avoid prolonged or repeated skin contact.

MOR 001071

SECTION 4 FIRST AID MEASURES

Oral **DO NOT induce vomiting.** Get immediate medical attention.

Eye Flush with water for at least 15 minutes or until irritation subsides. Get medical attention if eye irritation develops or persists.

Skin Wash with soap and water. Immediately remove contaminated clothing. Get medical attention if irritation develops. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Inhalation Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If adverse effects are observed, remove exposed person to fresh air. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If overexposed to oil mist, remove from further exposure until excessive oil mist subsides.

1024K21,22

SECTION 5	FIRE FIGHTING MEASURES
Flash Point	490 °F COC Typical
Upper Flammable Limit	Not Determined
Lower Flammable Limit	Not Determined
Extinguishing Media	Carbon Dioxide, dry chemical, water spray (fog) and foam. Note: water, fog and foam may cause frothing and spattering.
Special Firefighting Procedures	Wear self-contained breathing apparatus. Avoid breathing fumes and vapors. Use water spray (fog) to cool containers exposed to high heat or open flame.
Unusual Fire & Explosion Hazards	Empty containers contain residue and/or vapors. DO NOT WELD, CUT, PRESSURIZE, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, SPARKS, FLAME, STATIC ELECTRICITY OR OTHER SUCH SOURCES OF IGNITION. Keep empty containers closed and dispose of in an environmentally safe manner and in accordance with all governmental regulations.
Autoignition Temperature	Not Determined

SECTION 6	ACCIDENTAL RELEASE MEASURES
Spill Procedures	Evacuate all non-essential personnel. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Remove sources of ignition. Ventilate spill area. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Assure conformity with applicable Federal, state and local regulations.

SECTION 7	HANDLING AND STORAGE
Handling Procedures	Keep away from potential sources of ignition. Avoid breathing vapors if present. Keep containers closed when not in use. Wash thoroughly after handling. Make sure that proper warning labels are affixed in accordance with 29 CFR 1910.1200. Use good personal hygiene around product.
Storage Procedures	Do not store near potential sources of ignition. Store in a well ventilated area. Store in a dry area. Do not store around food or eating areas.

SECTION 8	EXPOSURE CONTROLS:PERSONAL PROTECTION
Ventilation Procedures	Use material in well ventilated areas only. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.
Gloves Protection	Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.
Eye Protection	Safety glasses. Use splash goggles or face shield when eye contact may occur.
Respiratory Protection	Under normal conditions, respirator is not usually required. Use NIOSH/MSHA approved disposable dust/mist mask if the recommended exposure limit is exceeded.
Clothing Recommendation	Use a chemical -resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

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SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES		
Appearance	Yellow colored liquid	**Vapor Pressure**	Not Determined
Specific Gravity	0.88	**Vapor Density (Air = 1)**	Greater than 5
Viscosity	100 cSt @ 40 °C	**Evaporation Rate**	Not Determined
Odor	Typical oil odor	**Pour or Melting Point**	15 °F
Odor Threshold	Not Determined	**Percent Volatile**	Not Determined
pH	Essentially neutral	**Boiling Point**	IBP approximately 635 °F
Water Solubility	Negligible	**Molecular Weight**	Not Determined

SECTION 10	STABILITY AND REACTIVITY
Stability	Material is normally stable at room temperature and pressure. See the Handling and Storage Section for further details.
Incompatibility	Oxidizing agents.
Hazardous Polymerization	Will not occur.
Thermal Decomposition	Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

SECTION 11	TOXICOLOGICAL INFORMATION
Oral Toxicity	Not determined.
Eye Irritation	Product contacting eyes may cause eye irritation.
Skin Irritation	May cause skin irritation. Prolonged or repeated contact may cause dermatitis. Symptoms may include redness, edema, drying, defatting and cracking of skin.
Dermal Toxicity	Not determined.
Inhalation Toxicity	Not determined.
Respiratory Irritation	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.
Dermal Sensitivity	No data available to indicate product or components may be skin sensitizer.
Inhalation Sensitivity	No data available to indicate product or components may be respiratory sensitizers.
Chronic Toxicity	Not determined.
Carcinogenicity	The components of this product have not been found to be a carcinogen under either NTP, IARC Monographs or current OSHA regulations.
Other	Under conditions which may generate mists, observe the OSHA PEL 5mg/m³.

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SECTION 12 ECOLOGICAL INFORMATION

No Data Given

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal Waste management should be in compliance with federal, state and local regulations. If discarding this product, do not flush to drain/storm sewer. Consider recycling. If permitted, incineration may be practical.

SECTION 14 TRANSPORTATION INFORMATION

U. S. DOT Shipping Name Not regulated by DOT

Hazard Class Not applicable

DOT Identification Number Not applicable

DOT Shipping Label Not regulated by DOT

SECTION 15 REGULATORY INFORMATION

U. S. TSCA Inventory All components of this product are listed on the TSCA Inventory

SARA 302 Threshold Planning Quantity No RQ for product or any constituent greater that 1% or 0.1% (carcinogen).

SARA 304 Reportable Qty No RQ for product or any constituent greater that 1% or 0.1% (carcinogen).

SARA 311 Categories

EPA Hazard Classification Code

Acute	Chronic	Fire	Pressure	Reactivity
No	No	No	No	No

SARA 313 Supplier Notification This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.

CERCLA Hazardous Substances No chemicals in this product are subject to the reporting requirements of CERCLA.

SECTION 16 OTHER INFORMATION

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH = 1 FIRE = 1 REACTIVITY = 0

Ratings: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Extreme

Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, MOTOR OIL INC. makes no representations as to the completeness or accuracy thereof. MOTOR OIL INC. makes no warranty whatsoever, expressed or implied, of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE since the conditions of use are beyond our control. MOTOR OIL INC. assumes no responsibility for injury to recipient or to third persons for any damage to any property and recipient assumes all such risks.

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 03/22/99
SUPERSEDES DATE: 01/24/97

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
CYLESSTIC TK 460

PRODUCT CODE
322610 - 02610

PRODUCT CATEGORY
Petroleum Lubricating Oil

Rec. 8/18/99

PRODUCT APPEARANCE AND ODOR
Clear, dark brown liquid
Mild fatty odor

MEDICAL EMERGENCY TELEPHONE NUMBER: (713) 656-3424

TRANSPORTATION EMERGENCY TELEPHONE NUMBERS
(BAYTOWN) (281) 834-3296 (CHEMTREC) 1-800-424-9300

FOR PRODUCT INFORMATION AND TECHNICAL ASSISTANCE CALL: 1-800-443-9966

FOR A FAXED COPY OF AN MSDS DIAL: 1-800-298-4007

FOR AN MSDS OR ASSISTANCE WITH AN MSDS, DIRECT INQUIRIES TO THE ADDRESS BELOW OR CALL:
MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
ROOM 2344
P. O. BOX 2180
HOUSTON, TX 77252-2180
(713) 656-5949

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Greater than 94%
or	or	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	
and	and	
Residual oils (petroleum), solvent-dewaxed	64742-62-7	
and	and	
Residual oils (petroleum), hydrotreated	64742-57-0	

FAX COVER SHEET

Famous Lubricants, Inc.
124 W. 47th Street
Chicago, Illinois 60609
USA
Phone: 773-268-2555
Fax: 773-268-5815

SEND TO	
Company name: Morey Corp	From: Mary
Attention: Bogdan Buczek	Date: 8/17/99
Office location:	Office location:
Fax number: 630-960-7484	Phone number:

☐ Urgent ☐ Reply ASAP ☐ Please comment ☐ Please review ☐ For your information

Total pages, including cover: 8

COMMENTS

Attn: Bogdan Buczek

Per your request - MSDS
Exxon Cyclistic TK460

Thank you

Mary

PS MSDS for HD30 will follow
when I locate it.

Petroleum resins	64742-16-1	
Proprietary additives	Mixture	Less than 6%

This product, as manufactured by Exxon, does not contain polychlorinated biphenyls (PCB's).
All components of this product are listed on the U.S. TSCA inventory.
See Section E for Health and Hazard Information.
See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist (aerosol) for an 8-hour workday	OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that the air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m3 STEL.

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)	AUTOIGNITION TEMPERATURE
249°C (480°F)	Greater than 260°C (500°F)

ASTM D 92, Cleveland Open Cup

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS

Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Tenth Edition (1991):

Use water spray, dry chemical, foam or carbon dioxide to extinguish the fire. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

[illegible] and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 321°C (610°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6°C/15.6°C)
0.92

MOLECULAR WEIGHT
Not determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-7°C (20°F)
Pour Point by ASTM D 97

VISCOSITY
429 cSt @ 40°C

VAPOR PRESSURE
less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25°C (77°F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25°C (77°F)
Negligible; less than 0.1%

G. REACTIVITY

... presents a serious explosion hazard.

H. ENVIRONMENTAL INFORMATION

CLEAN WATER ACT / OIL POLLUTION ACT
This product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1-800-424-8802).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.
Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355
(SARA Sections 301-304)
No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).
TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313)
No toxic chemical is present greater than 1% or 0.1% (carcinogen).
HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA Sections 311-312)
EPA Hazard Classification Code: Not Applicable

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with (THE) National Fire Protection Association PUBLICATIONS.
Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.
In order to prevent fire or explosion hazards, use appropriate equipment. Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION
Not regulated

OSHA REQUIRED LABEL INFORMATION
In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.
Note: Product label may contain non-OSHA related information also.

The health and safety information presented herein must be used in conjunction with the pertinent standards for training, work practices and facilities design established by OSHA, NIOSH, NFPA, API, NEC, NSC, UNDERWRITERS, BUREAU OF MINES, and similar organizations.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

MATERIAL SAFETY DATA SHEET

NFO TECHNOLOGIES
2140 South 88th Street · Kansas City, KS USA 66111-8701 · (913) 422-4022 · Fax (913) 441-2333

MATERIAL SAFETY DATA SHEET **PRODUCT: AIRLUBE NR (ALL GRADES)**

SECTION I

MANUFACTURER : CENTURY LUBRICANTS CO.
ADDRESS : 2140 S. 88TH ST.
KANSAS CITY, KS 66111-8701
REVISION DATE: 1/28/96 475004-13 DOC 507

TELEPHONE : 913 791 3645
CHEM TREC : 800-424-9300
PREPARED BY : M.D. HART

SECTION II CHEMICAL AND PHYSICAL PROPERTIES

SOLUBLITY IN WATER (@ 20 C):	SLIGHT	VAPOR DENSITY (AIR):	> 1.0
SPECIFIC GRAVITY (WATER=1):	< 1.0	STRONG ACID :	NO
VAPOR PRESSURE (mmHg @ 20 C):	< 0.1	STRONG BASE :	NO
EVAPORATION RATE (ether = 1):	< 0.01	BOILING POINT (DEG F):	+600 F
PERCENT VOLATILE (by weight):	ZERO	MELTING POINT (DEG F):	N.A.

APPEARANCE AND ODOR : AMBER LIQUID, MILD PETROLEUM ODOR

SECTION III REACTIVITY DATA

STABILITY : STABLE **INCOMPATIBILITY :** KEEP AWAY FROM STRONG OXIDIZERS

NOTE : HAZARDOUS POLYMERIZATION WILL NOT OCCUR

SECTION IV FIRE AND EXPLOSION DATA

FLASH POINT (METHOD) : 300 F COC MIN. EST **FLAMMABLE LIMITS-LEL:** UNK **UEL:** UNK

EXTINGUISHING AGENTS : DRYCHEMICAL(X) CO2 (X) WATERSPRAY ( ) FOAM (X)

SPECIAL FIRE FIGHTING PROCEDURES: Avoid breathing vapors. Use breathing apparatus in confined areas. Cool exposed containers with waterspray

HAZARDOUS THERMAL DECOMPOSITION PRODUCT : Carbon monoxide, carbon dioxide and unidentified organic compounds.

MOR 001083

SECTION V PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO TAKE IN CASE OF SPILL : Add absorbent to spill area. Keep petroleum products out of sewers and waterways. Advise authorities if they do enter.

WASTE DISPOSAL METHOD : Dispose of at appropriate waste facility in accordance with regulations. Expected to be a hazardous waste D018, Benzene

PRECAUTIONS IN STORAGE : Keep containers closed when not in use. Do not handle near heat, flames, sparks. Do not weld or heat empty containers.

475004-13

SECTION VI HEALTH HAZARD DATA

PERMISSIBLE CONCENTRATIONS (AIR) : None established

ROUTE	EFFECT OF OVEREXPOSURE	EMERGENCY FIRST AID PROCEDURE
EYES	NONE EXPECTED	FLUSH WITH WATER. SEE PHYSICIAN
SKIN	HARMFUL IF ABSORBED THRU SKIN MAY CAUSE IRRITATION	WASH WITH SOAP AND WATER. IF HIGH PRESSURE, GET IMMEDIATE MEDICAL ATTENTION.
INHALATION	MIST MAY CAUSE IRRITATION	REMOVE FROM CONTAMINATED AREA
INGESTION	NONE EXPECTED	
CHRONIC	MAY CAUSE ALLERGIC SKIN REACTION. A COMPONENT OF THE PRODUCT WAS A POSITIVE FOR THE AMES SALMONELLA MUTAGENICITY TEST.	

HAZARDOUS INGREDIENTS	TLV, TWA, PEL	IARC, NTP, OSHA
MINERAL OIL	TLV 5mg/M (MIST)	NOT LISTED
PERFORMANCE ADDITIVE < 5%*	TWA 0.5 PPM (SUPPLIER)	NOT LISTED

SECTION VII CONTROL MEASURES

RESPIRATION PROTECTION : USE ORGANIC VAPOR RESPIRATOR IF TWA IS EXCEEDED

VENTILATION TYPE : GENERAL ADEQUATE. USE LOCAL MECHANICAL TO INSURE TWA NOT SURPASSED WHERE APPLICABLE.

SKIN PROTECTION : CHEMICALLY RESISTANT EYE PROTECTION : GOGGLES OR FACESHIELD DESIRABLE

OTHER PROTECTIVE MEASURES : NONE NORMALLY NEEDED

MOR 001084

SECTION VIII MISCELLANEOUS

UNK MEANS UNKNOWN
EST MEANS ESTIMATED
N.A. MEANS NOT APPLICABLE

HMIS 1,0,0 B

*** CONTIANS < 3% ZINC COMOUND WHICH IS REGULATED UNDER SECTION 313 OF SARA**

The information contained herein is based on data considered accurate. However, no warranty, expressed or implied, is given regarding the accuracy of these data or the results to be obtained from the use thereof.

Give your pneumatic equipment a new lease on life . . .

with NFO's AIR LUBE, a specially formulated lubricant for pneumatic equipment

Keep your pneumatic equipment running longer – up to three times longer – cleaner with less downtime and greater power using NFO's AIR LUBES.

THE ISSUE

Virtually every manufacturing or processing plant utilizes pneumatic powered equipment. The life and performance of these air tools are essential to the productivity and operation of the plant. Excessive downtime, slower performing tools and shorter tool life can easily destroy productivity gains made elsewhere. Inadequate lubrication of these pneumatic operated tools is one of the major contributors to poor performance.

THE PERFORMANCE

Air contains moisture, dirt, dust, and other contaminates that can interfere with the proper functioning of pneumatic equipment. Moisture exists in virtually all air lines due to the relative humidity in the air and the condensation caused by the expansion and cooling of compressed air. Air line lubricants that are not specially formulated to operate in the presence of moisture can interact with the moisture to form sludge, rust, and gum. This can be especially true for tools that are left in storage for any length of time. Other contaminates can pass through the filter system and cause varnishes and sticky substances to form in the tools and air lines thus lowering the performance of the tools. Lubricants such as hydraulic oils, motor oils, and penetrating oils, commonly used in air tools are not designed for air systems and are not able to combat the moisture and contaminates.

THE SOLUTION

NFO's AIR LUBE family of products is specifically designed for pneumatic equipment and air operated tools.

- AIR LUBE's special emulsifiers can absorb up to 10% of its weight in water which prevents the formation of gum and sludge.

- AIR LUBE's base oil, unlike most conventional oils, will not leave hard carbon deposits that can rob equipment of power.

- AIR LUBEs contain anti-wear and extreme pressure additives which will provide additional lubrication for the gears and other moving parts of heavily loaded tools.

- AIR LUBE's corrosion preventative package helps prevent the rust that can occur in tools and airlines due to the moisture carried in the air.

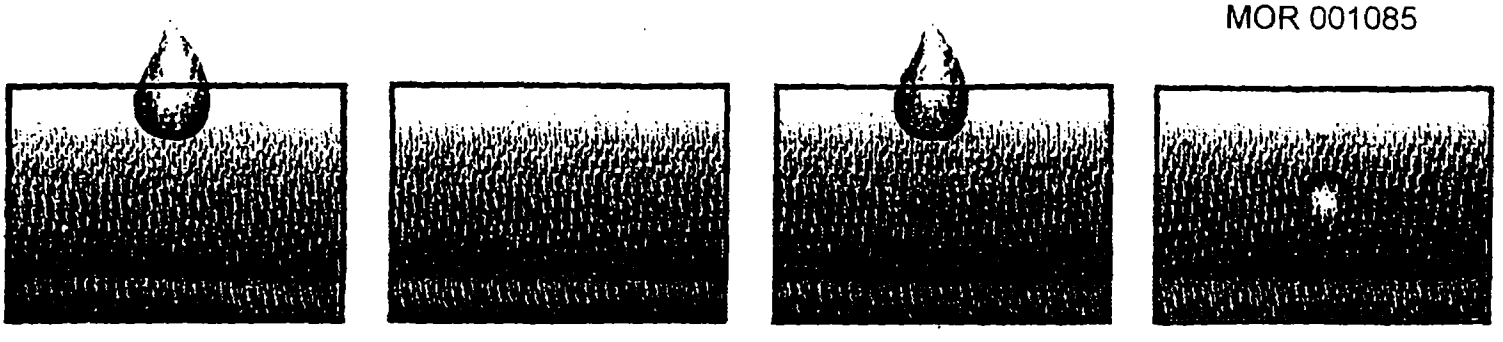
- AIR LUBE's formulation is designed not to affect rubber or plastic valves and seals.

THE RESULTS

With as few as three drops a minute of NFO's AIR LINE lubricant, you can expect the following added benefits from your pneumatic equipment and tools:

- Increased Life
- More power
- Longer service life
- Storage protection
- Lower lubricant usage
- Decreased total cost of pneumatic system

MOR 001085



TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	10W/NR	10H/NR	AF	AA	10/PAO	ATC-855
Appearance	Visual	clear	clear	green	clear	clear	lt. yellow
Density, lbs/gal 60 °F (16°C)	ASTM D - 1298	7.6	7.3	9.0	7.1	6.9	7.0
Viscosity, sus	ASTM D - 445						
40°C		110	155	80	90	140	36
100°C		39	44	34	40	44	-
Viscosity Index	ASTM D - 2270	65	> 100	n/a	>140	130	-
Pour Point	ASTM D - 97						
°F		< - 40	+ 5	< - 50	+ 5	- 70	-75
°C		< - 40	< - 23	< - 46	- 12	-57	-59
Flash Point (COC)	ASTM D - 92						
°F		400	400	250	370	455	210
°C		204	204	121	188	235	99
Fire Point (COC)	ASTM D - 92						
°F		450	450	300	410	505	250
°C		232	232	149	210	263	121
Emulsibility	NFO Method						
H_2O absorption, %		100	100	n/a	100	100	n/a
H_2O separation > 2 hrs.		pass	pass	n/a	pass	pass	
Shell 4 Ball Wear (mm)	D - 2596	0.50	0.47	0.94	0.83	0.35	n/a
Application		General purpose for the majority of applications.	For older equipment using Neoprene or Buna-s rubber parts and seals.	Winter Grade for low temp conditions	USDA H-1 approved for food service requirements.	Synthetic base for wider temp range and elastomer compatibility.	Air Tool Cleaner for removal of rust, dirt, and varnish.

These high quality AIR LUBES are available in a wide variety of package sizes that allow the end user to choose the application method best suited to their environment. The packages include, 55 gallon drums, 120 lb. kegs, 5 gallon pails, 1 gallon cans, and plastic pint bottles. NFO AIR LUBEs are also available in several other viscosity grades for extreme applications.

A partial listing of leading manufacturers that recommend or use NFO's AIR LUBE

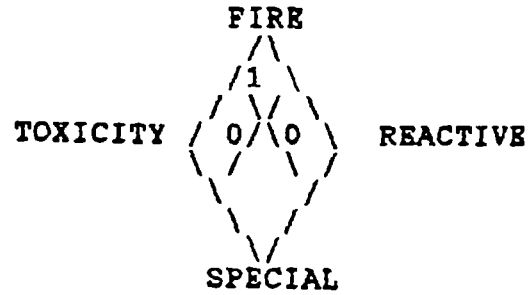
• General Motors • Chrysler • Ford • Union Pacific Railroad • Amtrak • Boeing • Ingersol Rand/ARO •
• Cooper Power Tools • Anheuser Busch • Chicago Pneumatic • Snap-On Tools • Pepsi Cola • John Deere •
• Kenworth Truck • Georgia Pacific • ITW Paslode • Stanley Air Tools • Rotor Tool • Magnus Equipment •
• Beardsley & Piper • Kent Tool • Cleveland Vibrator • Intool, formerly Dresser •

NFO
FUCHS
2140 S. 80th Street, Kansas City, Kansas 66111
Phone (913) 422-4022 • FAX (913) 441-2333

MATERIAL SAFETY DATA SHEET

ORANGE INDUSTRIAL LUBE. 390

NFPA HAZARD RATING
- 4 - EXTREME
- 3 - HIGH
- 2 - MODERATE
- 1 - SLIGHT
- 0 - INSIGNIFICANT



DIVISION AND LOCATION - SECTION 1

DIVISION: Famous Lubricants, Inc.
LOCATION: 124 W. 47TH Street
Chicago, Illinois 60609
EMERGENCY TELEPHONE NUMBER: 312-268-2555

CHEMICAL AND PHYSICAL PROPERTIES - SECTION II

CHEMICAL NAME: petroleum hydrocarbon plus additives
FORMULA: not applicable
HAZARDOUS DECOMPOSITION PRODUCTS:
- oxides of phosphorous from burning
- hydrochloric acid on burning or decompostion
- oxides of sulfur
- sulfur dioxide or hydrogen sulfide, depending upon decomposition conditions
- oxides of nitrogen
- carbon monoxide and carbon dioxide from burning
- chlorinated hydrocarbons

INCOMPATIBILITY (KEEP AWAY FROM):
- strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

TOXIC AND HAZARDOUS INGREDIENTS: % CAS#
- none

FORM: semi-solid ODOR: mineral oil
APPEARANCE: grease COLOR: dark amber
SPECIFIC GRAVITY (WATER = 1): @ room temperature .935
BOILING POINT: no data available
MELTING POINT: not applicable
SOLUBILITY IN WATER (BY WEIGHT %): negligible at 25°C
VOLATILE (BY WEIGHT%): not applicable
EVAPORATION RATE: not applicable
VAPOR PRESSURE (mm Hg AT 20°C): not applicable
VAPOR DENSITY (AIR=1): not applicable
pH (AS IS): not applicable
STABILITY: product is stable under normal conditions
VISCOSITY SUS @ 100°F: ≥ 100

Continued on next page

1997

MATERIAL SAFETY DATA SHEET

FIRE AND EXPLOSION DATA - SECTION III

SPECIAL FIRE FIGHTING PROCEDURES:
dense smoke. fire fighters should wear an approved self-contained breathing apparatus.
do no use water except as fog.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
dense smoke

FLASHPOINT: (Method Used) Cleveland Open Cup > 170°C (338°F)

FLAMMABLE LIMITS %: no data available

EXTINGUISHING AGENTS:
dry chemical or water fog or CO_2 or foam or sand/earth
water may cause frothing
closed containers exposed to fire may be cooled with water

HEALTH HAZARD DATA - SECTION IV

PERMISSIBLE CONCENTRATIONS (air): not applicable

CHRONIC EFFECTS OF OVEREXPOSURE: none when used with good personal hygiene practices. may otherwise cause skin and eye irritation upon prolonged or repeated contact.

ACUTE TOXICOLOGICAL PROPERTIES:
no data available

EMERGENCY FIRST AID PROCEDURES:
EYES: immediately flush with large quantities of water for at least 15 minutes and call a physician.
SKIN CONTACT: remove excess with cloth or paper. wash thoroughly with soap and water. for high pressure injection under skin see physician immed.
INHALATION: remove exposed person to fresh air if discomfort is experienced while handling hot product.
IF SWALLOWED: contact physician immediately.

ADVICE TO PHYSICIANS:
high velocity injection under the skin may result in serious injury. if left untreated the affected area is subject to infection,disfigurement, lack of blood circulation and may require amputation. when dispensed by high pressure equipment this material can easily penetrate the skin and leave a bloodless puncture wound. material injected into a finger be deposited into the palm of the hand. within 24-48 hours the patient may experience swelling, discoloration, and throbbing pain in the affected area. immediate treatment by a surgical specialist is recommended.

SPECIAL PROTECTION INFORMATION - SECTION V

VENTILATION TYPE REQUIRED (Local, mechanical, special):
none

RESPIRATORY PROTECTION (Specify type):
none

continued on next page

MATERIAL SAFETY DATA SHEET

EYE PROTECTION:
chemical safety goggles and, if handled hot, full face shield
PROTECTIVE GLOVES:
none
OTHER PROTECTIVE EQUIPMENT:
none

HANDLING OF SPILLS OR LEAKS - SECTION V1

PROCEDURES FOR CLEAN-UP:
transfer bulk of mixture into another container. absorb residue with an inert material such as earth, sand, or vermiculite. sweep up and dispose as solid waste in accordance with local, state, and federal regulations.
WASTE DISPOSAL:
dispose of in accordance with all applicable federal, state and local regulations.

SPECIAL PRECAUTIONS - SECTION VII

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
keep containers closed until ready for use.

TRANSPORTATION DATA - SECTION VII

D.O.T.: not required
REPORTABLE QUANTITY: not applicable
FREIGHT CLASSIFICATION: petroleum lubricating grease.
SPECIAL TRANSPORTATION NOTES:

ENVIRONMENTAL/SAFETY REGULATIONS - SECTION IX

SECTION 313 (TITLE III SUPERFUND AMENDMENT AND REAUTHORIZATION ACT):
this product does not contain any chemical in sufficient quantity to be subject to reporting requirements of Section 313 of Title III of the Superfund Ammendments and Reauthorization Act of 1986 and 40 CFR Part 372.
STATE RIGHT TO KNOW INFORMATION:
NEW JERSEY - petroleum oil (grease)
PENNSYLVANIA - formula trade secret

COMMENTS

KEEP OUT OF REACH OF CHILDREN

Continued on next page

(COMMENTS continued)

SIGNATURE: GEORGE JUNKER
TITLE: TECHNICAL DIRECTOR
REVISION DATE: 1/23/91
SUPERCEDES: 9/28/88

WE BELIEVE THE STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE RELIABLE, BUT THEY ARE GIVEN WITHOUT WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, AND WE ASSUME NO RESPONSIBILITY FOR ANY LOSS, DAMAGE, OR EXPENSE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THEIR USE.

MOR 001090

MATERIAL SAFETY DATA SHEET

MANUFACTURER
Famous Lubricants, Inc.
124 W. 47th St.
Chicago, Ill. 60609

PRODUCT NAME
Orange Turbine Oil 150 R & O

PRODUCT CODE - None

CHEMICAL NAME
Petroleum Lubricating Oil

CAS NUMBER
Complex Mixture

PRODUCT APPEARANCE AND ODOR
Clear, light yellow liquid
Bland hydrocarbon odor

EMERGENCY TELEPHONE NUMBER
733#@-268-2555

HEALTH
Non-hazardous
Except if fumes are generated (OHCS)

PRECAUTIONARY STATEMENT
None

COMPONENTS AND HAZARD INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM
Health 1 Flammability 1 Reactivity 0

BASIS
Recommended by Famous Lubricants

EXPOSURE LIMIT FOR PRODUCT
5 mg/m^3 for oil mist in air
5 mg/m^3 for oil mist or fumes

BASIS
OSHA Reg. 29 CFR 1910.00
Recommended by the American Conference of Governmental Hygienists (ACGIH)

10 mg/m^3

STEL

COMPONENTS	CAS#	HAZARD DATA
Petroleum Oil Base Stock	64742-54-7	Greater than 99 %
Distillates, solvent-dewaxed heavy paraffinic	or 64742-65-0	
Proprietary additives	Mixture	Less than 1%

As manufactured, this product does not contain PCB's
All components of this product are listed on the US TSCA inventory

PHYSICAL HAZARD CLASSIFICATION (Per OSHA Reg. 29 CFR 1910.1200)

No	Combustible	No	Oxidizer	No	Compressed Gas	No	Organic Peroxide
No	Pyrophoric	No	Explosive	No	Reactivity	No	Unstable
Yes	Flammable*					Yes	Stable

*(Product could burn if heated to temperature above flashpoint)

PRODUCT LISTED AS POTENTIAL CARCINOGEN OR CARCINOGEN BY:
NTP No IARC No OSHA No Other No

PHYSICAL DATA

BOILING RANGE ASTM D 2887	VAPOR PRESSURE mm Hg	VAPOR DENSITY
IBP approximately 560°F	< 0.01	> 5

SPECIFIC GRAVITY H_2O=1	% VOLATILE BY VOLUME	POUR POINT ASTM D 97
0.88	Negligible	-22°F

MATERIAL SAFETY DATA SHEET

ORANGE TURBINE OIL 150

EVAPORATION RATE @ 1 ATM. n-BUTYL ACETATE = 1		SOL. IN H_2O @ 1 ATM.
<0.01		< 0.1%
VISCOSITY ASTM	VISCOSITY ISO-VG	pH UNDILUTED
~150 SUS	32 cSt @ 40°C	ESSENTIALLY NEUTRAL

ROUTES OF ENTRY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressur injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from point of exposure and call a physician. If breathing is irregular or has stopped, start resuscitation and administer oxygen. If over exposed to oil mist, remove from further exposure until excessive oil mist subsides.

INGESTION
DO NOT induce vomiting if ingested: CALL A PHYSICIAN AT ONCE

FIRE AND EXPLOSION DATA

FLASH POINT ASTM D 92 Cleveland Open Cup	AUTOIGNITION TEMP.
400°F	>500°F

NATIONAL FIRE PROTECTION ASSOC. -NFPA- HAZARD IDENTIFICATION

1 Health	1 Flammability	0 Reactivity		
0=Insignificant	1=Slight	2=Moderate	3=High	4=Extreme

HANDLING PRECAUTIONS
Use product with caution, around heat, sparks, pilot lights, open flame, and static electricity.

FLAMMABLE OR EXPLOSIVE LIMITS - VOLUME % IN AIR - ESTIMATED VALUES
Lower Flammable Limit - 0.9% Upper Flammable Limit - 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for fires involving this type of product, depending on size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities. The following procedures for this type of product are based on the recommendations in the NFPA'S "FIRE PROTECTION GUIDE on HAZARDOUS MATERIALS", 8th Ed. : Use water spray, dry chemical, foam or carbon dioxide.

MATERIAL SAFETY DATA SHEET

ORANGE TURBINE OIL 150

Use water to keep fire exposed containers cool. If a leak or a spill has not ignited use water spray to disperse the vapor and to provice protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or products of decomposition. Use supplied-air breathing apparatus for enclosed and confined areas.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes, nitrogen oxides, and other decomposition products, in the case of incomplete combustion.

EMPTY CONTAINER WARNING

Empty containers can retain residue, either liquid or vapor and could be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity or other sources of ignition; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to the lubricant supplier or to a drum reconditioner. All other containers should be disposed of in environmentally safe manner and in accordance with governmental regulations.

HEALTH AND HAZARD INFORMATION

HEALTH STUDIES

Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

SIGNS AND SYMPTOMS OF EXPOSURE OR OVEREXPOSURE

Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

Current OSHA Hazard Communication Standards do not require this product to have a cancer hazard warning. This is because the product is formulated from base oils which are either severely hydrotreated or severely solvent extracted. Repeated skin contact with this product tends to remove skin oils, possibly leading to irritation or dermatitis. Based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA. Product contacting the eyes may cause eye irritation. The product has a low order of acute oral and dermal toxicity. However, minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death. This product is judged to have and an acute Oral Lethal Dose 50% (rat) greater than 5 g/Kg of body weight and an acute Dermal Lethal Dose 50% (rabbit) greater than 3.16 g/Kg of body weight. There are no recognized pre-existing medical conditions which may be aggravated by exposure to this product.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None recognized

MATERIAL SAFETY DATA SHEET

ORANGE TURBINE OIL 150

REACTIVITY DATA

This product is stable and will NOT react violently with water.
Hazardous polymerization will NOT occur.
Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite and calcium hypochlorite.

ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover spilled product. Add sand, earth or other suitable absorbant to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Conform with all governmental regulations.

REPORTABLE QUANTITY (RQ) EPA REG. 40 CFR 302 CERCLA SECT. 102
No RQ for product or any constituent greater than 1% or 0.1% (carcinogen).

THRESHOLD PLANNING QUANTITY (TPQ) EPA REG. 40 CFR 355 SARA SECT.301-304
No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING EPA REG. 40 CFR 372 SARA SECT.313
No toxic chemical is present greater than 1% or 0.1% (carcinogen).

EPA HAZARD CLASSIFICATION CODE EPA REG. 40 CFR 370 SARA SECT.311-312
No Acute No Chronic No Fire No Pressure No Reactive XX Not applicable

CLEAN WATER ACT
Under Section 311 (b) (4) Clean Water Act, discharges of crude oil and petroleum products in any kind or form to surface waters must be immediately reported to the National Response Center 800-424-8802.

TOXIC SUBSTANCE CONTROL ACT
This product does not contain any TSCA 12b reportable chemical substance:

SPECIAL PROTECTION INFORMATION

VENTILATION
Use local exhaust to capture vapor, mists or fumes. Provide enough ventilation to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open flame.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed areas.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to prevent prolonged contact.

MOR 001094

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron, if needed, to avoid contaminating regular clothing which could result in prolonged skin contact.

RECEIVED
1997

MATERIAL SAFETY DATA SHEET

ORANGE TURBINE OIL 150

WORK PRACTICES AND CONTROLS

Keep containers closed when not in use. DO NOT store near heat. Keep away from sparks, open flame and/or strong oxidants. Store below 150°F.

PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged skin contact. Remove contaminated clothing, launder before using again. Thoroughly clean oil soaked shoes, discard if necessary. Cleanse skin thoroughly after contact. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

TRANSPORTATION AND LABEL DATA

DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name:	Petroleum lubricating oil
Hazard Class:	Non-hazardous
Hazard Identification No:	None assigned
Shipping Containers:	No restrictions
Warning Placard:	None assigned

OSHA LABEL INFORMATION

OSHA Hazard Warnings are not applicable for this product.

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for hazardous materials incidents - DOT P - 5800.3

GENERAL COMMENTS

ALL STATEMENTS, information and data provided in this material safety data sheet *are believed to be accurate and reliable. They are presented* without guarantee, warranty or responsibility of any kind, expressed or implied, on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. Nothing contained herein is intended as permission, inducement, or recommendation to violate any laws or to practice any invention covered by existing patents.

For further information on health effects, please contact:

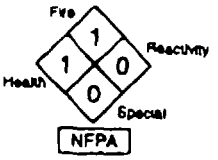
Technical Director

Revision Date:02/95
Supercedes: 05/94

Famous Lubricants, Inc.
124 W. 47th Street
Chicago, Illinois 60609
733 ###-268-2555

TMC #-1016637 Rec. 8/16/99 SP

3-IN-ONE®



MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Manufacturer:	WD-40 Company	Telephone:	
Address:	1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California 92138-0607	Emergency Only:	1 (800) 424-9300 (CHEMTREC)
		Information:	(619) 275-1400
		Chemical Name:	Organic Mixture
		Trade Name:	Three-In-One Multi-Purpose Oil

II. HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limit ACGIH/OSHA
Severely Hydrotreated Heavy Naphthenic Oil	64742-52-5	> 97	5 mg/M³ TWA (mist)
Non-hazardous Ingredients		< 3	

III. PHYSICAL DATA

Appearance:	*Clear amber liquid*	*Volatiles:*	Nil
Odor:	Faint citronella	pH:	Not applicable
Boiling Point:	Above 550°F	Specific Gravity:	0.886 - 0.923 @ 20°C
Freezing Point:	Not applicable	Vapor Pressure:	Not determined
Solubility in Water:	Insoluble	Vapor Density (Air = 1):	Not determined

IV. FIRE AND EXPLOSION

Flash Point:	Above 305°F TOC
Flame Extension:	Not applicable
Extinguishing Media:	CO_2, Dry Chemical, Foam, Water Spray
Fire Fighting Procedures:	Use water to keep fire-exposed containers cool.

V. HEALTH HAZARD / ROUTE(S) OF ENTRY

Symptoms of Overexposure

Inhalation (Breathing): May cause anesthesia, headache, dizziness, nausea and upper respiratory irritation.
Skin Contact: May cause drying of skin and/or irritation.
Eye Contact: May cause irritation, tearing and redness.
Ingestion (Swallowed): May cause irritation, nausea, vomiting and diarrhea.

MOR 001096

First Aid Procedures

Ingestion (Swallowed): Do not induce vomiting. Seek medical attention.
Eye Contact: Immediately flush eyes with large amounts of water for 15 minutes.
Skin Contact: Wash with soap and water.
Inhalation (Breathing): Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

DANGER!

Aspiration Hazard: If swallowed, can enter lungs and may cause chemical pneumonitis. Do not induce vomiting. Call Physician immediately.

Suspected Cancer Agent

Yes _____ No __x__ The components in this mixture have been found to be noncarcinogenic by NTP, IARC and OSHA.

VI. REACTIVITY DATA

Stability:	Stable x	Unstable ____
Conditions to avoid:	NA	
Incompatibility:	Strong oxidizing materials	
Hazardous decomposition products:	Thermal decomposition may yield carbon monoxide and/or carbon dioxide.	
Hazardous polymerization:	May occur ____	Will not occur x

VII. SPILL OR LEAK PROCEDURES

Spill Response Procedures

Absorb small quantities with sand, earth, sawdust. Large quantities pump into tank.

Waste Disposal Method

Incinerate liquid, bury saturated absorbent in land fill. Dispose of in accordance with local, state and federal regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation Requirements:	Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.
Respiratory Protection:	Use air respiratory protection in confined or enclosed spaces, if needed.
Protective Gloves:	Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.
Eye Protection:	Use splash goggles or face shield when eye contact may occur.

IX. SPECIAL PRECAUTIONS

Keep from open flame. Do not take internally. Avoid excessive inhalation of vapors. Keep from children.

X. REGULATORY INFORMATION

All ingredients for this product are listed on the TSCA inventory.

SARA Title III chemicals:	None
California Prop 65 chemicals:	None
CERCLA reportable quantity:	None
RCRA hazardous waste no.:	None

SIGNATURE: R. Miles TITLE: Technical Director

REVISION DATE: October 1997 SUPERSEDES: January 1996

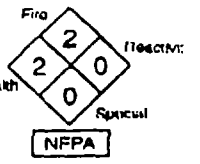
NA = Not applicable NDA = No data available < = Less than > = More than

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the user's responsibility both to determine safe conditions for use of this product and assume loss, damage or expense, direct or consequential, arising from its use. Before using product, read label.

MSDS 3/B

WD-40®

Rec. 8/16/99



MATERIAL SAFETY DATA SHEET

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Address:	1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California 92138-0607	Emergency Only:	1 (800) 424-9300 (CHEMTREC)
		Information:	(619) 275-1400
		Chemical Name:	Organic Mixture
		Trade Name:	WD-40 Aerosol
		Item No.	10002, 10005, 10008, 10011, 10013, 10016, 10023

II. HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limit ACGIH/OSHA	
Aliphatic Petroleum Distillates	8052-41-3	60-70	100 ppm	PEL
Petroleum Base Oil	64742-65-0	15-25	5 mg/M³	TWA (mist)
Carbon Dioxide	124-38-9	2-3	5000 ppm	PEL
Non-hazardous Ingredients		<10		

III. PHYSICAL DATA

Boiling Point:	NA	Evaporation Rate:	Not determined
Vapor Density (air = 1):	Greater than 1	Vapor Pressure:	110 +5 PSI @ 70°F
Solubility in Water:	Insoluble	Appearance:	Light amber
Specific Gravity (H_2O = 1):	0.816 @ 70°F	Odor:	Characteristic odor
Percent Volatile (volume):	70%		

IV. FIRE AND EXPLOSION

Flash Point:	Tag Open Cup 110°F (minimum)
Flammable Limits:	(Solvent Portion) [Lel] 1.0% [Uel] 6.0%
Extinguishing Media:	CO_2, Dry Chemical, Foam
Special Fire Fighting Procedures:	Contents Under Pressure
Unusual Fire and Explosion Hazards:	FLAMMABLE – U.F.C. level 3 AEROSOL

V. HEALTH HAZARD / ROUTE(S) OF ENTRY

Threshold Limit Value

Aliphatic Petroleum Distillates (Stoddard solvent) lowest TLV (ACGIH 100 ppm.)

Symptoms of Overexposure

Inhalation (Breathing):	May cause anesthesia, headache, dizziness, nausea and upper respiratory irritation.
Skin Contact:	May cause drying of skin and/or irritation.
Eye Contact:	May cause irritation, tearing and redness.
Ingestion (Swallowed):	May cause irritation, nausea, vomiting and diarrhea.

MOR 001098

First Aid Emergency Procedures

Ingestion (Swallowed):	Do not induce vomiting, seek medical attention.
Eye Contact:	Immediately flush eyes with large amounts of water for 15 minutes.
Skin Contact:	Wash with soap and water.
Inhalation (Breathing):	Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Pre-existing medical conditions such as eye, skin and respiratory disorders may be aggravated by exposure.

DANGER!

Aspiration Hazard: If swallowed, can enter lungs and may cause chemical pneumonitis. Do not induce vomiting. Call Physician immediately.

Suspected Cancer Agent

Yes _____ No __x__

The components in this mixture have been found to be noncarcinogenic by NTP, IARC and OSHA.

VI. REACTIVITY DATA

Stability:	Stable ___x___	Unstable ___ ___
Conditions to avoid:	NA	
Incompatibility:	Strong oxidizing materials	
Hazardous decomposition products:	Thermal decomposition may yield carbon monoxide and/or carbon dioxide.	
Hazardous polymerization:	May occur _____	Will not occur ___x___

VII. SPILL OR LEAK PROCEDURES

Spill Response Procedures

Spill unlikely from aerosol cans. Leaking cans should be placed in plastic bag or open pail until pressure has dissipated.

Waste Disposal Method

Empty aerosol cans should not be punctured or incinerated; bury in land fill. Liquid should be incinerated or buried in land fill. Dispose of in accordance with local, state and federal regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation:	Sufficient to keep solvent vapor less than TLV.
Respiratory Protection:	Advised when concentrations exceed TLV.
Protective Gloves:	Advised to prevent possible skin irritation.
Eye Protection:	Approved eye protection to safeguard against potential eye contact, irritation or injury.
Other Protective Equipment:	None required.

IX. SPECIAL PRECAUTIONS

Keep from sources of ignition. Avoid excessive inhalation of spray particles, do not take internally. Do not puncture, incinerate or store container above 120°F. Exposure to heat may cause bursting. Keep can away from electrical current or battery terminals. Electrical arcing can cause burn-through (puncture) which may result in flash fire, causing serious injury. Keep from children.

X. TRANSPORTATION DATA (49 CFR 172.101)

Domestic Surface

Description:	Consumer Commodity
Hazard Class:	ORM-D
ID No:	NONE
Label required:	Consumer Commodity (ORM-D)

Domestic Air

Description:	Consumer Commodity (Non-Flammable Gas – Aerosol)
Hazard Class:	ORM-D
ID No:	NONE
Label Required:	Consumer Commodity (ORM-D-AIR)

XI. REGULATORY INFORMATION

All ingredients for this product are listed on the TSCA inventory.

SARA Title III chemicals:	None
California Prop 65 chemicals:	None
CERCLA reportable quantity:	None
RCRA hazardous waste no.:	D001 (Ignitable)

MOR 001099

SIGNATURE: R. Miles TITLE: Technical Director

REVISION DATE: March 1998 SUPERSEDES: June 1996

NA = Not applicable NDA = No data available < = Less than > = More than

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the user's responsibility both to determine safe conditions for use of this product and assume loss, damage or expense, direct or consequential, arising from its use. Before using product, read label.

MATERIAL SAFETY DATA SHEET

Oatey®
4700 W. 160TH Street
P.O. Box 35906
Cleveland, Ohio 44135
Emergency Tel No.
(303) 623-5716 Collect

OATEY CLEANER

Latest Revision Date...05/28/97 Date of Issue.....03/16/98

Section 1 IDENTITY OF MATERIAL

TRADE NAME.....OATEY CLEANER
PRODUCT NUMBERS... 30766, 30779, 30782, 30795, 30805
FORMULA..... CH(3)COC(2)H(5)+CH(3)COCH(3)
SYNONYMS..... Methyl Ethyl Ketone and Acetone

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENTS	%	CAS NUMBER	SEC 313
Methyl Ethyl Ketone	85-95%	78-93-3	Yes
Acetone	1-10%	67-64-1	No

SECTION 3 KNOWN HAZARDS UNDER 29 CFR 1910.1200

HAZARDS	YES	NO	HAZARDS	YES	NO
Combustible Liquid		x	Skin Hazard	x	
Flammable Liquid	x		Eye Hazard	x	
Pyrophoric Material		x	Toxic Agent	x	
Explosive Material		x	Highly Toxic Agent		x
Unstable Material		x	Sensitizer		x
Water Reactive Material		x	Kidney Toxin		x
Oxidizer		x	Reproductive Toxin	x	
Organic Peroxide		x	Blood Toxin		x
Corrosive Material		x	Nervous System Toxin	x	
Compressed Gas		x	Lung Toxin	x	
Irritant	x		Liver Toxin		x
Carcinogen NTP/IARC/OSHA		x			

SECTION 4 REGULATION

CHEMICAL	TLV (TWA)	PEL (Transitional Limits)	STEL	Hazard Action Level
Methyl Ethyl Ketone	200 ppm, 590 mg/cu m	200 ppm, 259 mg/cu m	300 ppm, 885 mg/cu m	N/A
Acetone	750 ppm, 1800 mg/cu m	1000 ppm, 2400 mg/cu m	1000 ppm, 2400 mg/cu m	N/A

SECTION 5 REGULATED IDENTIFICATION

DOT PROPER SHIPPING NAME..... CONSUMER COMMODITY ORM-D; Cleaning Compound.
DOT HAZARD CLASS..... N/A
SHIPPING ID NUMBER..... N/A
EPA HAZARDOUS WASTE ID NUMBER... F-005
EPA HAZARD WASTE CLASS..... Ignitable Waste/Toxic Waste

SECTION 6 EFFECTS OF EXPOSURE

ENTRY ROUTE..... INHALE - YES INGEST - YES SKIN - YES EYE - YES
INHALATION..... May cause irritation of mucous membranes, nose & throat, headache, dizziness, nausea, numbness of the extremities and narcosis in high concentrations. Has caused CNS depression & liver damage in animals, and concentrations of 1000-3000 ppm caused retardation of fetal development in rats.
SKIN..... Chronic contact may lead to irritation & dermatitis. Chronic exposure to vapors of high concentration may cause dermatitis. May possibly be absorbed through the skin.
EYE..... Vapors or direct contact may cause irritation.
INGESTION..... May be aspirated into the lungs or cause systemic effects described under inhalation.
TARGET ORGANS... Eye, Skin, Lung, Central Nervous System

SECTION 7 EMERGENCY AND FIRST AID PROCEDURES - 303/623-5716 COLLECT

SKIN..... If irritation arises, wash thoroughly with soap and water. Seek medical attention if irritation persists.
EYES..... If fumes cause irritation, move to fresh air and irrigate eyes with water for 15 minutes. If irritation persists, seek medical attention.
INHALATION... Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Call a poison control center or physician immediately.
INGESTION.... Drink water and call a poison control center or physician immediately. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

(Continued on next page)

UNCONTROLLED DOCUMENT

OATEY CLEANER

SECTION 8 PHYSICAL AND CHEMICAL PROPERTIES

NFPA HAZARD SIGNAL..... HEALTH 2 STABILITY 1 FLAMMABILITY 3 SPECIAL NONE
BOILING POINT..... 133 Degrees F / 56 C
MELTING POINT..... N/A
VAPOR PRESSURE..... 186 mmHg @ 20 Degrees C
VAPOR DENSITY (AIR = 1)... 2.0
VOLATILE COMPONENTS..... 100%
SOLUBILITY IN WATER..... 27.1% wt. @ 20 degrees C
PH..... N/A
SPECIFIC GRAVITY..... 0.793
EVAPORATION RATE..... (BUAC = 1) = 7.7
APPEARANCE..... Colorless Liquid
ODOR..... Sharp, penetrating odor.
WILL DISSOLVE IN..... Water, organic solvents
MATERIAL IS..... Liquid

SECTION 9 FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY..... LEL =2.15 % Volume UEL= 13.0 % Volume
FLASHPOINT AND METHOD USED..... 0 - 3 Degrees F. / PMCC
STABILITY..... Stable CONDITIONS TO AVOID: Heat, sparks and open flame. HAZARDOUS DECOMP. PDTS.: Carbon monoxide/ carbon dioxide/hydrogen chloride/smoke.
HAZARDOUS POLYMERIZATION..... Will not Occur. CONDITIONS TO AVOID: none
INCOMPATIBILITY/MAT. TO AVOID..... Acids, oxidizing materials, alkalis, chlorinated inorganics (potassium, calcium and sodium hypochlorite), copper or copper alloys.
SPECIAL FIRE FIGHTING PROCEDURE... FOR SMALL FIRES: Use dry chemical, CO2, water or foam extinguisher. FOR LARGE FIRES: Evacuate area and call Fire Department immediately.

SECTION 10 SPILL AND DISPOSAL INFORMATION

SPILL OR LEAK PROCEDURES... Ventilate area, stop leak if it can be done without risk. Take up with sand, earth, or other non-combustible absorbing material.
WASTE DISPOSAL..... Dispose of according to local, state, and Federal regulations.

SECTION 11 SAFE USAGE DATA

PROTECTIVE EQUIPMENT TYPES... EYES: Safety glasses with side shields. RESPIRATORY: NIOSH-approved cannister respirator in absence of adequate ventilation. GLOVES: Rubber Gloves OTHER: Eye wash and safety shower should be available.
VENTILATION..... GENERAL MECHANICAL: Exhaust ventilation capable of maintaining emissions at the point of use below PEL. LOCAL EXHAUST: Open doors & windows. If used in enclosed area, use exhaust fans.
PRECAUTIONS..... HANDLING & STORAGE: Keep away from heat, sparks and flames; store in cool, dry place. OTHER: Containers, even empties will retain residue and vapors.

SECTION 12 MANUFACTURER OR SUPPLIER DATA

FIRM NAME & MAILING ADDRESS... OATEY CO., 4700 West 160th Street P.O. Box 35906 Cleveland, Ohio 44135
OATEY PHONE NUMBER..... (216) 267-7100
EMERGENCY PHONE NUMBER:..... For Emergency First Aid call (303) 623-5716 COLLECT For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300

SECTION 13 DISCLAIMER

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

UNCONTROLLED DOCUMENT

OIL

Mobil 42F23 Grainger #4ZF23

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:11/27/90

********** I. PRODUCT IDENTIFICATION **********

MOBIL VACUUM PUMP OIL

SUPPLIER:
MOBIL OIL CORP.

CHEMICAL NAMES AND SYNONYMS:
PETROLEUM HYDROCARBONS

USE OR DESCRIPTION:
VACUUM PUMP OIL

HEALTH EMERGENCY TELEPHONE:
(609) 737-4411

TRANSPORT EMERGENCY TELEPHONE:
(800) 424-9300 (CHEMTREC)

PRODUCT TECHNICAL INFORMATION:
(800) 662-4525

********** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES **********

APPEARANCE: Lt. Amber Liquid — ODOR: Mild — PH: NA
VISCOSITY AT 100 F, SUS: 311.1 — AT 40 C, CS: 60.0
VISCOSITY AT 210 F, SUS: 52.4 — AT 100 C, CS: 7.8
FLASH POINT F(C): > 400(204) (ASTM D-92)
MELTING POINT F(C): NA — POUR POINT F(C): 10(-12)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.876 — SOLUBILITY IN WATER: Negligible
VAPOR PRESSURE-mm Hg 20C: < .1

NA=Not Applicable NE=Not Established D=Decomposes

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

********** III. POTENTIALLY HAZARDOUS INGREDIENTS **********

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O=OSHA, S=Supplier
NOTE: Limits shown for guidance only. Follow applicable regulations.

********** IV. HEALTH HAZARD DATA **********

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---

THRESHOLD LIMIT VALUE: 5.00 mg/m3 Suggested for Oil Mist
EFFECTS OF OVEREXPOSURE: Not expected to be a problem.

********** V. EMERGENCY AND FIRST AID PROCEDURES **********

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush with water.
SKIN CONTACT: Wash contact areas with soap and water.
INHALATION: Not expected to be a problem.
INGESTION: Not expected to be a problem when ingested. If uncomfortable seek medical assistance.

Mobil

=75007=

********** VI. FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT F(C): > 400(204) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams or drinking water supply.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None.
NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

********** VII. REACTIVITY DATA **********

STABILITY (Thermal, Light, etc.): Stable
CONDITIONS TO AVOID: Strong oxidation
INCOMPATIBILITY (Materials to Avoid): Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.
HAZARDOUS POLYMERIZATION: Will not occur.

********** VIII. SPILL OR LEAK PROCEDURE **********

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.
WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the resource conservation and recovery act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

********** IX. SPECIAL PROTECTION INFORMATION **********

EYE PROTECTION: No special equipment required.
SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.
RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.
VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

********** X. SPECIAL PRECAUTIONS **********

No special precautions required.

Mobil

********** XI. TOXICOLOGICAL DATA **********

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 15 g/kg Nontoxic (estimated) ---Based on testing of similar products and/or the components.
DERMAL TOXICITY (RABBITS): LD50: > 8 g/kg Nontoxic (estimated) --- Based on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.
EYE IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.
SKIN IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at Mobil Environmental and Health Sciences Laboratory by dermal application to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of similar oils showed no evidence of carcinogenic effects.

Mobil

********** XII. REGULATORY INFORMATION **********

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA.

DOT:
Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D); does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity, and is not formulated with the contaminants listed in the Toxicity Characteristic (TC) Rule as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

THIS PRODUCT HAS BEEN USDA APPROVED UNDER THE FOLLOWING CATEGORY: H2 - Lubricants With No Food Contact

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: None

This product contains no chemicals reportable under SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
*** NO REPORTABLE INGREDIENTS ***		

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT MAT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

********** XIII. INGREDIENTS **********

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS ONE OF THE FOLLOWING BASE OILS:	> 95.00	
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC		64741-88-4

MOR 001102

********** APPENDIX **********

FOR MOBIL USE ONLY: (FILL NO: MTL377001) MCN: . MMC: 0* 0* MA 0* 0*,
MPEC: A, PPEC: A, US89-312 APPROVE 11/27/90

****

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

****

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265

MOR 001103

TMC-1015287

START INTERNATIONAL
3361 Boyington, Suite 120
Carrollton, Texas 75006 (214 960-1986)

Product: PC-101 Protective Coating
Code: PC-101; Key: PC-101
Synthetic Resin

MATERIAL SAFETY DATA SHEET

Product Identification

Trade Name: PC-101 Protective Coating
Chemical Family: Synthetic Resin
Date Prepared: October 30, 1993
Dot Class: Flammable Liquid (Xylene and Toluene), Liquid, NA1993

Pan American Research Hazard Rating		Scale
Toxicity	2	4 - Extreme
Fire	3	3 - High
Reactivity	0	2 - Moderate
Special	-	1 - Slight
		0 - Insignificant

Component Information

This information must be included in all material safety data sheets that are copied and distributed for this product.

Component Number	Chemical Name	% By Weight	CAS REG NO.
1	Acrylic copolymer	35-38	Not Hazardous
2	Butyl methacrylate	1 max	97-88-1
3	*Toluene	< 20	108-88-3
4	*Xylene	< 43	1330-20-7

* This chemical is subject to S.A.R.A. Title III Section 313 and 40 CFR372 reporting.

EMERGENCY RESPONSE INFORMATION

First Aid Procedures

INHALATION — Move subject to fresh air. Give artificial respiration if breathing has stopped. Call a physician.

INGESTION — If swallowed, give 2 glasses of water to drink. Consult a physician. Never give anything by mouth to an unconscious person. Do not induce vomiting.

EYE AND SKIN CONTACT — IMMEDIATELY flush eyes with a large amount of water for at least 15 minutes. See a physician. Wash affected skin areas thoroughly with soap and water. Remove and wash contaminated clothing thoroughly.

NOTE TO PHYSICIAN — *Acute massive exposure to toluene can cause transient hematuria and albumnuria. Cardiac dysrhythmias can occur after massive inhalation.*

Fire Fighting Information

UNUSUAL HAZARDS	Vapors can travel to a source of ignition and flash back.
EXTINGUISHING AGENTS	Use the following extinguishing media when fighting fires involving this material: (1) polar solvent (alcohol foam), (2) carbon dioxide, (3) water spray, or (4) dry chemical.
PERSONAL PROTECTIVE EQUIPMENT	Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent) and full protective gear.
SPECIAL PROCEDURES	Use water spray to cool containers exposed to fire.

Spill or Leak Handling Information

PERSONAL PROTECTION	Appropriate protective equipment must be worn when handling a spill of this material. See the PERSONAL PROTECTION MEASURES section for recommendations. If exposed to material during clean-up operations, see the FIRST AID PROCEDURES section for actions to follow.
PROCEDURES	Eliminate all ignition sources. Evacuate the spill area. Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. Keep dust to a minimum. CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water. NOTE: Spills on porous surfaces can contaminate ground water.

HAZARD INFORMATION

Health Effects From Overexposure

PRIMARY ROUTES OF EXPOSURE	Inhalation, Skin Contact, and Eye Contact
INHALATION	Inhalation of solvent vapor or mist can cause the following: (1) irritations of nose, throat, and lungs, (2) drowsiness, (3) slurred speech, (4) headache, (5) nausea, (6) dizziness, (7) stupor, and/or (8) unconsciousness.
EYE CONTACT	Material can cause the following: (1) substantial irritation and/or (2) corneal clouding.
SKIN CONTACT	Material can cause the following: (1) moderate skin irritation and/or (2) defatting and drying of the skin which can lead to irritation and dermatitis.

Health Effects From Overexposure - Continued

DELAYED EFFECTS	Prolonged or repeated overexposure to toluene/xylene can cause the following: (1) irritation of the respiratory tract, (2) enlarged liver, (3) kidney effects, (4) cardiac sensitization, and/or (5) severe skin irritation.

Fire And Explosive Properties

FLASH POINT	7°C / 45°F Pensky Martens Closed Cup
LOWER EXPLOSIVE LIMIT	1.2% Estimate
UPPER EXPLOSIVE LIMIT	7.1% Estimate

Reactivity Information

INSTABILITY	This material is considered stable.
HAZARDOUS DECOMPOSITION PRODUCTS	There are no known hazardous decomposition products for this material.
HAZARDOUS POLYMERIZATION	Product will not undergo polymerization.
INCOMPATIBILITY	Avoid contact with strong oxidizing agents.

ACCIDENT PREVENTION INFORMATION

Component Exposure Information

This product contains the following chemicals. This information must be included in all material safety data sheets that are copied and distributed for this product.

Component Number	Chemical Name	% By Weight	CAS REG NO.
1	Acrylic copolymer	35-38	Not Hazardous
2	Butyl methacrylate	1 max	97-88-1
3	*Toluene	< 20	108-88-3
4	*Xylene	< 43	1330-20-7

* This chemical is subject to S.A.R.A. Title III Section 313 and 40 CFR372 reporting.

MOR 001106

Exposure Limit Information

Component		OSHA		ACGIH	
Number	Units	TWA	STEL	TWA	STEL
1		None	None	None	None
2	ppm	None	None	None	None
3	ppm	100	150	100	150
4	ppm	100	150	100	150

Personal Protection Measures

RESPIRATORY PROTECTION

A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the TWA/TLV's listed in the COMPONENT EXPOSURE INFORMATION section.

Up to 10 times the TWA/TLV: MSHA/NIOSH approved (or equivalent) half-mask, air-purifying respirator.

Up to 100 times the TWA/TLV: MSHA/NIOSH approved (or equivalent) full-face piece, air-purifying respirator.

Above 100 times or Unknown: MSHA/NIOSH approved (or equivalent) self-contained breathing apparatus in the positive pressure mode, OR MSHA/NIOSH approved (or equivalent) full-face piece airline respirator in the positive pressure mode with emergency escape provisions.

Air-purifying respirators should be equipped with organic vapor cartridges.

EYE PROTECTION

Use chemical splash goggles (ANSI Z87.1 or approved equivalent).

HAND PROTECTION

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection: Nitrile. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

OTHER PROTECTION

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

MOR 001107

Facility Control Measures

VENTILATION	Use explosion proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (10 m/min) at the point of vapor evolution. Refer to the current edition of *Industrial Ventilation: A Manual of Recommended Practice* published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.
OTHER PROTECTIVE EQUIPMENT	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Storage And Handling Information

STORAGE CONDITIONS	Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Store away from excessive heat (e.g. steam pipes, radiators), from sources of ignition and from reactive materials. Low temperature storage can cause handling problems. Viscosity of material will increase.
HANDLING PROCEDURES	Ground all containers when transferring material.
OTHER	CONTAINERS HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue (vapors and/or liquid) follow all MSDS and label warnings even after container is emptied. Residual vapors in empty containers may explode on ignition. DO NOT cut, drill, grind or weld on or near container.

SUPPLEMENTAL INFORMATION

Typical Physical Properties

APPEARANCE	Clear
COLOR	Amber
STATE	Liquid
ODOR CHARACTERISTICS	Aromatic Hydrocarbon
VISCOSITY @ 75°	160 cps
SPECIFIC GRAVITY (WATER = 1)	0.95
VAPOR DENSITY (AIR = 1)	> 1
VAPOR PRESSURE	22 mm Hg @20°C/68°F Estimated
MELTING POINT	-95°C/-139°F Initial
BOILING POINT	110°C/230°F Initial
SOLUBILITY IN WATER	Practically insoluble
PERCENT VOLATILITY	62-66%
EVAPORATION RATE (BAc = 1)	> 1

MOR 001108

Toxicity Information

ACUTE DATA

The information shown in the HEALTH EFFECTS FROM OVEREXPOSURE section is based on toxicity profiles of similar materials or on the solvents present in this material.

Oral LD50 (rat):	5000 mg/kg
Dermal LD50 (rabbit):	12124 mg/kg
Inhalation LCLo (rat):	4000 ppm for 4 hrs
Skin Irritation (rabbit):	moderate irritation
Eye Irritation (rabbit):	severe irritation

REPRODUCTIVE/TERATOLOGY DATA

Toluene has been demonstrated to be embryofetotoxic and teratogenic in laboratory animals.

Waste Disposal

Procedure

Dispose of this material at a facility that complies with local, state, and federal regulations.

REGULATORY INFORMATION

Workplace Classifications

This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200) and is a *controlled product* under the Canadian Workplace Hazardous Materials Information System (WHMIS).

Transportation

US DOT Hazard Class — FLAMMABLE LIQUID

The above information applies to the U.S. DOT classification of this material (49CFR 172.101). Various exemptions and/or restrictions may apply.

Emergency Planning & Community Right-To-Know (SARA Title 3)

SECTION 311/312 CATEGORIZATIONS (40CFR 370) This product is a hazardous chemical under 29CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard.

SECTION 313 INFORMATION (40CFR 372) This product contains chemicals which are listed in Section 313 above *de minimis* concentrations. The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS) Toluene (108-88-3), Xylene (1330-20-7).

Cercla Information (40CFR 302.4)

This material has a component or components with a reportable quantity under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Re authorization Act (SARA) Title III section 304. The components, CAS numbers, and reportable quantities are listed below. Spills of a component in excess of its reportable quantity must be reported to the National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations: Toluene (108-88-3) 1000lbs, Xylene (1330-20-7) 1000lbs.

RCRA Information

When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste with the characteristic of ignitablility, hazardous waste number: D0001.

Chemical Control Law Status

All components of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

PC-101® is a trademark of Pan American Research & Development Corp or one of its subsidiaries or affiliates.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration
TLV	Threshold Limit Value
PEL	Permissible Exposure Limit
TWA	Time Weighted Average
STEL	Short Term Exposure Limit
BAc	Butyl acetate

The information contained herein relates only to the specific material identified. Start International believes that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the accuracy, reliability, or completeness of the information. Start International urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

THE
MOREY
CORPORATION

P

Rec. 9/4/01

ESTABLISHED 1928

CABLE ADDRESS: SATOLUB

TRADE VADEN MARK

CODE: BENTLEY'S SECOND

SATO SPECIAL OIL CO., LTD.

1-4-17, IMAFUFUHIGASHI, JOTOKU, OSAKA, 536-0002, JAPAN

TELEPHONE 06 6932-2451

Manufacturer's TSCA Certificate

CERTIFICATE

Name of Product: PANASERT MP GREASE
Model Number: N990PANA-022

We hereby certify that all chemical substances found in the listed products compiles with all aplicable rules and orders found under TSCA(Toxic Substancies Control Act). It consists of the following chemical substances, which are included in the TSCA inventory.

Ingredient(s) Chemical Names	Commmon Name	CAS No.
alpha olefin	Olefin oil	68037-01-4
lithium 12-hydroxystearate	Lithium soap	7620-77-1
2, 2'-methylenebis(4-methyl-) -6-tert-butylphenol		119-47-1
sulfonic acids, petroleum, barium salts	barium sulfonate	61790-48-5
pentaerithrytol fattyacid ester	Ester oil	11138-60-6
zinc alkyldithiophosphate	ZnDTP	14324-55-1

Date: 1998.12.14
Name: Kotomasa Ichisaka
Signiture: K. Ichisaka
Title: Manager

MOR 001112

Material Safety Data Sheet

Section I

Product Name or Number (As it appears on label) PANASERT MP GREASE	
Manufacturer's Name: Sato Special Oil Co., Ltd.	Emergency Phone No 06-932-2451 (Osaka, Japan)
Manufacturer's Address: 4-17, 1-chome, Imafuku-higashi, Jotoku, Osaka, Japan	
Hazardous Material Description, Proper Shipping Name, Hazard Classes, ID No: None	
Additional Hazard Classes: None	
Chemical Family: Hydrocarbon-based Grease	Formula: Mixture

Section II — Ingredients (List all ingredients)

Chemical Names	CAS No.	Wt%	Listed as a Carcinogen in NTP, IARC, or OSHA 1910(z) (specify)
alpha olefin	68037-01-4	72.7	None
lithium 12-hydroxystearate	7620-77-1	6.0	None
2,2'-methylenebis(4-methyl-)-6-tert-butylphenol	119-47-1	0.3	None
sulfonic acids, petroleum, barium salts	61790-48-5	0.5	None
pentaerithrytol fattyacid ester	11138-60-6	20.0	None
zinc alkyldithiophosphate	14324-55-1	0.5	None

Section III - Physical Data

Boiling Point: Not relevant		Specific Gravity = (Water = 1)	0.9	Vapor Pressure: (@25°C)	Neg.
Percent Volatile = by Volume(%)	N.A.	Percent Solid(s) = by Weight(%)	<15	Vapor Density = (Air =.1)	N.A.
Evaporation Rate = (= 1)	N.A.	Solubility in Water =	<0.1 %		
Appearance and Odor: Grease , white .Very little odor			Is Meterial: (Circle)	~~Liquid~~ Gas	~~Solid~~ Paste ~~Powder~~

Section IV - Fire and Explosion Hazard Data

Flash Point @base oil >220°C	Method Used: (C.O.C)	Flammable Limits:	LEL N.A.	UEL N.A.
Extinguishing Media: Foam , dry chemical , carbon dioxide.				
Special Fire Fighting Proceoures: Not Required.				
Unusual Fire and Explosion Hazards: Not Required.				

Section V - Health Hazard Data

Effects of Over Exposure:Conditions to avoid Skin Contact: No significant effect. Eye Contact : May cause slight irritation.	Threshold Limit Value	N.A.
	Permissible Exposure Limit	N.A.
	Other Limit	N.A.
Primary Routes of Entry ___ Inhalation ___ Skin Contact (Specify)		Other:
Emergency and First Aid Procedures: Skin: Remove paste from skin with dry cloth or towel and wash exposed area with soap. Eye : Rinse with plenty of water. In serious cases seek medical advice.		

Section VI — Reactivity Data

Stability	Unstable		Conditions to Avid:
	Stable	X	
Incompatibility(Materials to avoid): None			
Hazardous Decomposition Products: None			
Hazardous Polymerization	May Occur		Conditions to avoid: None
	Will Not Occur	X	

Section VII — Spill or leak Procedures

Steps to be taken in case materials is released or spilled:
Contain the spill or leak. Scrap up with cardboard or rag and place in Container.

Waste Disposeal Method:
Can be burned in accordance with regulation.

Reportable Quantites(in lbs)	CERCLA	N. A.	SARA	N. A.	Other	N. A.	Specify

RCRA Hazardous Waste Number(s):

Volatile Organic Compounds(VOC)(as packaged minus water).

Theoretical(lbs/Gal)	N. A.	Analytical(lbs/Gal)	N. A.	

Section VIII — Sepecial Protection Information

Respiratory Protection: Not Required.
(Specify type)

Ventilation	Local Exhaust(Specify Rates) Not Required.	Special N. A.
Requirements	Mechanical(General)(Special Rate) N. A.	Other N. A.

Protective Gloves: Plastic film or Rubber gloves (Specify Type)	Eye Protection: Safety Glasses (Specify Type)

Equipment: Eyewash equipment

Section IX — Special Precautions

Precautions to be taken in Handling and Storing and/or other precautions:

1. Keep container closed.
2. Store in a cool place.
3. Keep away from heat and flame.
4. Don't lay the container on its side.
5. Avoid contact with eyes and prolonged or repeated skin contact.

Please return Completed form to:

Name(print): Kotomasa Ichisaka

Signiture:

Employed by Sato Special Oil Co., Ltd.

Title: Chief Staff of Laboratory Div.

Date: 1997. 5. 9

Supplemental Information

HISSAN TRADING CO.,LTD
14th Floor, B Wing Shuwa Shiba-Park Bldg.
4-1. Shiba-Koen, 2-Chome, Minatoku, Tokyo, 105 Japan
TEL: 81-3-5405-6105 FAX: 81-3-5405-6106

Manufacturer's TSCA Certificate

CERTIFICATE

Name of Product: PANASERT TOUCH LUBE
Model Number : N990PANA-021

We hereby certify that all chemical substances found in the listed product companies with all applicable rules and orders found under TSCA(Toxic Substance Control Act). It consists of the following chemical substances,which are included in the TSCA inventory.

Ingredient(s) Chemical Name	Common Name	CAS Number
Distillates,petroleum,solvent-refined heavy paraffinic	Highly refined minersl oils	64741-88-4
Residual oils,petroleum,solvent-refined	Highly refined minersl oils	64742-01-4
2-Methyl Penetans	iso-Hexane	107-83-5
Polytetrafluoroethylene plastics	Teflon	9002-84-0
sulfonic acids,petroleum,barium salts	barium sulfonate	61790-48-5

Date : 3 FEBRUARY 1999
Name : Hiromi Kuma
Signature: Hiromi Kuma
Title : General Manager

MATERIAL SAFETY DATA SHEET
HISSAN TRADING CO., LTD.

Date Prepared : 28, February 1998
Date Revised :

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Panasert Touch Lube
Model Number : N990PANA-021
Manufactured By : HISSAN TRADING CO., LTD
14TH FLOOR, B WING SHUWA SHIBA-PARK BLDG.
4-1, SHIBA-KOEN, 2-CHOME,
MINATOKU, TOKYO, 105-0001 JAPAN
Tel : 81-3-5405-6105
Fax : 81-3-5405-6106

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS#
Distillates, petroleum, solvent-refined heavy paraffinic	64741-88-4
Residual oils, petroleum, solvent-refined	64742-01-4
2-Methyl Pentane	107-83-5
Polytetrafluoroethylene plastics	9002-84-0
Sulfonic acids, petroleum, barium salts	61790-48-5

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW : Brown Liquid with white powder.
Extremely flammable.

POTENTIAL HEALTH EFFECTS

Eye Effects : May cause slight eye and mucous membrane irritation.
Skin Effects : May cause slight skin irritation.
Ingestion Effects : No exposure expected under normal conditions.
Inhalation Effects : Large amount of mist if inhaled, may cause Irritation of nose and throat mucous membranes.

Chronic Effects/Carcinogenicity : None of the components in this material is listed by IARC, EU or ACGIH as a carcinogen.

4. FIRST AID MEASURES

Eye : Flush with large amount of water, lifting upper and lower lids occasionaly, get medical attention.

Skin : Thoroughly wash exposed area with soap and water.

Ingestion : Get medical attention immediately.

Inhalation : If affected, remove individual to fresh air, keep person warm, quiet and get medical attention.

5. FIRE FIGHTING MEASURES

Flash Point	: -20 ℃
Flammable Limits	: No data
Autoignition Temperature	: 280 ℃
Unusual Fire and Explosion Hazard	: Highly flammable liquid. Can release vapors that form flammable mixutures with air.
Extinguishing Media	: Powder, Foam, Carbon Dioxide, Sand
Fire Fighting	: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep container(s) exposed to fire cool by spraying with water.
Hazardous Combustion Products	: Carbon Monoxide, Carbon Dioxide.

(Continued on page 3)

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedures : Handle as a flammable liquid. Absorb on sand, clay, or other absorbent materials. Eliminate ignition sources. Dispose of in accordance with local, state and federal regulations governing combustible waste.

7. HANDLING AND STORAGE

Handling : Use only in well ventilated areas. Avoid prolonged inhalation of excessive vapor and contact with eyes.

Prevention of Fire and Explosion : Keep away from heat, spark, flames and other sources of ignition. Protect containers from direct sunlight and do not expose to temperatures exceeding 50℃ .

Storage : Keep out of reach of children. Keep in a dry, cool, and dark place

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS	MAK-value
Mineral Oil	None established
2-Methyl Pentane	200ppm
Teflon	None established

Engineering Controls : Not required under normal conditions.

Respiratory Protection : Use respirator if it is needed.

Skin Protection : Not required under normal conditions.

Eye Protection : Not required under normal conditions.

(Continued on page 4)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Brown liquid with white Teflon powder
Odor : Odor of mixture of mineral oil and solvent
PH : No data
Vapor Pressure : No data
Vapor Density : No data
Evaporation Rate : No data
Boiling Point : No data
Specific Gravity : 0.85
Viscosity : 8.3cst(40℃)
Flash Point : -20℃

10. STABILITY AND REACTIVITY

Stability : stable
Incompatibility : Oxidizers
Hazardous Decomposition : Carbon monoxide and Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : 22g/kg(rat)
Eye irritation : No data
Skin irritation : No data

(Continued on page 5)

Skin sensitizatio	: No data
Inhalation	: No data
Mutagenicity	: No data
Carcinogenicity	: No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERRATIONS

Dispose in accordance with local, state and federal regulations governing combustible waste.

14. TRANSPORT INFORMATION

UN No. : 1268

15. REGULATORY INFORMATION

Warning symbol : F+
Risk-phrase : Extremely Flammable(R12)
Safety-phrase : Keep out of reach of children(S2)
Keep away from sources of ignition-No Smoking(S16)
Do not breathe gas/fumes/vapour/spray(S23)
Use only in well ventilated areas(S51)

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50℃. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

(Continued on page 6)

16. OTHER INFORMATION

Prepared by Hissan Trading Co., Ltd.
14TH FLOOR, B WING SHUWA SHIBA-PARK BLDG.
4-1, SHIBA-KOEN, 2-Chome,
MINATOKU, Tokyo, 105 Japan

The above information is believed to be accurate and represents the best information currently available to Hissan Trading Co., Ltd. However, Hissan Trading Co., Ltd. makes no warranty with respect to such information, and Hissan Trading Co., Ltd. assumes no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.

1043345
421B

Permabond
a division of National Starch and Chemical Corporation

Ref NO 073184

Technical Data Sheet
PERMABOND ESP308, ESP309, and ESP310

PERMABOND ESP—SINGLE PART TOUGHENED EPOXY ADHESIVE

Permabond ESP toughened epoxies form a new class of adhesives. They combine the structural strength of standard epoxies with unparalleled peel, impact and cleavage resistance. Often metal deformation or metal fatigue results before the adhesive fails. These epoxies also have excellent adhesion to a wide range of other materials.

Permabond ESP are pre-mixed and thus require less handling than two-component epoxies. They require a heat cure in the range of 300-400°F. Cure through large volumes can easily be effected, thus making it also suitable for potting applications.

Physical Properties	ESP308	ESP309	ESP310
Color	silver grey	cream	silver grey
Filler type	metallic	inorganic	metallic
Specific gravity (g/cc)	1.5	1.6	1.5
Viscosity at 25°C/77°F, cps	200,000	150,000	400,000
Flow characteristics (at cure temp)	free flow	partial flow	no flow
Shelf life @ 25°C/77°F	—	10 weeks	—
@ 5°C/40°F	—	9 months	—

Electrical and Thermal Properties	ESP308	ESP309	ESP310
Thermal expansion coefficient, in/in/°C			
below Tg	53.4×10^{-6}	58.6×10^{-6}	57.7×10^{-6}
above Tg	178×10^{-6}	176×10^{-6}	173×10^{-6}
Glass transition temperature—Tg	118°C	113°C	118°C
Thermal conductivity, $\frac{BTU/ft}{ft^2/hr/°F}$	0.41	0.32	0.40
Volume resistivity, ohm-cm	1.5×10^{4}	3×10^{13}	3.1×10^{6}
Dielectric strength, Volts/mil	—	1400	—

Curing Conditions	150°C/ 300°F	180°C/ 355°F	200°C/ 390°F
Gel Time (seconds)	140	40	20
Cure Time (minutes)*	45	17	12

*These times are typical for components cured in an air circulating oven. If other methods of heating (i.e. Induction, Infra-Red, Hot Plate) are used then the cure time can be significantly reduced. If large components are involved then additional time may be required to allow for heating up.

Performance Characteristics—All Grades

Tensile Shear Strength: (ASTM D-1002, Chemically treated substrates)

	Aluminum	Steel	St/Steel	Copper	Brass	Carbide	Ferrite	SMC Plastic
MPa	40	41	40	28	26	40	15*	12*
psi	5800	6000	5800	4000	3800	5800	2200*	1800*

*Denotes failure of the bonded material not the adhesive joint.

NON WARRANTY. The information given and the recommendations made herein are based on our research and are believed to be accurate but no guaranty of their accuracy is made. In every case we urge and recommend the purchasers before using any product in full scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. The products discussed herein are sold with no warranty, express or implied. No representative of ours has any authority to make [illegible] and no such statement shall be binding upon us unless made in writing and signed by an officer of ours. Purchasers' needs and the circumstances prevailing in their business. Nothing contained herein shall be construed to imply nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

U.S. Federal Regulations:

O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

RCRA: Contains no RCRA regulated substances.

C.P.S.C.: Not applicable

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

TSCA CAS Number: Not applicable

16. OTHER INFORMATION

Intended Use: Indicator for pH

References: Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. In-house information. Technical Judgment.

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY ©1996

Reproductive Effects Data: Propylene Glycol: Intraperitoneal mouse TDLo = 100 gm/kg -fetoxicity, post implantation mortality

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Ingredient Toxicological Data: Propylene Glycol: Oral rat LD50 = 20 g/kg

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: --
No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: None
Special Instructions (Disposal): Not applicable
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Not Currently Regulated
--
DOT Hazard Class: NA
DOT Subsidiary Risk: NA
DOT ID Number: NA
DOT Packing Group: NA
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
--
ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA
I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated
--
I.M.O. Hazard Class: NA
I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: NA
I.M.O. Packing Group: NA
Page Number: NA
AMDT: NA

15. REGULATORY INFORMATION

Eye Protection: safety glasses with top and side shields
Skin Protection: disposable latex gloves
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes Wash thoroughly after handling. Protect from: heat Keep away from: oxidizers
TLV: Not established
PEL: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Mild hydrocarbon
pH: 6.1
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: 188° C (370° F)
Melting Point: Not determined
Specific Gravity (water = 1): 1.032
Evaporation Rate (water = 1): 0.01
Volatile Organic Compounds Content: Not determined
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
Water: Soluble
Acid: Soluble
Other: Not determined
Metal Corrosivity:
Steel: Not determined
Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Extreme temperatures
Reactivity / Incompatibility: May react violently in contact with: oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic fumes of carbon monoxide and carbon dioxide.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: Propylene Glycol: rabbit LD50 = 20.8 g/kg
Skin and Eye Irritation Data: Propylene Glycol: Skin human 500 mg/7D - MILD; Eye rabbit 500 mg/24H - MILD
Mutation Data: Propylene Glycol: Cytogenetic analysis, DNA inhibition mouse - subcutaneous - 8000 mg/kg

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water. Call physician if irritation develops.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Flash Point: >100° C (>212° F)
Method: Open cup
Flammability Limits:
Lower Explosion Limits: 2.6%
Upper Explosion Limits: 12.6%
Autoignition Temperature: 371° C (700° F)
Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide.
Fire / Explosion Hazards: May react violently with: oxidizers
Extinguishing Media: Carbon dioxide Alcohol foam. Dry chemical. Water.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Dike large spills to keep spilled material from entering sewage and drainage systems or bodies of water.
Clean-up Technique: Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.
Special Instructions (for accidental release): Not applicable
304 EHS RQ (40 CFR 355): Not applicable
D.O.T. Emergency Response Guide Number: None

7. HANDLING / STORAGE

Handling: Avoid contact with eyes Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Protect from: heat Keep away from: oxidizers
Flammability Class: Class IIIB

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:

Percent Range: 90.0 - 100.0
Percent Range Units: weight / weight
LD50: Oral rat LD50 = 20 g/kg
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: No effects anticipated.

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Clear, colorless liquid
Odor: Mild hydrocarbon

HMIS:
Health: 1
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 0
Flammability: 1
Reactivity: 0
Symbol: Not applicable
Potential Health Effects:
Eye Contact: Causes mild irritation
Skin Contact: Causes mild irritation
Skin Absorption: No effects anticipated
Target Organs: Not applicable
Ingestion: Very large doses may cause: central nervous system depression kidney damage rapid pulse and respirations convulsions
Target Organs: None reported
Inhalation: No effects anticipated
Target Organs: Not applicable
Medical Conditions Aggravated: None reported
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any OSHA listed carcinogens.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

Additional Cancer / Reproductive Toxicity Information: None reported
Toxicologically Synergistic Products: None reported

4. FIRST AID

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Date Printed 6/25/96
MSDS No: M00649

Rec. 8/17/99

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Phenolphthalein Solution 0.1%
Catalog Number: 1897

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00649
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: May cause irritation.
Date of MSDS Preparation:
Day: 04
Month: August
Year: 1995

2. COMPOSITION / INFORMATION ON INGREDIENTS

Other component
CAS No.: Not applicable
TSCA CAS Number: Not applicable
Percent Range: < 1.0
Percent Range Units: weight / weight
LD50: Not applicable
LC50: Not applicable
TLV: Not established
PEL: Not established
Hazard: Not applicable

Phenolphthalein
CAS No.: 77-09-8
TSCA CAS Number: 77-09-8
Percent Range: < 1.0
Percent Range Units: weight / weight
LD50: None reported
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: May cause irritation. May cause allergic reaction.

Propylene Glycol
CAS No.: 57-55-6
TSCA CAS Number: 57-55-6

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

TMC #122592

Date Printed 6/25/96
MSDS No: M00223

Rec. 8/11/99
Exp

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Phenolphthalein Indicator Solution 5 g/l
Catalog Number: 162

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00223
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: May cause irritation.
Date of MSDS Preparation:
Day: 05
Month: January
Year: 1994

2. COMPOSITION / INFORMATION ON INGREDIENTS

2-(2-Ethoxyethoxy)ethanol
CAS No.: 111-90-0
TSCA CAS Number: 111-90-0
Percent Range: > 99.0
Percent Range Units: weight / weight
LD50: Oral rat LD50 = 5500 mg/kg
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: May cause irritation.

Phenolphthalein
CAS No.: 77-09-8
TSCA CAS Number: 77-09-8
Percent Range: 0.1 - 1.0
Percent Range Units: weight / volume
LD50: None reported
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: May cause irritation. May cause allergic reaction.

3. HAZARDS IDENTIFICATION

Emergency Overview:

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Appearance: Colorless liquid
Odor: Bland
MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION

HMIS:
Health: 1
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 1
Flammability: 1
Reactivity: 0
Symbol: Not applicable
Potential Health Effects:
Eye Contact: Causes moderate irritation
Skin Contact: Causes mild irritation
Skin Absorption: None Reported
Target Organs: None Reported
Ingestion: May cause: drunkenness incoordination dizziness drowsiness headache nausea confusion
Target Organs: Central nervous system
Inhalation: May cause: respiratory tract irritation
Target Organs: None reported
Medical Conditions Aggravated: None reported
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any OSHA listed carcinogens.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

Additional Cancer / Reproductive Toxicity Information: None reported
Toxicologically Synergistic Products: None reported

4. FIRST AID

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water. Call physician if irritation develops.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Flash Point: 99°C; 210°F
Method: Closed cup
Flammability Limits:
Lower Explosion Limits: 1.2% @ 135°C; 275°F
Upper Explosion Limits: 23.5% @ 182°C; 360°F

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Autoignition Temperature: Not available
Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide.
Fire / Explosion Hazards: None reported
Extinguishing Media: Dry chemical, Carbon dioxide Alcohol foam.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Releases of this material may contaminate the environment. Remove all combustible material from spill area. Remove all ignition and spark-creating sources from the spill area. Cover spilled liquid with a commercially available flammable liquid sorbent such as vapor barrier blanket or activated carbon to avoid evolution of fumes. Vapors may travel to a source of ignition and flash back. May be ignited by: heat, sparks, or flames. Dike the material to create a barrier to combustibles.
Clean-up Technique: Eliminate all sources of ignition. Do not breathe the fumes. Cover with an inert material, such as sand. Use only non-sparking tools. Sweep up material. Incinerate material at an E.P.A. approved hazardous waste facility. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.
Special Instructions (for accidental release): Not applicable
304 EHS RQ (40 CFR 355): Not applicable
D.O.T. Emergency Response Guide Number: None

7. HANDLING / STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Protect from: sparks, flames and other ignition sources
Flammability Class: Class IIIB

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: chemical splash goggles
Skin Protection: disposable latex gloves lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Protect from: heat
TLV: Not established
PEL: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Colorless liquid
Physical State: Liquid

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Molecular Weight: Not applicable
Odor: Bland
pH: 4.5
Vapor Pressure: 0.08 mm Hg
Vapor Density (air = 1): 4.63
Boiling Point: 196°C; 385°F
Melting Point: -78°C; -108°F
Specific Gravity (water = 1): 0.986
Evaporation Rate (water = 1): (Butyl acetate = 1) 0.013
Volatile Organic Compounds Content: Not available
Partition Coefficient (n-octanol / water): Not available
Solubility:
- ***Water:*** Miscible
- ***Acid:*** Not determined
- ***Other:*** Miscible in CH_3COCH_3, C_6H_6, $CHCl_3$, C_2H_5OH

Metal Corrosivity:
- ***Steel:*** Not determined
- ***Aluminum:*** Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Contact with heat, sparks, open flames or other ignition sources. Moisture: substance is hygroscopic.
Reactivity / Incompatibility: None reported
Hazardous Decomposition: None reported
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
- ***LD50:*** None reported
- ***LC50:*** None reported
- ***Dermal Toxicity Data:*** None reported
- ***Skin and Eye Irritation Data:*** None reported
- ***Mutation Data:*** None reported
- ***Reproductive Effects Data:*** None reported

Ingredient Toxicological Data: 2-(2-Ethoxyethoxy) ethanol - Oral rat LD50 = 5500 mg/kg; Skin rabbit LD50 = 8500 mg/kg; Eye rabbit 500 mg - MODERATE

12. ECOLOGICAL INFORMATION

Product Ecological Information: No information available for this product.

Ingredient Ecological Information: No ingredient information available for this product.

13. DISPOSAL CONSIDERATIONS

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EPA Waste ID Number: None
Special Instructions (Disposal): Incinerate material at an E.P.A. approved hazardous waste facility.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Not Currently Regulated
–
DOT Hazard Class: NA
DOT Subsidiary Risk: NA
DOT ID Number: NA
DOT Packing Group: NA
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
–
ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA
I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated
–
I.M.O. Hazard Class: NA
I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: NA
I.M.O. Packing Group: NA
Page Number: NA
AMDT: NA

15. REGULATORY INFORMATION

U.S. Federal Regulations:
O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)
E.P.A.:
S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard
S.A.R.A. Title III Section 313 (40 CFR 372): This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.
2-(2-Ethoxyethoxy)ethanol (Glycol Ether)
302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Not applicable
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Not applicable
RCRA: Contains no RCRA regulated substances.
C.P.S.C.: Not applicable
State Regulations:
California Prop. 65: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): None

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Trade Secret Registry: Not applicable
National Inventories:
U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).
TSCA CAS Number: Not applicable

16. OTHER INFORMATION

Intended Use: Indicator for pH
References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Technical Judgment. Vendor Information.

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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Phil

ADHESIVE SYSTEMS INC.

Material Safety Data Sheet

I. PRODUCT IDENTIFICATION

FOR PRODUCT EMERGENCY CONTACT:
CHEM-TEL INC. 1-800-255-3924

Product Name:	Poly Prep Primer
Item No.:	6 10 12
Product Type:	Primer/ Accelerator

II. COMPOSITION

Ingredients	CAS No.	%
n-HEPTANE	142-82-5	95-100
Substituted amidine	6674-22-2	0.1-0.5

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure:	35 mm at 68-F
Vapor Density:	3.45
Solubility in Water:	Immiscible
Specific Gravity:	0.68
Boiling Point:	205-210-F
Volatile Organic Compound (EPA Method 24)	99.9%; 680 grams/liter
Evaporation Rate (Ether = 1)	2.7
pH:	Does not apply
Appearance:	Clear liquid
Odor:	Aliphatic

IV. FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point:	30-F	Method: Tag closed cup
Estimated NFPA Code:		
Health Hazard:	1	
Fire Hazard:	3	
Reactivity Hazard:	0	
Specific Hazard:	Does not apply	
Estimated HMIS Code:		
Health Hazard:	1	
Flammability Hazard:	3	
Reactivity Hazard:	0	
Personal Protection:	See Section X.	
Explosive Limits:		
(% by volume in air)Lower	1.1%	
(% by volume in air)Upper	6.7%	
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical	
Hazardous Products Formed by Fire or Thermal Decomp	Irritating organic vapors	
Unusual Fire or Explosion Hazards:	None	
Compressed Gases:	None	
Pressure at Room Temp.:	Does not apply	

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V. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak:	Maintain good ventilation. Eliminate ignition sources. Soak up remainder in an inert absorbent and store in a closed container until disposal.
Recommended methods of disposal:	Incinerate following EPA and local regulations.

VI. STORAGE AND HANDLING PROCEDURES

Storage:	Store below 120-F in a tightly closed container away from oxidizing materials and sources of ignition.
Handling:	Keep away from flame. Avoid prolonged breathing of vapors. Avoid skin or eye contact.

VII. SHIPPING REGULATIONS

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Consumer Commodity (Not more than one liter); Heptanes solution (More than one liter)
Hazard Class or Division:	ORM-D (Not more than one liter); Class 3, Packing Group II (More than one liter)
Identification Number:	None (Not more than one liter); UN 1206 (More than one liter)
Marine Pollutant:	None
IATA	
Proper Shipping Name:	Heptane Solution
Class or Division:	Class 3, Packing Group II
UN or ID Number:	UN 1206

VIII. REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products (non-thermal):	None
Incompatability:	Strong oxidizers.

IX. EMERGENCY TREATMENT PROCEDURES

Ingestion:	Induce vomiting. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

X. PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Adequate to avoid exceeding TLV.

XI. HEALTH HAZARD DATA

Toxicity:	Eye irritant. Anesthetic. Moderately toxic by ingestion. Residue after evaporation of solvent is destructive to tissue of the mucous membranes, and upper respiratory tract, eyes, and skin.
Primary Routes of Entry:	Heptane: Inhalation, ingestion, contact.
Signs and Symptoms of Exposure:	Dizziness, anesthesia, unconsciousness.
Existing Conditions Aggravated by Exposure:	None known

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
n-HEPTANE	400 ppm TWA 1640 mg/M3	500 ppm TWA 1600 mg/M3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
n-HEPTANE	500 ppm 2050 mg/M3	500 ppm 2000 mg/M3

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Ingredients for which no Exposure Limits have been established are not listed above.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
n-HEPTANE	NER	NO	NO	NO
Substituted amidine	No Data	NO	NO	NO

Poly Prep Primer

XI. HEALTH HAZARD DATA (continu

Abbreviations

NER Nervous System

XII. PREPARATION INFORMATION

Prepared By:	Kevin Smith
Title:	Lab Tech.
Company:	Adhesive Systems, Inc.
(24hr.) Phone:	1 800 552-0299
Revision Date:	October 15th, 1993

Revision: 001

LOCQUIC® PRIMER N

V. FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash point None Method T.C.C.
Explosive Limits (% by volume in air) Lower dna % Upper dna %
Recommended Extinguishing Agents CO_2, Foam, Dry Chemical
Hazardous Products Formed by Fire or Thermal Decomposition: Toxic chlorides

Unusual Fire or Explosion Hazards: None
Compressed Gasses Name None
Pressure at Room Temperature

VI. REACTIVITY DATA

Stability [X] Stable [ ] Unstable
Hazardous Polymerization [ ] May Occur [X] Will Not Occur
Hazardous Decomposition Products (non-thermal)
None

Incompatibility May react violently with aluminum on prolonged contact.

VII. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak: Allow to evaporate with good ventilation. Soak up residue in inert absorbent.

Recommended methods of disposal: Follow EPA and local regulations for disposal of chlorinated hydrocarbons.

VIII. STORAGE AND HANDLING PROCEDURES

Storage: Store below 110°F.
Handling: Avoid prolonged breathing of vapor. Keep away from eyes.

IX. SHIPPING REGULATIONS

Type or Class DOT ORM-A
IATA CLASS 6.1 Poisonous Substances
Proper Shipping Name DOT 1,1,1-Trichloroethane
IATA poisonous Liquid, n.o.s. (Contains 1,1,1-Trichloroethane)

Prepared By: Martin Hauser
Title: Vice President - Environmental Health and Safety
Date: November 1, 1985

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Product Name: Locquic(R) Primer T 7471
Item No.: 19267

XI. HEALTH HAZARD DATA (continued)

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ACETONE	750 ppm TWA 1780 mg/m3	750 ppm TWA 1800 mg/m3	None
ISOPROPYL ALCOHOL	400 ppm TWA 983 mg/m3	400 ppm TWA 980 mg/m3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETONE	1000 ppm 2380 mg/m3	1000 ppm 2400 mg/m3
ISOPROPYL ALCOHOL	500 ppm 1230 mg/m3	500 ppm 1225 mg/m3

Ingredients for which no Exposure Limits have been established are not listed above.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ACETONE	IRR KID LIV MET NER	NO	NO	NO
ISOPROPYL ALCOHOL	GAS IRR NER REP	NO	N/A	NO
N,N-Dialkanol toluidine	No Data	NO	NO	NO
2-Mercaptobenzothiazole	REP	NO	NO	NO

Abbreviations

N/A Not Applicable
IRR Irritant
LIV Liver
NER Nervous System
GAS Gastrointestinal
KID Kidney
MET Metabolic
REP Reproductive

XII. PREPARATION INFORMATION

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 705 N. Mt. Rd, Newington, CT 06111
(24hr.) Phone: (203) 278-1280
Revision Date: April 07, 1993 Revision: 0007

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Loctite Corporation

705 North Mountain Road
Newington, Connecticut 06111
Telephone: (203) 278-1280
Telex: 99348

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name LOCQUIC® PRIMER N — Part No. 764-55, 764-71
Product Type Primer — Formula No.

II. COMPOSITION

Ingredients	% by Wt.	Hazard
1,1,1-Trichloroethane*	98+	TLV = 350 ppm, Toxic
Organo-Copper Salt	<1	
Trialkylamine Carboxylate	<1	Toxic
Aliphatic carboxylic acid	<1	Irritant

*1,1,1-Trichloroethane (methyl chloroform) has been shown to cause reproductive affects and kidney and liver damage in experimental animals on prolonged inhalation. It is our best technical judgment, that, with proper precautions, normal use of this product poses no such hazards.

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure 100 mm at 70°F — Specific Gravity 1.32 at 70°F
Vapor Density ~4.5 — Boiling Point ~170°F
Solubility in Water Nil — pH dna
Appearance Green Liquid — Odor Sharp

IV. TOXICITY AND HEALTH HAZARD DATA

Toxicity Possible eye irritant. Moderately toxic by ingestion.
TLV 350 ppm
Est. Dermal LD 50 >2000 mg/kg
Symptoms of Overexposure Headache, nausea, dizziness. Narcosis at high concentration.

Emergency Treatment Procedures
Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Flush with water.
Eye Contact: Flush thoroughly with water. Obtain medical attention.

Personal Protection
Eyes: Safety glasses or goggles recommended.
Skin: Rubber or plastic gloves recommended.
Ventilation: Provide adequate local ventilation to maintain vapor concentration below TLV.

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LOCTITE CORPORATION
705 NORTH MOUNTAIN ROAD
NEWINGTON, CONNECTICUT 06111
EMERGENCY PHONE: (203) 278-1280

ISSUED 5/13/93
12:16:49
TELEX: 275207

MATERIAL SAFETY DATA SHEET

NEW

PRODUCT IDENTIFICATION

Product Name:	Locquic(R) Primer T 7471
Item No.:	19267
Product Type:	Accelerator
Formula No.:	LID-1275

II. COMPOSITION

Ingredients	CAS No.	%
ACETONE*	67-64-1	85-90
ISOPROPYL ALCOHOL	67-63-0	10-15
N,N-Dialkanol toluidine	3077-12-1	1-3
2-Mercaptobenzothiazole	149-30-4	1-3

* This component is listed as a SARA Section 313 Toxic Chemical.

III. CHEMICAL AND PHYSICAL PROPERTIES

Vapor Pressure:	Approximately 230 millibars at 68-F
Vapor Density:	Not available
Solubility in Water:	Miscible
Specific Gravity:	0.791
Boiling Point:	Not available
Volatile Organic Compound (EPA Method 24)	97.96%; 775 grams per liter
Evaporation Rate (Ether = 1)	Not available
pH:	Does not apply
Appearance:	Clear, amber liquid
Odor:	Acetone

FLAMMABILITY AND EXPLOSIVE PROPERTIES

Flash Point:	Approximately 17-F Method: Tag Closed Cup
Estimated NFPA Code:	
Health Hazard:	2
Fire Hazard:	3
Reactivity Hazard:	0
Specific Hazard:	Does not apply
Estimated HMIS Code:	
Health Hazard:	2
Flammability Hazard:	3
Reactivity Hazard:	0
Personal Protection:	See Section X.
Explosive Limits:	
(% by volume in air)Lower	2.6% Acetone 2.0% Isopropyl alcohol
(% by volume in air)Upper	13% Acetone 12.7% at 200-F Isopropyl alcohol
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Hazardous Products Formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Compressed Gases:	None
Pressure at Room Temp.:	Does not apply

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V. SPILL OR LEAK AND DISPOSAL PROCEDURES

Steps to be taken in case of spill or leak:	Avoid flame and sparks. Maintain adequate ventilation. Soak up in an inert absorbent and store in a closed container until disposal.
Recommended methods of disposal:	Incinerate following EPA and local regulations.

Product Name: Locquic(R) Primer T 7471
Item No.: 19267

VI. STORAGE AND HANDLING PROCEDURES

Storage:	Store away from flame and sparks. Store below 120-F to preserve shelf life.
Handling:	Avoid prolonged breathing of fumes. Avoid skin or eye contact.

VII. SHIPPING REGULATIONS

DOT (49 CFR 172)	
Proper Shipping Name	Ground: Consumer Commodity (Not more than one quart); Acetone solution (More than one quart) Air: Consumer Commodity (Not more than one quart); Acetone solution (More than one quart)
Hazard Class or Division	Ground: ORM-D (Not more than one quart); Flammable liquid (More than one quart) Air: ORM-D-Air (Not more than one quart); Flammable liquid (More than one quart)
Identification Number	None (Not more than one quart); UN 1090 (More than one quart)
IATA	
Proper Shipping Name	Acetone solution
Class or Division	Class 3, Packing Group II
UN or ID Number	UN 1090
IMO	
Substance	Not available
Marine Pollutant Status	Not available
Class	Not available
Subsidiary Risk Label	Not available
IMDG Code Page	Not available
UN Number	Not available

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VIII. REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products (non-thermal):	None
Incompatability:	Strong oxidizers, peroxides

IX. EMERGENCY TREATMENT PROCEDURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush with water for at least 15 minutes. Obtain medical attention.

X. PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Sufficient to maintain vapor concentration below TLV.

XI. HEALTH HAZARD DATA

Toxicity:	Possible eye and respiratory irritant. Narcotic at high concentrations. Prolonged inhalation may cause headaches. Moderately toxic by ingestion Liquid may defat skin.
Primary Routes of Entry:	Inhalation, ingestion, contact.
Signs and Symptoms of Exposure:	Vapors irritate eyes, nose and throat. Liquid is an eye irritant and may irritate skin.
Existing Conditions Aggravated by Exposure:	None known

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LOCTITE CORPORATION 1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100 FAX: (860)-571-5465

Rec. 3/9/01

ISSUED: 2/17/99

MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Prism(R) 460 Low Odor/Bloom Inst Adh
Item No. : 46040
Product Type: Cyanoacrylate Ester

SECTION II - COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Cyanoacrylate ester	Proprietary	95 -100
Poly (methyl methacrylate)	9011-14-7	3 - 5
Cyanoacetate ester	Proprietary	0.1 - 3
HYDROQUINONE	*123-31-9*	*0.1 - 0.5*

Ingredients which have exposure limits.

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

SECTION III - HAZARDS IDENTIFICATION

Toxicity : Skin contact may cause burns. Bonds skin rapidly and strongly. Skin and eye irritant.
Estimated oral LD50 more than 5000mg/kg.
Estimated dermal LD 50 more than 2000 mg/kg.

Primary Routes of Entry : None known

Signs and Symptoms of Exposure : Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce allergic reactions with *asthma-like symptoms in sensitive individuals.*

Existing Conditions Aggravated by Exposure : None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	NTP	Carcinogen IARC	OSHA
Cyanoacrylate ester	ALG IRR	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
Cyanoacetate ester	NTO	NO	NO	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM LIV THY IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable	AC3 ACGIH animal carcinogen
ALG Allergen	BLO Blood
BNM Bone Marrow	CNS Central nervous system
EYE Eyes	IMM Immune system

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IRR Irritant	MUT Mutagen
SKI Skin	LIV Liver
THY Thyroid	NTO No target organs

SECTION IV FIRST AID MEASURES

Ingestion : Ingestion is not likely. See supplemental page for emergency procedures.
Inhalation : Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Soak in warm water. See supplemental page for emergency procedures.
Eye Contact : See supplemental page for emergency procedures. Obtain medical attention.

SECTION V - FIRE FIGHTING MEASURES

Flash Point : Approximately 185 deg F Method: Tag Closed Cup
Recommended
Extinguishing Agents : Carbon dioxide, foam, dry chemical

Special Firefighting
Procedures : Not available

Hazardous Products Formed
by Fire or Thermal Decomp: Irritating organic vapors.
Unusual Fire or Explosion
Hazards : None
Explosive Limits
(% by volume in air) Lower : Not available
(% by volume in air) Upper : Not available

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps to be taken in case
of spill or leak : Flood with water to polymerize. Soak up with an inert absorbent.

SECTION VII - HANDLING AND STORAGE

Safe Storage : Store at or below 75 deg F
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling : Avoid contact with skin and eyes. Avoid breathing vapor.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes : Safety glasses or goggles.
Skin : Nitrile or polyethylene gloves and aprons. Do not use cotton.
See supplemental page for additional information.
Ventilation: Local ventilation may be desirable when using large amounts in a confined area.

See Section 2 for Exposure Limits.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Water white to straw colored liquid.
Odor	: Negligible
Boiling Point	: More than 300 deg F
pH	: Does Not Apply
Solubility in Water	: Polymerized by water
Specific Gravity	: 1.1
Volatile Organic Compound (EPA Method 24)	: 65.0%; 715 grams per liter
Vapor Pressure	: Less than 0.02 mm
Vapor Density	: Not available
Evaporation Rate (Ether = 1)	: Not available

SECTION X - STABILITY AND REACTIVITY

Stability : Stable
Hazardous Polymerization: Will not occur.
Incompatibility : Polymerized by contact with water, alcohols, amines, alkalies.
Hazardous Decomposition
Products (non-thermal) : None

SECTION XI - TOXICOLOGICAL INFORMATION

See Section III

SECTION XII - ECOLOGICAL INFORMATION

No data available

SECTION XIII - DISPOSAL CONSIDERATIONS

Recommended methods of
disposal : Polymerize as above. Incinerate following EPA and local regulations.
EPA Hazardous Waste
Number NH - Not a RCRA Hazardous Waste Material

SECTION XIV - TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name : Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
Hazard Class or Division: Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
Identification Number : None (Not more than 450 liters); NA 1993 (More than 450 liters)
Marine Pollutant : None
IATA
Proper Shipping Name : Unrestricted (not more than one pint); Aviation regulated liquid, n.o.s., (Cyanoacrylate Ester) (Not more than one pint)
Class or Division : Unrestricted (Not more than one pint); Class 9 (More than one pint)
UN or ID Number : None (Not more than one pint) UN 3334 (More than one pint)

SECTION XV - REGULATORY INFORMATION

CA Proposition 65: No California Proposition 65 chemicals are known to be present

SECTION XVI - OTHER INFORMATION

Estimated NFPA(R) Code
Heath Hazard : 2
Fire Hazard : 2
Reactivity Hazard : 1
Specific Hazard : Does not apply
Estimated HMIS Code: :
Health Hazard : 2
Flammability Hazard : 2
Reactivity Hazard : 1
Personal Protection : See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coating Assn.

Prepared By : Stephen Repetto
Title : Research Chemist, Enviormental Health & Safety
Company : Loctite Corp., 1001 Tr Br Cr, Rocky Hill, CT 06067

Provided By Electrical Insulation Suppliers Inc.

(24 hr.) Phone : (860) 571-5100
Revision Date : January 27, 1999 Revision: 0026

SECTION XIII - SUPPLEMENT

INFORMATION FOR FIRST AID AND CASUALTY TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT

Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION

First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g., a spatula or a teaspoon handle; then remove adhesive from the skin with sooap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION

In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL

Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is acheived. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH

If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS

Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY

It should never be necessary to use such a drastic method to separate accidentally bonded skin.

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BLR240
02/27/01 06:02:37 HAZARDOUS MATERIAL SAFETY SHEET CONTROL
BILLING BATCH

56479
MOREY CORP.

2659 WISCONSIN AVE.
DOWNERS GROVE, IL 60515

EIS, Inc.
Bldg 100, Ste 400
3715 Northside Parkway, NW
ATLANTA, GA 30327

PHONE # (404)487-3612 Dave Sharpe

FAX # (404)609-6084

MATERIAL SAFETY DATA SHEET INFORMATION:

PLEASE FIND ENCLOSED MATERIAL SAFETY DATA SHEETS (MSDS) COVERING ITEMS PURCHASED FROM ELECTRICAL INSULATION SUPPLIERS (EIS). OSHA REGULATIONS REQUIRE MSDS INFORMATION BE MADE AVAILABLE TO ALL PERSONNEL WHO MAY BE EXPOSED TO HAZARDOUS MATERIALS IN THE WORK PLACE.

UNDER THE "EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT OF 1986" INVENTORY AND LOCATION INFORMATION, CONCERNING HAZARDOUS MATERIALS MFG JOB SITE, MAY NEED TO BE REPORTED TO THE LOCAL FIRE DEPARTMENT, THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STANDARD RESPONSE COMMISSION. YOU MAY WANT TO REFERENCE 40 CFR PART 372 FOR ADDITIONAL INFORMATION. MANUFACTURERS MUST REPORT ANNUAL RELEASES OF LISTED TOXIC CHEMICALS INTO THE ENVIRONMENT, ACCORDING TO SARA TITLE III.

ACCORDING TO 29 CFR PART 1910.1200 PARAGRAPH (g)(6) OF THE HAZARD COMMUNICATION STANDARD, A MSDS IS TO BE PROVIDED THE FIRST TIME THE CUSTOMER BUYS AN ITEM REQUIRING A MSDS. IF AT ANY TIME THE MSDS IS UPDATED OR CHANGED, THE UPDATED MSDS MUST BE SUPPLIED WITH THE FIRST SHIPMENT AFTER THE MSDS UPDATE HAS OCCURRED.

IF YOU NEED FURTHER INFORMATION CONCERNING YOUR SITUATION, YOU MAY CONTACT THE EPA IN WASHINGTON, D.C. THEIR TOLL FREE NO. IS (800)535-0202; THE RCRA/SUPERFUND HOT LINE IS (800)424-9346 OR (703)920-9810; THE TSCA HOT LINE IS (202)554-1404.

BY PROVIDING THIS DOCUMENTATION, EIS IS COMPLYING WITH FEDERAL LAWS GOVERNING MSDS INFORMATION, AS IS KNOWN TO US. THIS IS A SERVICE AIMED AT HELPING YOUR BUSINESS TO ALSO COMPLY WITH GOVERNMENT REGULATIONS.

DAVE SHARPE

"SEE THE REVERSE SIDE FOR DOCUMENT NAME AND P.O. NUMBER"

56479/MOREY CORP.

	MSDS DOCUMENT	SHIP DATE	CUSTOMER PURCHASE ORDER NUMBER
BLR240	L0C46040	02/26/01	118400

Provided By Electrical Insulation Suppliers Inc.

date of prep : 11/17/95 *** MATERIAL SAFETY DATA SHEET *** 11-C106A (page 1)

SECTION I

manufacturer : MOLINE PAINT MANUFACTURING CO.
address : 5400 23RD AVENUE
MOLINE, IL 61265-5096

telephone# : (309) 762-7546
emergency# : (309) 762-7546

- H M I S -

HEALTH	: 2*
FLAMMABILITY	: 3
REACTIVITY	: 0
PERSONAL PROTECT.	: I

product class: PAINT OR ALLIED PRODUCT
mfg. code id : 11 C106A
trade name : CATERPILLAR YELLOW PAINT

(HAZARD RATING : 0=least. 1=slight. 2=moderate. 3=high. 4=extreme. *=chronic)
(I = safety glasses. gloves. combination dust and vapor respirator)

SECTION II-A HAZARDOUS COMPONENTS

no.	component	CAS#	% by wt.	SARA 313	vapor pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	XYLENE	1330-20-7	25 - 30	YES	6.60	1.10
2	YELLOW IRON OXIDE	51274-00-1	10 - 15	NO	N/A	N/A
3	LIGHT AROMATIC NAPHTHA	64742 95 6	10 15	NO	2.60	0.90
4	ETHYLBENZENE	100-41-4	5 - 10	YES	5.40	1.00
5	TITANIUM DIOXIDE	13463-67-7	5 - 10	NO	N/A	N/A
6	1.2.4-TRIMETHYL BENZENE	95-63-6	1 - 5	YES	N/A	N/A
7	HEAVY AROMATIC NAPHTHA	64742-94-5	1 - 5	NO	<3.00 (@ 25 C)	0.80
8	MINERAL SPIRITS	8052 41 3	1 5	NO	2.60	0.70
9	VM & P NAPHTHA	8032-32-4	1 - 5	NO	5.20	0.90

None of the components of this product are recognized as carcinogenic by NTP. OSHA. or IARC.
This product contains chemicals known to the state of California to cause cancer. birth defects or other reproductive harm (*Proposition 65*).

(N/A = not applicable)

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

no.	OSHA PEL/TWA	OSHA PEL/CEILING	ACGIH TLV/TWA	ACGIH TLV/STEL	MFG PEL/TWA	MFG PEL/CEILING
1	100 ppm; 150 ppm STEL	N/E	100 ppm. 434 mg/m3	150 ppm. 651 mg/m3	N/E	N/E
2	10 mg/m3	N/E	N/E	N/E	N/E	N/E
3	N/E	N/E	N/E	N/E	50 ppm (EXXON)	N/E
4	100 ppm; 125 ppm STEL	N/E	100 ppm. 434 mg/m3	125 ppm. 543 mg/m3	N/E	N/E
5	10 mg/m3 Total Dust	(FINAL)	10 mg/m3 Total Dust	N/E	N/E	N/E
6	25ppm (125mg/m3	N/E	25ppm (123mg/m3)	N/E	N/E	N/E
7	N/E	N/E	N/E	N/E	100 ppm (EXXON)	N/E
8	100 ppm (AS STODDARD SOLVENT)		100 ppm (AS STODDARD SOLVENT)		N/E	N/E
9	300 ppm FINAL	N/E	300 ppm	N/E	N/E	N/E

The dried film of this product is hazardous when removed by sanding. grinding. or welding.

(N/E = not established)

SECTION III PHYSICAL DATA

boiling point	: not established	% volatile by volume	: 65.82 (Theoretical)
evaporation rate	: < 1 (ether = 1)	% volatile by weight	: 51.34 (Theoretical)
vapor density	: > 1 (air = 1)	weight per gallon	: 9.24 (Theoretical)
		specific gravity	: 1.109 (Theoretical)

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SECTION IV HEALTH INFORMATION

EYE CONTACT
PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE EYES. PRODUCT VAPORS AND/OR MISTS MAY ALSO BE IRRITATING TO THE EYES.

SKIN CONTACT
BASED ON THE PRESENCE OF COMPONENTS 3 AND 7 PRODUCT IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED CONTACT MAY CAUSE DAMAGE TO THE SKIN. BASED ON THE PRESENCE OF COMPONENT 9 ABSORPTION THROUGH THE SKIN MAY RESULT IN SYMPTOMS OF EXPOSURE AS THOSE DESCRIBED FOR INHALATION AND INGESTION. PROLONGED OR REPEATED CONTACT MAY RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN DERMATITIS. BASED ON THE PRESENCE OF COMPONENTS 3 AND 7 CONTACT MAY RESULT IN A PRONOUNCED PHOTOSENSITIZATION EFFECT.

INHALATION
EXPOSURE MAY PRODUCE IRRITATION TO THE NOSE, THROAT, RESPIRATORY TRACT, AND OTHER MUCOUS MEMBRANES. EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

INGESTION
MODERATELY TOXIC. SMALL AMOUNTS OF THE LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY RESULT IN SEVERE LUNG DAMAGE. INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

SIGNS AND SYMPTOMS
SYMPTOMS OF EYE IRRITATION INCLUDE PAIN, TEARING, REDDENING AND SWELLING. SYMPTOMS OF SKIN IRRITATION INCLUDE REDDENING, SWELLING, RASH AND REDNESS. SYMPTOMS OF RESPIRATORY IRRITATION INCLUDE RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. SYMPTOMS OF GASTROINTESTIONAL IRRITATION INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CENTRAL NERVOUS SYSTEM DEPRESSION MAY BE EVIDENCED BY HEADACHE, DIZZINESS, NAUSEA AND SYMPTOMS OF INTOXICATION; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. SYMPTOMS OF CHRONIC OVEREXPOSURE INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED CENTRAL NERVOUS SYSTEM FUNCTIONS FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
BASED ON THE PRESENCE OF COMPONENT 9 CHRONIC OVEREXPOSURE MAY CAUSE INJURY TO THE KIDNEYS AND LIVER. BASED ON THE PRESENCE OF COMPONENT 5 CHRONIC OVEREXPOSURE TO TiO2 DUST MAY CAUSE SLIGHT LUNG FIBROSIS. BASED ON THE PRESENCE OF COMPONENT 2 CHRONIC OVEREXPOSURE TO PRODUCT DUST MAY PRODUCE A BENIGN PNEUMOCONIOSIS TERMED 'SIDEROSIS'.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN. SEEK PROMPT MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION
REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING SPONTANEOUSLY OCCURS, KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. SINCE ASPIRATION INTO THE LUNGS CAN CAUSE VERY SERIOUS, PERMANENT DAMAGE. THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY A PHYSICIAN. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

>> COMPONENTS 1, 3, 4, 6, 7, 8 AND 9 MAY CAUSE SEVERE, PERMANENT DAMAGE IF ASPIRATED AND VOMITING SHOULD NOT BE INDUCED.

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SECTION X ADDITIONAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT. SPARKS. AND FLAME. EXTINGUISH PILOT LIGHTS. CIGARETTES AND TURN OFF OTHER POSSIBLE SOURCES OF IGNITION PRIOR TO USE AND UNTIL VAPORS ARE GONE. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM HANDLING SITE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS. EVEN IF EMPTY. CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT.DRILL. GRIND. OR WELD NEAR CONTAINERS.

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING. DRINKING. SMOKING. OR USING TOILET FACILITIES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER. WE MAKE NO WARRANTY. EXPRESSED OR IMPLIED. REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

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SECTION VI — FIRE AND EXPLOSION HAZARDS

OSHA FLAMMABILITY CLASSIFICATION
FLAMMABLE LIQUID - CLASS IB

FLASH POINT : 50 degrees F. (Theoretical)

DOT PROPER SHIPPING NAME
PAINT
3
UN1263
PGII

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
WARNING. FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT HELMET, FACE SHIELD, BUNKER COAT, GLOVES, RUBBER BOOTS, AND A POSITIVE PRESSURE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION VII — REACTIVITY

STABILITY : STABLE

HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID
AVOID OXIDIZING MATERIALS. BASED ON THE PRESENCE OF COMPONENT 9 AVOID HIGH TEMPERATURES.

HAZARDOUS DECOMPOSITION PRODUCTS
IRRITATING ALDEHYDES AND KETONES. CARBON DIOXIDE. CARBON MONOXIDE. AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION VIII — EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE VENTILATION AS REQUIRED TO CONTROL VAPOR, MIST, AND/OR DUST CONCENTRATIONS - AT LEAST 10 AIR CHANGES PER HOUR ARE RECOMMENDED FOR GOOD GENERAL ROOM VENTILATION. IF EXPOSURE EXCEEDS THE PEL/TLV, USE THE APPROPRIATE NIOSH-APPROVED RESPIRATOR.

PROTECTIVE CLOTHING
WEAR SAFETY GLASSES, GOGGLES, OR A SPLASH SHIELD TO PREVENT EYE CONTACT. CONTACT LENSES SHOULD NOT BE WORN. WEAR APPROPRIATE GLOVES AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND CLOTHING.

ADDITIONAL PROTECTIVE MEASURES
EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION IX — ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
LARGE SPILLS >> EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. SMALL SPILLS >> TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON LEAKING CONTAINERS.

WASTE DISPOSAL
OBSERVE ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING PROPER DISPOSAL.

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POTTING

(SEE **EMERSON & CUMING 23LV, 2850FT, 2651MM, ECCOBOND A-401-37, ECOGEL1265, OR STYCAST 2754**)

PRONTO CA-40H

(SEE **SUPERGLUE**)

THE MOREY CORPORATION

M.S.D.S. BINDER

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R

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MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : *RESTECH ACTIVATOR 142*
IDENTIFICATION NUMBER: 00142
PRODUCT USE/CLASS : Urethane activator

TMC#120047

SUPPLIER:
Loctite Chemical Products, L.P.
6120 East 58th Avenue
Commerce City, CO 80022
EMERGENCY TELEPHONE: 800-424-9300
24 hrs
PREPARER: Cathy Griffith, PHONE: 303-289-5651, PREPARE DATE: 03/19/97

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT % LESS THAN
01	Diphenylmethane Diisocyanate (2,2;2,4)	26447-40-5	10.0-30.0
02	4,4'-diphenylmethanediisocyanate	101-68-8	30.0-60.0

EXPOSURE LIMITS

ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	COMPANY TLV-TWA	SKIN
01	N.E.	N.E.	N.E.	N/E	N.E.	NO
02	.005ppm	N.E.	N/A	0.02ppm	N.E.	NO

(See Section 16 for abbreviation legend)

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause target organ or system damage. Refer to chronic health effects section. Contents may develop pressure if exposed to water. At elevated temperatures may cause irritation of the eyes and respiratory tract. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause skin and eye irritation.

ACUTE EFFECTS - EYE CONTACT: Moderately irritating to the eyes.

ACUTE EFFECTS - SKIN CONTACT: Moderate irritant. Prolonged contact may cause dermatitis.

ACUTE EFFECTS - INHALATION: Liquid particles breathed into the lungs may cause injury to the lungs, liver, or kidneys. Vapors and/or aerosols which may be formed at elevated temperatures may be irritating. Causes respiratory tract irritation. Strong respiratory sensitizer.

ACUTE EFFECTS - INGESTION: Irritating to mouth, throat and stomach, with nausea.

CHRONIC OVEREXPOSURE EFFECTS: Chronic overexposure to isocyanate may cause respiratory sensitization which may cause future reactions even at levels below the TLV. Reaction may be immediate or delayed up to several hours after exposure. Additionally, there are reports that sensitized individuals can experience symptoms when exposed to dust, cold air, or other irritants. Such sensitization and/or increased lung sensitivity may be temporary or permanent. Dermal/respiratory cross-sensitization reactions are possible.

Continued on Page 2)

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SECTION 3 - HAZARDS IDENTIFICATION

OTHER INFORMATION: Not Applicable.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, INHALATION, EYE CONTACT,

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT: Immediately flush affected area(s) thoroughly with water at least 15 minutes. Remove and wash contaminated clothing. Contaminated leather articles should be disposed of. Obtain medical attention.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

INGESTION: Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention.

NOTES TO PHYSICIAN: The manifestations of respiratory symptoms, including pulmonary edema, resulting from acute overexposure may be delayed. No specific antidote. Supportive care. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 300 F (TAGLIABUE CLOSED CUP)
AUTOIGNITION TEMPERATURE: No data

LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.

EXTINGUISHING MEDIA:CO2, DRY CHEMICAL, FOAM, WATER FOG.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may rupture or explode (due to pressure build-up) when exposed to extreme heat. Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion.

SPECIAL FIREFIGHTING PROCEDURES: Use NIOSH-approved self-contained breathing apparatus and full protective clothing. Use water to cool exposed containers. Water stream directed into fire may cause frothing with subsequent spread of flame.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Treat waste material in waste container with neutralizing solution of 90% water, 8% concentrated ammonia, and 2% detergent. Add about 10 parts neutralizer per one part of isocyanate, with mixing. Allow to stand uncovered for 48 hours. Rinse floor with same solution as above, letting the solution remain on the contaminated area for at least 15 minutes before removal.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and clothing. DO NOT take internally. FOR INDUSTRIAL USE ONLY.

(Continued on Page 3)

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SECTION 5 - FIRE FIGHTING MEASURES

STORAGE: Store away from heat. Store in a tightly closed container. Purge container with nitrogen before resealing. Keep dry.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: No special ventilation normally required. Local exhaust as needed to control vapor or dust levels to below lowest component TLV.

RESPIRATORY PROTECTION: If use is performed in a poorly-ventulated space, if vapor levels exceed TLV/PEL, or if effects occur, use NIOSH-approved positive-pressure supplied-air respirator in accordance with applicable health and safety regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin. Saranex gloves. Butyl rubber gloves. Nitrile gloves. Supported PVA gloves.
EYE PROTECTION: Chemical splash goggles.
OTHER PROTECTIVE EQUIPMENT: Accessible eye wash and safety shower.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

HYGIENIC PRACTICES: Follow good general industrial safety practices during use. Do not smoke or eat during use. Wash after handling. Use only with adequate ventilation. DO NOT reuse empty containers without commercial clean or recondition. Follow all MSDS/label precautions even after container is emptied.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: 381 - 381 F	VAPOR DENSITY	: Is heavier than air
ODOR	: Mild musty	ODOR THRESHOLD	: No data
APPEARANCE	: Brown	EVAPORATION RATE	: Is slower than Butyl Acetate
SOLUBILITY IN H2O	: Reacts with water		
FREEZE POINT	: No data	SPECIFIC GRAVITY	: 1.2392
VAPOR PRESSURE	: Very low	pH @ 0.0 %	: N/A
PHYSICAL STATE	: Liquid	VISCOSITY	: Low

COEFFICIENT OF WATER/OIL DISTRIBUTION: No data
(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Prolonged exposure to heat. Exposure to moisture.
INCOMPATIBILITY: Strong Lewis or mineral acids. Strong bases or oxidants. Metals. Surface-active compounds. Water. Alcohols. Amines.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Oxides of nitrogen, ammonia. Toxic monomers. Traces of hydrogen cyanide in oxygen-deficient environments.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

No product or component toxicological information is available.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: Not Applicable.
Continued on Page 4)

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SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Review all current federal, state, and local regulations regarding health and disposal for appropriate disposal procedures.

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Not regulated
DOT TECHNICAL NAME:
DOT HAZARD CLASS: N/A HAZARD SUBCLASS: N/A
DOT UN/NA NUMBER: N/A PACKING GROUP: N/A RESP. GUIDE PAGE:

INTERNATIONAL SHIPPING NAME: Not regulated
INTERNATIONAL ID NUMBER: n/a
IMDG CLASS (1e,2e): n/a IMDG PAGE NUMBER: n/a
IMDG EMS: n/a IATA CLASS (1e,2e): na
ADR ITEM NO.: n/a ADR TREMCARD: n/a

SECTION 15 - REGULATORY INFORMATION

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA - SARA HAZARD CATEGORY:
This product has been reviewed, and is considered, under applicable definitions, to meet the following categories:
IMMEDIATE HEALTH HAZARD CHRONIC HEALTH HAZARD

SARA SECTION 313:
This product contains the following substances subject to the reporting requirements of 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	WT/WT % IS LESS THAN
4,4'-diphenylmethanediisocyanate	101-68-8	30.0-60.0

TOXIC SUBSTANCES CONTROL ACT:
The chemical substances in this product are on the TSCA Section 8 Inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

CHEMICAL NAME	CAS NUMBER
No components found.	

U.S. STATE REGULATIONS: AS FOLLOWS -

NEW JERSEY RIGHT-TO-KNOW:
The following materials are non-hazardous, but are among the top five components in this product:

CHEMICAL NAME	CAS NUMBER
Higher Oligomers Of MDI	39310-05-9

PENNSYLVANIA RIGHT-TO-KNOW:
The following non-hazardous ingredients are present in the product at greater than 3%:

CHEMICAL NAME	CAS NUMBER
Higher Oligomers Of MDI	39310-05-9

CALIFORNIA PROPOSITION 65:
No Proposition 65 chemicals known to exist in this product.

Continued on Page 5)

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MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : RESTECH POLYOL 309
IDENTIFICATION NUMBER: 10309
PRODUCT USE/CLASS : Polyurethane base

SUPPLIER:
Fel-Pro Chemical Products, L.P.
6120 East 58th Avenue
Commerce City, CO 80022
EMERGENCY TELEPHONE: 800-424-9300
24 hrs
PREPARER: Cathy Griffith, PHONE: 303-289-5651, PREPARE DATE: 09/24/96

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT % LESS THAN
*** No hazardous ingredients per 29 CFR 1910.1200 ***			

EXPOSURE LIMITS

ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	COMPANY TLV-TWA	SKIN
*** No hazardous ingredients per 29 CFR 1910.1200 ***						

(See Section 16 for abbreviation legend)

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Not hazardous in normal industrial use.

ACUTE EFFECTS - EYE CONTACT: May cause slight irritation.

ACUTE EFFECTS - SKIN CONTACT: No hazard in normal industrial use.

ACUTE EFFECTS - INHALATION: No hazard in normal industrial use.

ACUTE EFFECTS - INGESTION: May cause nausea and vomiting.

CHRONIC OVEREXPOSURE EFFECTS: None known.

OTHER INFORMATION: Not Applicable.

PRIMARY ROUTE(S) OF ENTRY: Unknown

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes wih plenty of water. Get medical attention, if irritation persists.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.

INHALATION: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

Continued on Page 2)

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SECTION 3 - HAZARDS IDENTIFICATION

INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: Not Applicable.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 350 F (TAG,TABUE CLOSED CUP)
LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.
AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA:ALCOHOL FOAM,CO2,DRY CHEMICAL,FOAM,WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may rupture or explode (due to pressure build-up) when exposed to extreme heat. Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion.

SPECIAL FIREFIGHTING PROCEDURES: Use NIOSH-approved self-contained breathing apparatus and full protective clothing. Use water to cool exposed containers. Water stream directed into fire may cause frothing with subsequent spread of flame.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Contaminated material should be swept or shoveled into appropriate waste container and disposed of in accordance with applicable federal, state and local regulations.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wash hands before eating. Avoid prolonged or repeated contact with skin. DO NOT take internally. FOR INDUSTRIAL USE ONLY.

STORAGE: Store away from heat. KEEP OUT OF THE REACH OF CHILDREN.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate.

RESPIRATORY PROTECTION: None normally required under general ventilation. If exposure levels are unknown, if levels exceed TLV/PEL, or if effects occur, use NIOSH-approved dust/mist respirator in accordance with applicable health and safety regulations and manufacturer's recommendations.

SKIN PROTECTION: Clean clothing to cover skin. Cloth or synthetic gloves.
EYE PROTECTION: Safety glasses.
OTHER PROTECTIVE EQUIPMENT: Accessible eye wash and safety shower.

HYGIENIC PRACTICES: Follow general industrial safety practices during use. DO NOT reuse empty containers without commercial clean or recondition. Follow all MSDS/label precautions even after container is emptied.

Continued on Page 3)

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: N.A.	VAPOR DENSITY	: Is heavier than air
ODOR	: Mild oily	ODOR THRESHOLD	: No data
APPEARANCE	: Black	EVAPORATION RATE	: Is slower than Butyl Acetate
SOLUBILITY IN H2O	: Insoluble		
FREEZE POINT	: No data	SPECIFIC GRAVITY	: 0.8921
VAPOR PRESSURE	: No data	pH @ 0.0 %	: N/A
PHYSICAL STATE	: Liquid	VISCOSITY	: Low

COEFFICIENT OF WATER/OIL DISTRIBUTION: No data
(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Prolonged exposure to heat.
INCOMPATIBILITY: Not Applicable.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Various hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.
STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

---------- CHEMICAL NAME ---------- ------ LD50 ------ ------ LC50 ------

NONE KNOWN

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: Not Applicable.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Review all current federal, state, and local regulations regarding health and disposal for appropriate disposal procedures. Incineration preferred.

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Not regulated
DOT TECHNICAL NAME: N/A
DOT HAZARD CLASS: N/A HAZARD SUBCLASS: N/A
DOT UN/NA NUMBER: N/A PACKING GROUP: N/A RESP. GUIDE PAGE:

INTERNATIONAL SHIPPING NAME: N/A
INTERNATIONAL ID NUMBER: N/A

IMDG CLASS (1st,2nd):	N/A	IMDG PAGE NUMBER:	N/A
IMDG EMS:	N/A	IATA CLASS (1st,2nd):	N/A
ADR ITEM NO.:	N/A	ADR TREMCARD:	N/A

SECTION 15 - REGULATORY INFORMATION

OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA - SARA HAZARD CATEGORY: This product has been reviewed, and is considered, under applicable definitions, to meet the following categories: NONE

SARA SECTION 313: This product contains the following substances subject to the reporting requirements of 40 CFR Part 372: NONE

Continued on Page 4

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TOXIC SUBSTANCES CONTROL ACT:
The chemical substances in this product are on the TSCA Section 8 Inventory.
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

CHEMICAL NAME	CAS NUMBER
No components found.	

NEW JERSEY RIGHT-TO-KNOW:
The following materials are non-hazardous, but are among the top five components in this product.:

CHEMICAL NAME	CAS NUMBER
Limestone, Calcium carbonate	1317-65-3
Polyether polyol	25322-69-4
Bis(2-ethylhexyl) Terephthalate	6422-86-2
Potassium sodium silicoaluminate	1344-00-9
Dipropylene glycol	25265-71-8

PENNSYLVANIA RIGHT-TO-KNOW:
The following non-hazardous ingredients are present in the product at greater than 3%:

CHEMICAL NAME	CAS NUMBER
Limestone, Calcium carbonate	1317-65-3
Polyether polyol	25322-69-4
Bis(2-ethylhexyl) Terephthalate	6422-86-2
Potassium sodium silicoaluminate	1344-00-9
Dipropylene glycol	25265-71-8

CALIFORNIA PROPOSITION 65:
No Proposition 65 chemicals known to exist in this product.

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.
CANADIAN WHMIS CLASS: NOT REGULATED

COMPONENT RCRA CLASSIFICATIONS: Not regulated
COMPONENT RCRA CODES: Not Applicable.
CHROMIUM VI VALUE (MINIMUM): None known

SECTION 16 - OTHER INFORMATION

HMIS RATINGS - HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0
PREVIOUS MSDS REVISION DATE: 08/19/94
REASON FOR REVISION: new format

VOLATILE ORGANIC COMPOUNDS (VOCS): 0 grams/ltr

LEGEND: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined
ABBREVIATIONS: ACGIH = American Conference of Governmental Industrial Hygienists; OSHA = US Occupational Health and Safety Administration; UK = United Kingdom; TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs); STEL = Short-Term Exposure Limit (15 min); C = Ceiling Value; PEL = Permissible Exposure Limit
DISCLAIMER: To the best of our knowledge, the information contained in this MSDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material. <END OF MSDS>

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MATERIAL SAFETY DATA SHEET
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MANUFACTURED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

EMERGENCY TELEPHONE:

(518) 237-3330 (24 HRS)

SUPPLIED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

(518) 237-3330 (24 HRS)

REVISED: 10/25/88
PREPARER: DA POLSINELLI

*** I PRODUCT IDENTIFICATION ***

PRODUCT IDENTIFICATION: RTV11
CHEMICAL FAMILY
SILICONE RUBBER COMPOUND
CHEMICAL NAME: RTV SILICONE RUBBER

FORMULA: MIXTURE

*** II PRODUCT COMPONENTS ***

PRODUCT COMPOSITION	APPROX. WGT. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
ETHYL SILICATE	1-5	10	100	PPM	26352-16-9
B. NON-HAZARDOUS					

FORMULATION INFORMATION:
THIS SPACE RESERVED FOR SPECIAL USE.

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*** III PHYSICAL DATA ***

**PRODUCT INFORMATION

BOILING POINT	: NA (F) NA (C)	% VOLATILE BY VOLUME	:2
VAPOR PRESSURE(20 C)	: NA MM HG	EVAPORATION RATE (BUTYL ACETATE=1)	:>1
VAPOR DENSITY(AIR=1)	: NA		
FREEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY (WATER=1)	:1.2
MELTING POINT	: NA (F) NA (C)		
PHYSICAL STATE	: LIQUID	DENSITY	:UNKNWN KG/M3
ODOR	: SLIGHT	ACID/ALKALINITY	:NA MEG/G
COLOR	: WHITE	PH	:NA
ODOR THRESHOLD	: 17 (PPM)		

SOLUBILITY IN WATER(20C): NEG.
SOLUBILITY IN ORGANIC SOLVENT: SOLUBLE, TOLUENE,XYLENE -
(STATE SOLVENT)

ETHYL SILICATE

BOILING POINT	: 334 (F) 168 (C)
VAPOR PRESSURE(20 C)	: 2 MM HG
VAPOR DENSITY(AIR=1)	: 7.2

*** IV FIRE AND EXPLOSITION DATA ***

FLASH PT: 570 (F) 298.9 (C) BY COC IGNITION TEMP: NA (F) NA (C)
FLAMMABLE LIMITS IN AIR(%): LOWER NA UPPER NA
SENSITIVITY TO MECHANICAL IMPACT (Y/N): N
SENSITIVITY TO STATIC DISCHARGE:
SENSITIVITY TO STATIC DISCHARGE IS NOT EXPECTED.
EXTINGUISHING MEDIA:
ALL STANDARD FIREFIGHTING MEDIA
SPECIAL FIREFIGHTING PROCEDURES:
NONE KNOWN.

*** V REACTIVITY DATA ***

STABILITY: HAZARDOUS:
X STABLE UNSTABLE POLYMERIZATION WILL NOT OCCUR
HAZARDOUS DECOMPOSITION/COMBUSTION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
ETHANOL.
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

*** VI HEALTH HAZARD DATA ***

CUTE SIGNS/EFFECTS OF OVEREXPOSURE:
NGESTION:
HARMFUL IF SWALLOWED.
KIN CONTACT:
SKIN IRRITATION IS NOT EXPECTED, BUT MAY OCCUR IN CERTAIN SENSITIVE INDIVIDUALS.
NHALATION:
MAY CAUSE MILD RESPIRATORY IRRITATION.
YE CONTACT:
MAY IRRITATE EYES.
EDICAL CONDITIONS AGGRAVATED:
RESPIRATORY
LIVER, KIDNEY
APPLIES IN UNCURED STATE.
THER:
NONE KNOWN.
HRONIC EFFECTS OF OVEREXPOSURE:
RESPIRATORY AILMENTS.
LIVER AND KIDNEY DAMAGE.

EMERGENCY AND FIRST AID PROCEDURES:
INGESTION:
DO NOT INDUCE VOMITING. SLOWLY DILUTE WITH 1-2 GLASSES OF WATER OR MILK AND SEEK MEDICAL ATTENTION. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
SKIN:
WASH WITH SOAP AND WATER.
INHALATION:
NONE KNOWN.
EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
NOTE TO PHYSICIAN:
NONE KNOWN.

TOXICITY:	ETHYL SILICATE	
ACUTE ORAL LD50:	>1000 (RAT)	MG/KG
ACUTE DERMAL LD50:	NONE FOUND	MG/KG
ACUTE INHALATION LC50:	LCLO>1000PPM/HR(RAT)	

OTHER: TESTED AS NON-IRRITATING TO EYE.
AMES TEST: UNKNOWN
PRINCIPALS ROUTES OF EXPOSURE:
EYES.

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IIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE
; NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY
:P, IARC, OR OSHA
(ODUCTS/INGREDIENTS
THIS SPACE RESERVED FOR SPECIAL USE.

PREVENTATIVE MEASURES (SECTIONS VII, VIII, IX)

*** VII SPECIAL PROTECTIVE EQUIPMENT ***

ESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.

ROTECTIVE GLOVES:
RUBBER GLOVES.

YE AND FACE PROTECTION:
SAFETY GLASSES.

THER PROTECTIVE EQUIPMENT:
NONE KNOWN.

ENTILATION:
USE ONLY IN WELL VENTILATED AREA.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

CTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
INCREASE AREA VENTILATION.

ISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

*** IX SPECIAL PRECAUTIONS ***

RECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
CAUTION!

NGINEERING CONTROLS:
EYEWASH STATIONS.
USE IN A WELL VENTILATED AREA.

*** X SHIPPING AND REGULATORY CLASSIFICATION DATA ***

)OT SHIPPING NAME: NOT DOT REGULATED (SILICONE RUBBER COMPOUND)
)OT HAZARD CLASS: NA
)OT LABELS(S): NA
)N/NA NUMBER: NA
'LACARDS:
)ONE
:XPORT:
)A

:PA HAZARD WASTE: NA
;ARA HAZARD CLASS:
TO BE DETERMINED
)HMIS HAZARD CLASS:
D2B TOXIC MATERIALS
:PSC CLASSIFICATION: NA
TRANSPORTATION CLASS: NA
RID (OCTI) NA
ADR (ECE) NA
RAR (IATA) NA
)FPA/HMIS CLASSIFICATION FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 1

;CHEDULE B:
:(':

)DDITIONAL INFORMATION:
THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....
.....
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRALIAN INVENTORY (ACOIN).....
.....

C	= CEILING LIMIT	NEGL	= NEGLIGIBLE
EST	= ESTIMATED	NF	= NONE FOUND
NA	= NOT APPLICABLE	UNKN	= UNKNOWN
NE	= NONE ESTABLISHED	REC	= RECOMMENDED
ND	= NONE DETERMINED	V	= RECOMM. BY VENDOR
BY-PRODUCT	= REACTION BY-PRODUCT, TSCA INVENTORY	SKN	= SKIN
		TS	= TRADE SECRET

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STATUS NOT REQUIRED UNDER 40 CFR PART 720.30(H-2)

R = RECOMMENDED
MST = MIST

GE Silicones

MAT:USA

MATERIAL SAFETY DATA SHEET
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PRODUCT: RTV102 SILICONE RUBBER SEALANT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 06/21/94
PREPARER: DA POLSINELLI

CHEMICAL FAMILY/USE: SILICONE RUBBER
FORMULA: MIXTURE

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL TWA	OSHA PEL STEL	UNITS
1. HAZARDOUS						
METHYLTRIACETOXYSILANE 4253-34-3	1-5	10(R)	NE	10(R)	NE	PPM
B. NON-HAZARDOUS						
TRADE SECRET COMPONENT	10-30	NF	NE	NF	NE	NA
TRADE SECRET COMPONENT	10-30	10	NE	15	NE	MG/M3
DIMETHYL POLYSILOXANE SILANOL/ST 70131-67-8	60-80	NA	NE	NA	NE	NA

See Section 15 for description of any WHMIS Trade Secret(s).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
White Solid
Vinegar odor
Avoid contact with eyes.
May irritate the skin.
Uncured product contact irritates eyes.
Refer to other MSDS sections for detailed information.

POTENTIAL HEALTH EFFECTS:

INGESTION:
May be harmful if swallowed.

SKIN CONTACT:
Uncured product contact will irritate lips,gums and tongue.
Uncured product contact may irritate the skin.

INHALATION:

Causes irritation of the mouth,nose,and throat.
Applies only in uncured state.

EYE CONTACT:
Uncured product contact irritates eyes.

MEDICAL CONDITIONS AGGRAVATED:
None known.

SUBCHRONIC (TARGET ORGAN) EFFECTS:
None known.

CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

PRODUCTS/INGREDIENTS
This space reserved for special use.

PRINCIPLE ROUTES OF EXPOSURE:
Dermal - skin.
Eyes.
Inhalation.

OTHER:
Acetic acid released during curing.
This product contains Methylpolysiloxanes which can generate Formaldehyde at approximately 300 degrees farenheit (150'C) and above, in atomospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. An MSDS for Formaldehyde is available from GE Silicones.

4. FIRST AID MEASURES

INGESTION:
Rinse mouth with water several times.

SKIN:
To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water.
Get medical attention if irritation persists.

INHALATION:
Move person to fresh air.

EYES:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN:
None known.

5. FIRE FIGHTING MEASURES

FLASH POINT:		NA	(C) NA	(F)
METHOD	:	NA		
IGNITION TEMP	:	UNK	(C) UNK	(F)
FLAMMABLE LIMITS IN AIR - LOWER (%):		UNK		
FLAMMABLE LIMITS IN AIR - UPPER (%):		UNK		

SENSITIVITY TO MECHANICAL IMPACT (Y/N): NO

SENSITIVITY TO STATIC DISCHARGE:
Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA:
All standard firefighting media

SPECIAL FIREFIGHTING PROCEDURES:
None known.

6. ACCIDENTAL RELEASE MEASURES

MOR 001174

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

*** CONTINUED ON NEXT PAGE ***

Wipe, scrape or soak up in an inert material and put in a container for disposal.
Wash walking surfaces with detergent and water to reduce slipping hazard.
Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Keep container closed when not in use.
Avoid contact with skin and eyes.
Caution]
Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation.
Product releases acetic acid during application and curing.
Use mechanical ventilation to stay below TLV of 10 ppm acetic acid.
Uncured product contact irritates eyes.
Uncured product contact may irritate skin.
Use in a well ventilated area to prevent irritation by vapors.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Eyewash stations.
Use in a well ventilated area.

RESPIRATORY PROTECTION:
Use approved NIOSH respiratory protection if TLV exceeded.....
Or over exposure is likely.

PROTECTIVE GLOVES:
Cloth gloves.

EYE AND FACE PROTECTION:
Safety glasses.

OTHER PROTECTIVE EQUIPMENT:
None known.

VENTILATION:
Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C) NA	(F)
VAPOR PRESSURE(20 C)(MM HG)	:	UNK		
VAPOR DENSITY (AIR=1)	:	UNK		
FREEZING POINT	:	NA	(C) NA	(F)
MELTING POINT	:	NA	(C) NA	(F)
PHYSICAL STATE	:	SOLID		
ODOR	:	ACETIC ACID		
COLOR	:	WHITE		
ODOR THRESHOLD (PPM)	:	UNK		
% VOLATILE BY VOLUME	:	<8		
EVAP. RATE(BUTYL ACETATE=1)	:	<1		
SPECIFIC GRAVITY (WATER=1)	:	1.06		
DENSITY (KG/M3)	:	1060		
ACID/ALKALINITY (MEQ/G)	:	UNK		
PH	:			

	NA
VOC (EPA METH.24) (G/L) :	61
SOLUBILITY IN WATER (20 C) :	INSOLUBLE
SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):	TOLUENE

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
Acetic acid.
Formaldehyde.
INCOMPATIBILITY (MATERIALS TO AVOID):
None known.
CONDITIONS TO AVOID:
None known.

11. TOXICOLOGICAL INFORMATION

METHYLTRIACETOXYSILANE

ACUTE ORAL LD50 (MG/KG):	2,060 (RAT)
ACUTE DERMAL LD50 (MG/KG):	NONE FOUND
ACUTE INHALATION LC50 (MG/L):	NONE FOUND

OTHER:
None.

AMES TEST:

TRADE SECRET COMPONENT

ACUTE ORAL LD50 (MG/KG):	>40,000 RAT,ESTM.
ACUTE DERMAL LD50 (MG/KG):	NONE FOUND
ACUTE INHALATION LC50 (MG/L):	>535 MG/L ESTM.

OTHER:
None.

AMES TEST:

TRADE SECRET COMPONENT

ACUTE ORAL LD50 (MG/KG):	NA
ACUTE DERMAL LD50 (MG/KG):	NA
ACUTE INHALATION LC50 (MG/L):	NA

OTHER:
None.

AMES TEST:

DIMETHYL POLYSILOXANE SILANOL/ST

ACUTE ORAL LD50 (MG/KG):	RAT >40,000
ACUTE DERMAL LD50 (MG/KG):	UNKNOWN
ACUTE INHALATION LC50 (MG/L):	RAT >535 MG/L (4HR)

OTHER:
Non-irritating to skin (rbt).
AMES TEST:

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION:

*** CONTINUED ON NEXT PAGE ***

No data at this time

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Disposal should be made in accordance with federal, state and local regulations.
Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME:	NONE
DOT HAZARD CLASS:	NONE
DOT LABEL(S):	NONE
UN/NA NUMBER:	NONE
PLACARDS:	NONE
IATA:	
NA	
IMO IMDG-code:	NONE
EUROPEAN CLASS:	
RID (OCTI):	NONE
ADR (ECE) :	NONE
RAR (IATA):	NONE

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311,312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE

CPSC CLASSIFICATION:	NA
WHMIS HAZARD CLASS:	
D2B TOXIC MATERIALS	
WHMIS TRADE SECRET:	
None	
EXPORT:	
SCHDLE B/HTSUS:	3910.00
ECCN:	1C96G
HAZARD RATING SYSTEMS	
HMIS	FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2
NFPA	FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2

CALIFORNIA PROPOSITION 65:
NONE

16. OTHER INFORMATION

MOR 001177

This product or its components are on the European inventory of existing commercial chemicals (EINECS).....
.....
These data are offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific content of the intended use.....
.....
This product or its components are on the Australian inventory

(ACOIN).....
.....

C =	ceiling limit	NEGL =	negligible
EST=	estimated	NF =	none found
NA =	not applicable	UNKN =	unknown
NE =	none established	REC =	recommended
ND =	none determined	V =	recomm. By vendor
By-product = reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)		SKN =	skin
		TS =	trade secret
		R =	recommended
		MST =	mist
STEL =	short term exposure limit	NT =	not tested

.....

DATE PRINTED: 07/04/94

*** END OF MSDS ***

MATERIAL SAFETY DATA SHEET
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GE103

MANUFACTURED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

EMERGENCY TELEPHONE:

(518) 237-3330 (24 HRS)

SUPPLIED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

(518) 237-3330 (24 HRS)

REVISED: 08/14/88
PREPARER: DA POLSINELLI

*** I PRODUCT IDENTIFICATION ***

PRODUCT IDENTIFICATION: RTV103
CHEMICAL FAMILY
SILICONE RUBBER SEALANT
CHEMICAL NAME: RTV SILICONE RUBBER SEALANT FORMULA: MIXTURE

*** II PRODUCT COMPONENTS ***

PRODUCT COMPOSITION	APPROX. WGT. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
METHYLTRIACETOXYSILANE	1-5	10(R)	10(R)	PPM	4253-34-3 *
B. NON-HAZARDOUS					

FORMULATION INFORMATION:
THIS SPACE RESERVED FOR SPECIAL USE.

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*** III PHYSICAL DATA ***

**PRODUCT INFORMATION

BOILING POINT	: NA (F) NA (C)	% VOLATILE BY VOLUME	:<5
VAPOR PRESSURE(20 C)	: UNKN MM HG	EVAPORATION RATE	:NEGL.
VAPOR DENSITY(AIR=1)	: UNKN	(BUTYL ACETATE=1)	
FREEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY	:1.02
MELTING POINT	: NA (F) NA (C)	(WATER=1)	
PHYSICAL STATE	: SOLID	DENSITY	:1000.5 KG/M3
ODOR	: ACETIC ACID	ACID/ALKALINITY	:UNKN MEG/G
COLOR	: BLACK	PH	:NA
ODOR THRESHOLD	: 1.0 (PPM)		

SOLUBILITY IN WATER(20C): INSOLUBLE
SOLUBILITY IN ORGANIC SOLVENT: SLIGHTLY SOLUBLE IN TOLUENE
(STATE SOLVENT)

*** IV FIRE AND EXPLOSITION DATA ***

FLASH PT: NA (F) NA (C) BY NA IGNITION TEMP: UNK (F) UNK (C)
FLAMMABLE LIMITS IN AIR(%): LOWER UNK UPPER UNK
SENSITIVITY TO MECHANICAL IMPACT (Y/N): N
SENSITIVITY TO STATIC DISCHARGE:
SENSITIVITY TO STATIC DISCHARGE IS NOT EXPECTED.
EXTINGUISHING MEDIA:
ALL STANDARD FIREFIGHTING MEDIA
SPECIAL FIREFIGHTING PROCEDURES:
NONE KNOWN.

*** V REACTIVITY DATA ***

STABILITY:		HAZARDOUS:
X STABLE	UNSTABLE	POLYMERIZATION WILL NOT OCCUR

HAZARDOUS DECOMPOSITION/COMBUSTION PRODUCTS:
SILICON DIOXIDE.
ACETIC ACID.
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

*** VI HEALTH HAZARD DATA ***

ACUTE SIGNS/EFFECTS OF OVEREXPOSURE:
INGESTION:
NONE KNOWN
SKIN CONTACT:
UNCURED PRODUCT CONTACT WILL IRRITATE LIPS,GUMS AND TONGUE.
UNCURED PRODUCT CONTACT MAY IRRITATE THE SKIN.
INHALATION:
CAUSES MODERATE RESPIRARTORY IRRITATION.

CAUSES IRRITATION OF THE MOUTH,NOSE,AND THROAT.
APPLIES ONLY IN UNCURED STATE.

EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.

MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.

OTHER:
ACETIC ACID RELEASED DURING CURING.

CHRONIC EFFECTS OF OVEREXPOSURE:
NONE KNOWN.

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION:
RINSE MOUTH WITH WATER SEVERAL TIMES.

SKIN:
TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER.
GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

INHALATION:
MOVE PERSON TO FRESH AIR.

EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:
NONE KNOWN.

TOXICITY:	METHYLTRIACETOXYSILANE	
ACUTE ORAL LD50:	2060 (RAT)	MG/KG
ACUTE DERMAL LD50:	NONE FOUND	MG/KG
ACUTE INHALATION LC50:	NONE FOUND	
OTHER: NONE.		

AMES TEST: UNKNOWN

PRINCIPALS ROUTES OF EXPOSURE:
EYES.
INHALATION.

THIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE IS NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY NTP, IARC, OR OSHA

PRODUCTS/INGREDIENTS
THIS SPACE RESERVED FOR SPECIAL USE.

PREVENTATIVE MEASURES (SECTIONS VII, VIII, IX)

*** VII SPECIAL PROTECTIVE EQUIPMENT ***

RESPIRATORY PROTECTION:

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USE IN A WELL VENTILATED AREA.

PROTECTIVE GLOVES:
CLOTH GLOVES.

EYE AND FACE PROTECTION:
SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT:
NONE KNOWN.

VENTILATION:
USE ONLY IN WELL VENTILATED AREA.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.

DISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
BURY IN A LICENSED LANDFILL OR BURN IN AN APPROVED INCINERATOR ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

*** IX SPECIAL PRECAUTIONS ***

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN AND EYES.
CAUTION!
REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGERTIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION.
PRODUCT RELEASES ACETIC ACID DURING APPLICATION AND CURING.
USE MECHANICAL VENTILATION TO STAY BELOW TLV OF 10 PPM ACETIC ACID.
UNCURED PRODUCT CONTACT IRRITATES EYES.
UNCURED PRODUCT CONTACT MAY IRRITATE SKIN.

ENGINEERING CONTROLS:
EXHAUST VENTILATION
EYEWASH STATIONS.

*** X SHIPPING AND REGULATORY CLASSIFICATION DATA ***

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NONE
DOT LABELS(S): NONE
UN/NA NUMBER: NONE
PLACARDS:
NONE
EXPORT:
NA

EPA HAZARD WASTE: NONE
SARA HAZARD CLASS:
TO BE DETERMINED
WHMIS HAZARD CLASS:
D2B TOXIC MATERIALS
CPSC CLASSIFICATION: NA
TRANSPORTATION CLASS: NONE
RID (OCTI) NONE
ADR (ECE) NONE
RAR (IATA) NONE
NFPA/HMIS CLASSIFICATION FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2

SCHEDULE B:
DIN:

ADDITIONAL INFORMATION:
THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....
.....
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRALIAN INVENTORY (ACOIN).....
.....

C =	CEILING LIMIT	NEGL =	NEGLIGIBLE
EST=	ESTIMATED	NF =	NONE FOUND
NA =	NOT APPLICABLE	UNKN =	UNKNOWN
NE =	NONE ESTABLISHED	REC =	RECOMMENDED
ND =	NONE DETERMINED	V =	RECOMM. BY VENDOR
BY-PRODUCT =	REACTION BY-PRODUCT, TSCA INVENTORY	SKN =	SKIN
		TS =	TRADE SECRET

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*** X SHIPPING AND REGULATORY CLASSIFICATION DATA ***

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NONE
DOT LABELS(S): NONE
UN/NA NUMBER: NONE
PLACARDS:
NONE
EXPORT:
NA

EPA HAZARD WASTE: NONE
SARA HAZARD CLASS:
TO BE DETERMINED
WHMIS HAZARD CLASS:
D2B TOXIC MATERIALS
CPSC CLASSIFICATION: NA
TRANSPORTATION CLASS: NONE
RID (OCTI) NONE
ADR (ECE) NONE
RAR (IATA) NONE
NFPA/HMIS CLASSIFICATION FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2

SCHEDULE B:
FCN:

ADDITIONAL INFORMATION:
THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....
.....
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRALIAN INVENTORY (ACOIN).....
.....

C =	CEILING LIMIT	NEGL =	NEGLIGIBLE
EST=	ESTIMATED	NF =	NONE FOUND
NA =	NOT APPLICABLE	UNKN =	UNKNOWN
NE =	NONE ESTABLISHED	REC =	RECOMMENDED
ND =	NONE DETERMINED	V =	RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-PRODUCT, TSCA INVENTORY		SKN =	SKIN
		TS =	TRADE SECRET

STATUS NOT REQUIRED UNDER 40 CFR PART 720.30(H-2)

R = RECOMMENDED
MST = MIST

RECEIVED
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MATERIAL SAFETY DATA SHEET
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RTV108

MANUFACTURED BY:
[illegible]RAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

EMERGENCY TELEPHONE:
(518) 237-3330 (24 HRS)

SUPPLIED BY:
GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

(518) 237-3330 (24 HRS)

REVISED: 05/03/91
PREPARER: GCD

*** I PRODUCT IDENTIFICATION ***

PRODUCT IDENTIFICATION: RTV108
CHEMICAL FAMILY
SILICONE RUBBER SEALANT
CHEMICAL NAME: SILICONE RUBBER SEALANT FORMULA: MIXTURE

*** II PRODUCT COMPONENTS ***

PRODUCT COMPOSITION	APPROX. WGT. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
METHYLTRIACETOXYSILANE	1-5	10 (R)	10 (R)	PPM	4253-34-3*
B. NON-HAZARDOUS					
DIMETHYL POLYSILOANE SILANNOL/ST	60-80	NA	NA	NA	70131-67-8*
TRADE SECRET COMPONENT	10-30	NF	NF	NA	
TRADE SECRET COMPONENT	10-30	10	15	MG/M3	

FORMULATION INFORMATION:
2HIS SPACE RESERVED FOR SPECIAL USE

*** III PHYSICAL DATA ***

**PRODUCT INFORMATION

BOILING POINT	: NA (F) NA (C)	% VOLATILE BY VOLUME	:<8
VAPOR PRESSURE(20 C)	: NA MM HG	EVAPORATION RATE	:<1
VAPOR DENSITY(AIR=1)	: NA	(BUTYL ACETATE=1)	
FREEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY	:1.06
MELTING POINT	: NA F) NA C)	(WATER=1)	
PHYSICAL STATE	: SOLID	DENSITY	:1060 KG/M3
ODOR	: ACETIC ACID	ACID/ALKALINITY	:NA MEG/G
COLOR	: TRANSLUCENT	PH	:NA
ODOR THRESHOLD	: UNK (PPM)	VOC (EPA METH.24)	:65 G/L

SOLUBILITY IN WATER(20C): INSOLUBLE
SOLUBILITY IN ORGANIC SOLVENT: TOLUENE
(STATE SOLVENT)

*** IV FIRE AND EXPLOSION DATA ***

FLASH PT: NA (F) NA (C) BY NA IGNITION TEMP: UNKN(F) UNKN (C)
FLAMMABLE LIMITS IN AIR(%): LOWER UNKN UPPER UNKN
SENSITIVITY TO MECHANICAL IMPACT (Y/N): N
SENSITIVITY TO STATIC DISCHARGE:
SENSITIVITY TO STATIC DISCHARGE IS NOT EXPECTED.
EXTINGUISHING MEDIA:
ALL STANDARD FIREFIGHTING MEDIA
SPECIAL FIREFIGHTING PROCEDURES:
NONE KNOWN.

*** V REACTIVITY DATA ***

STABILITY: HAZARDOUS:
X STABLE UNSTABLE POLYMERIZATION WILL NOT OCCUR
HAZARDOUS DECOMPOSITION/COMBUSTION PRODUCTS:
SILICON DIOXIDE CARBON DIOXIDE
ACETIC ACID CARBON MONOXIDE
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
C. TIONS TO AVOID:
NONE KNOWN.

*** VI HEALTH HAZARD DATA ***

ACUTE SIGNS/EFFECTS OF OVEREXPOSURE:
INGESTION:
MAY BE HARMFUL IF SWALLOWED.
SKIN CONTACT:
UNCURED PRODUCT CONTACT WILL IRRITATE LIPS,GUMS AND TONGUE.
UNCURED PRODUCT CONTACT MAY IRRITATE THE SKIN.
IN..ATION:
CAUSES MODERATE RESPIRATORY IRRITATION.
CAUSES IRRITATION OF THE MOUTH,NOSE,AND THROAT.
APPLIES ONLY IN UNCURED STATE.
EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.
MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.
OTHER:
NONE KNOWN.
CHRONIC EFFECTS OF OVEREXPOSURE:
NONE KNOWN.

EMERGENCY AND FIRST AID PROCEDURES:
INGESTION:
NONE KNOWN.
SKIN:
TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER.
INHALATION:
MOVE PERSON TO FRESH AIR.
EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
NOTE TO PHYSICIAN:
NONE KNOWN.

TOXICITY:	**PRODUCT INFORMATION	
ACUTE ORAL LD50:	25,000 (RAT)	MG/KG
ACUTE DERMAL LD50:	UNKNOWN	MG/KG
ACUTE INHALATION LC50:	UNKNOWN	
OTHER:	MILDLY IRRITATING TO SKIN (RBT).	
AI TEST:	UNKNOWN	

PR..IPAL ROUTES OF EXPOSURE:
EYES.
INHALATION.
THIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE IS NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY NTP, IARC, OR OSHA
PRODUCTS/INGREDIENTS
THIS SPACE RESERVED FOR SPECIAL USE.

PREVENTIVE MEASURES (SECTIONS VII, VIII, IX)

*** VII SPECIAL PROTECTIVE EQUIPMENT ***

RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
PROTECTIVE GLOVES:
CLOTH GLOVES.
EYE AND FACE PROTECTION:
SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
NONE KNOWN.
VENTILATION:
USE ONLY IN WELL VENTILATED AREA.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
DISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

*** IX SPECIAL PRECAUTIONS ***

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID CONTACT WITH SKIN AND EYES.
CAUTION!
REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGER-TIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION.
PRODUCT RELEASES ACETIC ACID DURING APPLICATION AND CURING.
USE MECHANICAL VENTILATION TO STAY BELOW TLV OF 10 PPM ACETIC ACID.
UNCURED PRODUCT CONTACT IRRITATES EYES.
UNCURED PRODUCT CONTACT MAY IRRITATE SKIN.
USE IN A WELL VENTILATED AREA TO PREVENT IRRITATION BY VAPORS.
ENGINEERING CONTROLS:
EYEWASH STATIONS.

*** X SHIPPING AND REGULATORY CLASSIFICATION DATA ***
DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NONE
DOT LABELS(S): NONE
UN/NA NUMBER: NONE
PLACARDS:
NONE
EXPORT: NA
EPA HAZARD WASTE: NONE
SARA HAZARD CLASS: ACUTE HEALTH HAZARD
WHMIS HAZARD CLASS: D2B TOXIC MATERIALS
CPSC CLASSIFICATION: EYE IRRITANT
TRANSPORTATION CLASS: NA
RID (OCTI) NA
ADR (ECE) NA
RAR (IATA) NA
NFPA/HMIS CLASSIFICATION FLAMMABILITY 0, REACTIVITY 0, HEALTH 2
SCHEDULE B: 3910.00.00003
ECCN: 6999G

ADDITIONAL INFORMATION:
THIS PRODUCT OR ITS COMPONENTS ARE ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICALS (EINECS).....
.....
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....

C = CEILING LIMIT	NEGL = NEGLIGIBLE
EST= ESTIMATED	NF = NONE FOUND
NA = NOT APPLICABLE	UNKN = UNKNOWN
NE = NONE ESTABLISHED	REC = RECOMMENDED
ND = NONE DETERMINED	V = RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-PRODUCT, TSCA INVENTORY STATUS NOT REQUIRED UNDER 40 CFR PART 720.30(H-2)	SKN = SKIN
	TS = TRADE SECRET
	R = RECOMMENDED
	MST = MIST
STEL = SHORT TERM EXPOSURE LIMIT	

Rec. 6/15/01

DATE OF LAST CHANGE: 11/17/00

DATE PRINTED.....: 11/17/00

MANUFACTURER'S NAME:

NAZDAR SHAWNEE
8501 HEDGE LANE TERRACE
SHAWNEE
KS 66227 USA

EMERGENCY TELEPHONE #: (800)424-9300
(U.S. and Canada)
EMERGENCY TELEPHONE #: (703)527-3887
(Outside U.S. and Canada, collect calls are accepted)
INFORMATION TELEPHONE #: (800)677-4657

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE.: RE187

TRADE NAME...: SS30 THINNER

PRODUCT CLASS: THINNER

INK SERIES...:

- HMIS CODES -
HEALTH - 3*
FLAMMABILITY - 2
REACTIVITY - 0
PPE - X

SECTION 2 -- COMPOSITION, INFORMATION ON INGREDIENTS

CHEMICAL NAME: / COMMON NAME: / CAS NUMBER	PERCENT BY WEIGHT	OCCUPATIONAL EXPOSURE LIMITS -ACGIH- TLV	-OSHA- PEL	VAPOR PRESSURE IN mmHg	NOTES
ALIPHATIC DIBASIC ACID ESTERS; DIBASIC ESTER MIXTURE; CAS #: NOT ESTABLISHED	70	NOT ESTABLISHED	NOT ESTABLISHED	0.2 @ 20C	(1)
CYCLOHEXANONE; PIMELIC KETONE; CAS #: 108-94-1	30	25 ppm Skin	25 ppm Skin	2.0 @ 20C	

1) Supplier recommended exposure limit of 10 mg/m3.

The recommended permissible exposure limits (PEL) indicated above reflect the levels adopted by OSHA in 1989. Although, some of the 1989 levels have since been vacated, the Nazdar Company recommends that the lower exposure levels be observed as reasonable worker protection.

SECTION 3 -- HAZARDS IDENTIFICATION

GENERAL HEALTH EFFECTS

THE FOLLOWING INFORMATION HAS BEEN DEVELOPED BASED UPON USING THE PRODUCT AS INTENDED BY THE MANUFACTURER. The potential health effects of this product are based on the hazards of its components. The use of this product in combination with other products may produce synergistic (additive) health effects. Cautionary labeling and material safety data sheets of all materials used with this product should be reviewed before use.

EYES

Eye contact with liquid, vapors or mists may cause severe irritation including burning, tearing, redness or swelling and eye damage.

SKIN

Skin contact may cause irritation. Symptoms may include dryness, chapping and redness. Repeated or prolonged overexposure may cause burns to the skin. This material may be absorbed through the skin. Toxic if absorbed through the skin.

INHALATION

Repeated and prolonged overexposure by inhalation may cause respiratory tract irritation. Symptoms may include central nervous system disorders such as headaches, dizziness, weakness and fatigue.

INGESTION

Ingestion may cause gastrointestinal tract irritation. Symptoms may include headaches, nausea and vomiting. Ingestion may cause vomiting. Aspiration of material into lungs may cause chemical pneumonitis which can be fatal.

CHRONIC EFFECTS/TARGET ORGANS

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

ANIMAL STUDIES

Aliphatic dibasic acid esters (or its components) have been suggested as a cause of the following effects in lab animals, after overexposure, and may aggravate pre-existing disorders of these organs in humans; mild, reversible liver effects, nasal damage. Cyclohexanone has caused liver and kidney damage in animal tests. For animal studies, reference TSCA Section 4 Test Rule Results or contact the manufacturer for further details.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pregnant women and persons with pre-existing health disorders should consult their physician before using this product. Repeated and prolonged overexposure and/or individual sensitivity may increase the potential for and degree of adverse health effects. See Section 3 "Hazards Identification" for effects of certain hazardous ingredients.

ROUTES OF EXPOSURE
Primary exposure routes: Inhalation-Dermal (Contact/Absorption)-Ingestion

SECTION 4 -- FIRST AID MEASURES

EYES
After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If irritation persists have eyes examined and tested by medical personnel.

SKIN
In case of contact, immediately wash skin with a mild soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Cool water is initially suggested to prevent the pores of the skin from opening. This will minimize both the area and time of skin contact. Lukewarm water may then be used to ensure all contaminants are removed. Skin should be monitored for reddening or chemical burns. Mild soap is suggested to help prevent abrading the skin or rubbing the chemicals into pores during cleansing. Get medical attention if irritation persists or significant contact has occurred. Thoroughly wash (or discard) clothing and shoes before reuse.

INHALATION
Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if breathing difficulty is experienced.

INGESTION
If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

OTHER COMMENTS
No Data Available

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT
Lowest flashing component 110 Degrees - 115 Degrees (TCC)

OSHA FLAMMABILITY CLASSIFICATION (NFPA)
Class II Combustible Liquid

FLAMMABLE LIMITS (LEL-LOWER EXPLOSIVE LIMIT)
0.9% volume in air

EXTINGUISHING MEDIA
Foam-CO2-Dry Chemical-Water Spray

FIRE AND EXPLOSION HAZARDS
Isolate from heat, electrical equipment, sparks, and open flame. Keep containers tightly closed. Vapors may be heavier than air and can travel to a source of ignition then flash back. Closed containers may explode when exposed to extreme heat.

FIRE FIGHTING EQUIPMENT
Full protective equipment including self-contained breathing apparatus (SCBA) is recommended to protect firefighters.

SPECIAL FIRE FIGHTING PROCEDURES
Water may be ineffective but may be used to cool containers. Fumes released on burning may be toxic and dangerous.

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RELEASE MANAGEMENT MEASURES
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid contact or breathing vapors. Ventilate area. Contain release and remove with inert absorbent. Use non-sparking tools to place material in appropriate container for disposal. The National Response Center (800-424-8802) and local authorities should be contacted for any reportable spill/release.

SECTION 7 -- HANDLING AND STORAGE

HANDLING AND STORAGE METHODS
Use in a well ventilated area. Follow all MSDS/label precautions even after container is emptied; container may retain product residues. Store in closed containers in cool, dry, well ventilated area away from sources of ignition. Keep containers closed when not in use. Smoke in designated areas only. Avoid prolonged or repeated overexposure to this product. Keep out of reach of children. Follow label directions carefully. Do not take internally. Harmful or fatal if swallowed.

SECTION 8 -- EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION
If concentrations of hazardous ingredients exceed exposure limits listed in Section 2 an appropriate NIOSH (National Institute for Occupational Safety and Health) approved respirator with an organic vapor cartridge should be used. If material is handled under mist, spray or dust forming conditions, a P100 (99.97% efficiency) filter should be used in addition to the organic vapor cartridge. If no exposure limits are listed in Section 2, follow general safety guidelines in 29 CFR 1910.134 *Respiratory Protection or other applicable respiratory standard.*

SKIN PROTECTION
Use neoprene, nitrile or other gloves resistant to chemicals listed in Section 2. Contact a reputable safety supply company for appropriate gloves. Solvent resistant aprons are recommended. Prevent prolonged skin contact with contaminated clothing.

EYE PROTECTION
Use ANSI (American National Standards Institute) approved safety glasses, faceshield or splash proof goggles to prevent eye contact. Contact a reputable safety supply company for appropriate eye protection. The availability of an eye wash is highly recommended.

EXPOSURE GUIDELINES
See Section 2 "Composition, Information on Ingredients" for occupational exposure limits.

HYGIENIC PRACTICES
Wash with soap and water before eating, smoking or using toilet facilities. Separately wash or discard clothing and footwear before reuse. NEVER try to remove ink from the skin by using solvent or thinner. Such action is likely to increase the possibility of undesirable effects. Remove contaminated clothing to prevent prolonged skin contact.

ENGINEERING CONTROLS
Use applicable engineering controls, work practices and personal protective equipment to ensure all concentrations are kept below the exposure limits listed in Section 2. Adequate controls should be implemented to ensure employee safety from fine mists which may be produced under some printing conditions.

OTHER PROTECTION
No Data Available

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

**

APPEARANCE:
Thin liquid

ODOR:
Characteristic

PHYSICAL STATE:
Liquid

pH
Not applicable

VAPOR PRESSURE
See Section 2 for individual ingredients.

VAPOR DENSITY
Heavier than air

BOILING POINT
Greater than 300 degrees Fahrenheit

FREEZING POINT
Not available

SOLUBILITY IN WATER
Not tested

EVAPORATION RATE
Slower than ether

PERCENT VOLATILE BY VOLUME: 100.00 %

WEIGHT PER GALLON: 8.71 lbs/gal

VOC: 1044.84 g/L

8.71 lb/gal

PHOTOCHEMICALLY REACTIVE
No

Percent volatile = Percent VOC

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Avoid excessive heat, ignition sources, sparks and open flame.

INCOMPATIBILITY WITH OTHER MATERIALS
Strong acids/bases, oxidizing/reducing agents and reactive chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS
May produce hazardous fumes when heated to decomposition e.g. carbon monoxide, carbon dioxide and other noxious gases.

HAZARDOUS POLYMERIZATION
Not anticipated during normal printing and storage conditions.

SECTION 11 -- TOXICOLOGICAL INFORMATION

EXPERIMENTAL TOXICITY DATA
Refer to Section 3 Hazards Identification for additional toxicological data. Experimental toxicity data on cyclohexanone has given the following results: Oral LD50 Rat; 1620 mg/kg: Dermal LD50 Rabbit; 1000 mg/kg: Inhalation TCLO Human; 75 ppm.

SECTION 12 -- ECOLOGICAL INFORMATION

ECOTOXICITY
Because this product may be a mixture of chemicals, some of which may be ecologically toxic, it is strongly suggested that it not be disposed of into the environment, i.e. soil, water courses, lakes, landfills, sewers, etc.

ENVIRONMENTAL FATE
No Data Available

SECTION 13 -- DISPOSAL CONSIDERATIONS

DISPOSAL METHODS
Dispose of in accordance with applicable local, county, state, provincial and federal regulations. Emptied containers may retain hazardous properties. Empty containers should be disposed of in an environmentally safe manner in accordance with applicable regulations.

SECTION 14 -- TRANSPORT INFORMATION

TRANSPORT INFORMATION
DOT Proper Shipping Description: Paint Related Material, 3, UN1263, PG III. In the U.S. and Canada, this material may be reclassified as a combustible liquid and is not regulated, via surface transportation, in containers less than 119 gallons or 450 liters [per 49 CFR 173.150(f)] [per Transportation of Dangerous Goods Regulations Part 2.23.2(1)].

SECTION 15 -- REGULATORY INFORMATION

SARA TITLE III 313 INFORMATION
See Section 2 "Composition, Information on Ingredients" for applicable chemicals.

TOXIC SUBSTANCES CONTROL ACT STATUS
All ingredients in Section 2 are listed on the U.S. Environmental Protection Agency's Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substance List.

OTHER REGULATORY INFORMATION
OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION (OSHA) - MSDS is compliant with Occupational Safety and Health Administration Hazard Communication Standard - 29 CFR 1910.1200. AMERICAN NATIONAL STANDARDS INSTITUTE - This MSDS follows the ANSI Z400.1-1993 format. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS) - This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION (CANADA):
No Data Available

SECTION 16 -- OTHER INFORMATION

DISCLOSURE

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind express or implied is made with respect to the information contained herein. The data in this MSDS relates only to the specific material designated herein and does not apply to use in combination with any other material or process.

DEFINITIONS

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CEILING: (TLV-Ceiling and PEL Ceiling Limit) The ceiling exposure limit or concentration not to be exceeded for even brief times.

DOT: Department of Transportation

HMIS: The Hazardous Materials Identification System (HMIS) developed by the National Paint and Coatings Association (NPCA) to provide information on the acute health hazards, reactivity and flammability of products encountered in the workplace at room temperatures.

HMIS codes assigned for this product are only suggested ratings based on anticipated normal screen printing applications. The employer has the ultimate responsibility for assigning these ratings and should fully evaluate the MSDS, work practices and environmental conditions prior to assigning the appropriate ratings.

HMIS Personal Protection Index of "X-Ask your supervisor" is given on this MSDS due to varying work conditions which may dictate different levels of protection. Please review this MSDS before determining appropriate protective equipment and beginning work.

IARC: International Agency for Research on Cancer

NFPA: National Fire Protection Association

NTP: National Toxicology Program

STEL: Short-Term Exposure Limit: ACGIH terminology for the short-term exposure limit or maximum concentration for a continuous exposure period of 15 minutes.

TLV: Threshold Limit Value. A term ACGIH uses to express the airborne concentration of a material to which most workers can be exposed during a normal daily and weekly work schedule without adverse effects.

TWA: Time-Weighted Average

VOC: Volatile Organic Compound

BLR240
08/02/99 07:00:28 HAZARDOUS MATERIAL SAFETY SHEET CONTROL
BILLING BATCH

TMC 1248791

RTV-133
Silicone Sealant
Rec. 8/9/99 SP

56479
MOREY CORP.

2659 WISCONSIN AVE.
DOWNERS GROVE , IL 60515

ELECTRICAL INSULATION SUPPLIERS
Bldg 100, Ste 400
3715 Northside Parkway, NW
Northcreek Office Park
ATLANTA, GA 30327

PHONE # (404)487-3613 Shannon Schoper
(404)487-3612 Dave Sharpe
FAX # (404)609-6084

MATERIAL SAFETY DATA SHEET INFORMATION:

PLEASE FIND ENCLOSED MATERIAL SAFETY DATA SHEETS (MSDS) COVERING ITEMS PURCHASED FROM ELECTRICAL INSULATION SUPPLIERS (EIS). OSHA REGULATIONS REQUIRE MSDS INFORMATION BE MADE AVAILABLE TO ALL PERSONNEL WHO MAY BE EXPOSED TO HAZARDOUS MATERIALS IN THE WORK PLACE.

UNDER THE "EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT OF 1986" INVENTORY AND LOCATION INFORMATION, CONCERNING HAZARDOUS MATERIALS MFG JOB SITE, MAY NEED TO BE REPORTED TO THE LOCAL FIRE DEPARTMENT, THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STANDARD RESPONSE COMMISSION. YOU MAY WANT TO REFERENCE 40 CFR PART 372 FOR ADDITIONAL INFORMATION. MANUFACTURERS MUST REPORT ANNUAL RELEASES OF LISTED TOXIC CHEMICALS INTO THE ENVIRONMENT, ACCORDING TO SARA TITLE III.

ACCORDING TO 29 CFR PART 1910.1200 PARAGRAPH (g)(6) OF THE HAZARD COMMUNICATION STANDARD, A MSDS IS TO BE PROVIDED THE FIRST TIME THE CUSTOMER BUYS AN ITEM REQUIRING A MSDS. IF AT ANY TIME THE MSDS IS UPDATED OR CHANGED, THE UPDATED MSDS MUST BE SUPPLIED WITH THE FIRST SHIPMENT AFTER THE MSDS UPDATE HAS OCCURRED.

IF YOU NEED FURTHER INFORMATION CONCERNING YOUR SITUATION, YOU MAY CONTACT THE EPA IN WASHINGTON, D.C. THEIR TOLL FREE NO. IS (800)535-0202; THE RCRA/SUPERFUND HOT LINE IS (800)424-9346 OR (703)920-9810; THE TSCA HOT LINE IS (202)554-1404.

BY PROVIDING THIS DOCUMENTATION, EIS IS COMPLYING WITH FEDERAL LAWS GOVERNING MSDS INFORMATION, AS IS KNOWN TO US. THIS IS A SERVICE AIMED AT HELPING YOUR BUSINESS TO ALSO COMPLY WITH GOVERNMENT REGULATIONS.

DAVE SHARPE

"SEE THE REVERSE SIDE FOR DOCUMENT NAME AND P.O. NUMBER"

56479/MOREY CORP.

		SHIP	
	MSDS DOCUMENT	DATE	CUSTOMER PURCHASE ORDER NUMBER
BLR240	GE133	07/21/99	110113

Provided By Electrical Insulation Suppliers Inc.

GE SILICONES

MATERIAL SAFETY DATA SHEET
FORMAT: USA COPYRIGHT GENERAL ELECTRIC CO.

PRODUCT: RTV133 SILICONE SEALANT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES .
260 HUDSON RIVER ROAD
WATERFORD, CT. 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 06/10/98
PREPARER: CE HANNIGAN
CHEMICAL FAMILY/USE: SILICONE RUBBER
FORMULA: MIXTURE

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TWA	TLV STEL	OSHA TWA	PEL STEL	UNITS
A. HAZARDOUS						
TIANIUM, BIS(ETHYL ACETOACETATO)-DIISOPROPOXY- 27858-32-8	1-5	NE	NA	NE	NA	NA
METHYLTRIMETHOXYSILANE 1185-55-3	1-5	NA	NE	NA	NE	NA
B. NON-HAZARDOUS						
VINYLSTOPPED PHENYLMETHYL POLYMER 68951-96-2	5-10	NA	NE	NA	NE	NA
DIMETHYL POLYSILOXANE SILANOL/ST 70131-67-8	30-60	NA	NE	NA	NE	NA
D4 & HMDZ TREATED SILICON DIOXIDE 68937-51-9	10-30	10	NE	15	NE	MG/M3
QUARTZ 14808-60-7	10-30	0.1	NE	0.1	NE	MG/M3

SEE SECTION 15 FOR DESCRIPTION OF ANY WHMIS TRADE SECRET(S).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
This section not in use
POTENTIAL HEALTH EFFECTS:
INGESTION:
MAY BE harmful if swallowed.
SKIN CONTACT:
UNCURED PRODUCT WILL IRRITATE LIPS, GUMS AND TONGUE.
UNCURED PRODUCT CONTACT MAY IRRITATE THE SKIN.
INHALATION:
CAUSES MILD RESPIRATORY IRRITATION.
APPLIES ONLY IN UNCURED STATE.
EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.
MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.
SUBCHRONIC (TARGET ORGAN) EFFECTS:
NONE KNOWN.
CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by

NTP, IARC, or OSHA.

PRODUCTS/INGREDIENTS

This space reserved for special use.

PRINCIPLE ROUTES OF EXPOSURE:

Eyes.
DERMAL-SKIN

OTHER:

METHANOL RELEASED DURING CURING. THIS PRODUCT CONTAINS METHYL-POLYSILOXANES WHICH CAN GENERATE FORMALDEHYDE AT APPROXIMATELY 300 DEGREES FARENHEIT (150'C) AND ABOVE, IN ATMOSPHERES WHICH CONTAIN OXYGEN. FORMALDEHYDE IS A SKIN AND RESPIRATORY SENSITIZER, EYE AND THROAT IRRITANT, ACUTE TOXICANT, AND POTENTIAL CANCER HAZARD. AN MSDS FOR FORMALDEHYDE IS AVAILABLE FROM GE SILICONES.

4. FIRST AID MEASURES

INGESTION:

RINSE MOUTH WITH WATER SEVERAL TIMES.

SKIN:

TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER. GET MEDICAL ATTN. IF IRRITATION PERSISTS.

INHALATION:

MOVE PERSON TO FRESH AIR.

EYES:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:

None Known.

5. FIRE FIGHTING MEASURES

FLASH POINT:	NA	(C)	NA	(F)
METHOD :	NA			
IGNTIION TEMP :	NA	(C)	NA	(F)
FLAMMABLE LIMITS IN AIR - LOWER(%):	NA			
FLAMMABLE LIMITS IN AIR - UPPER(%):	NA			
SENSITIVITY TO MECHANICAL IMPACT (Y/N):	NO			

SENSITIVITY TO STATIC DISCHARGE:

Sensitivity to static discharge is NOT EXPECTED.

EXTINGUISHING MEDIA:

All standard firefighting media.

SPECIAL FIREFIGHTING PROCEDURES:

NONE KNOWN.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wipe, scrape or soak up in an inert material and put in a container for disposal.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD. WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID CONTACT WITH SKIN AND EYES. CAUTION! COMBUSTIBLE. REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGERTIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION. PRODUCT RELEASES METHANOL DURING APPLICATION AND CURING. (METHANOL TLV=200 PPM).
UNCURED PRODUCT CONTACT IRRITATES EYES.
UNCURED PRODUCT CONTACT MAY IRRITATE SKIN.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Eyewash stations.
Use in a well ventilated area.
RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
PROTECTIVE GLOVES:
CLOTH GLOVES.
EYE AND FACE PROTECTION:
Safety glasses.
OTHER PROTECTIVE EQUIPMENT:
NONE KNOWN.
VENTILATION:
Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C)	NA	(F)
VAPOR PRESSURE (20C)(MMHG)	:	NEG.			
VAPOR DENSITY (AIR=1)	:	NEG.			
FREEZING POINT	:	NA	(C)	NA	(F)
MELTING POINT	:	NA	(C)	NA	(F)
PHYSICAL STATE	:	SOLID			
ODOR	:	SWEET			
COLOR	:	BLACK			
ODOR THRESHOLD (PPM)	:	UNK			
% VOLATILE BY VOLUME	:	<4.9			
EVAP.RATE (BUTYL ACETATE=1)	:	<1			
SPECIFIC GRAVITY (WATER=1)	:	1.23			
DENSITY (KG/M3)	:	1230			
ACID/ALKALINITY (MEQ/G)	:	UNK			
PH	:	NA			
VOC (EPA METH.24) (G/L)	:	<60			
SOLUBILITY IN WATER (20C)	:	NEG			

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):SLIGHT IN TOLUENE

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
METHANOL.
FORMALDEHYDE
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION
ACUTE ORAL LD50 (MG/KG): NA
ACUTE DERMAL LD50 (MG/KG): NA
ACUTE INALATION LC50 (MG/L): NA
OTHER:
None.
AMES TEST: UNKNOWN

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:

Disposal should be made in accordance with federal,state and local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NOT DOT REGULATED
DOT LABEL(S): NA
UN/NA NUMBER: NA
PLACARDS: NONE
IATA: NA

IMO IMDG-CODE: NA
EUROPEAN CLASS:
RID (OCTI): NA
ADR (ECE): NA
RAR (IATA): NA

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311, 312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA
WHMIS HAZARD CLASS:
D2B TOXIC MATERIALS
WHMIS TRADE SECRET:
NONE
EXPORT:
SCHDLE B/HTSUS:
ECCN: 3910.00 SILICONES IN PRIMARY FORM.
HAZARD RATING SYSTEMS EAR99
HMIS FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
NFPA FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
CALIFORNIA PROPOSITION 65:
NONE

16. OTHER INFORMATION

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRAILIAN INVENTORY (ACOIN).....
.....

C = CEILING LIMIT	NEGL = NEGLIGIBLE
EST= ESTIMATED	NF = NONE FOUND
NA = NOT APPLICABLE	UNKN = UNKNOWN
NE = NONE ESTABLISHED	REC = RECOMMENDED
ND = NONE DETERMINED	V = RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-	SKIN = SKIN
PRODUCT, TSCA INVENTORY	TS = TRADE SECRET
STATUS NOT REQUIRED UNDER	R = RECOMMENDED
40 CFR PART 720.30 (H-2)	MST = MIST
STEL = SHORT LIMIT EXPOSURE LIMIT	NT = NOT TESTED

.....

MATERIAL SAFETY DATA SHEET
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RECEIVED
APR 24 1990
THE MOREY CORP

MANUFACTURED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

EMERGENCY TELEPHONE:

(518) 237-3330 (24 HRS)

SUPPLIED BY:

GENERAL ELECTRIC CO.
SILICONE PRODUCTS DIV
WATERFORD, NY 12188

(518) 237-3330 (24 HRS)

REVISED: 04/07/87
PREPARER: DA POLSINELLI

*** I PRODUCT IDENTIFICATION ***

PRODUCT IDENTIFICATION: RTV160
CHEMICAL FAMILY
SILICONE RUBBER SEALANT
CHEMICAL NAME: POLYDIMETHYLSILOXANE SEALANT FORMULA: MIXTURE

*** II PRODUCT COMPONENTS ***

PRODUCT COMPOSITION	APPROX. WGT. %	ACGIH TLV	OSHA PEL	UNITS	CAS REG NO.
A. HAZARDOUS					
METHYLTRIMETHOXYSILANE	1-5	NF	NF	NA	1185-55-3*
TRADE SECRET COMPONENT	1-5	NF	NF	NA	
B. NON-HAZARDOUS					

FORMULATION INFORMATION:
A TRADE SECRET COMPONENT ABOVE IS A TRANSITION METAL OXYGEN ESTER. A CANADIAN WHMIS REGISTRY NUMBER HAS BEEN APPLIED FOR.

RECEIVED
APR 24 1990
THE MOREY CORP

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*** III PHYSICAL DATA ***

PRODUCT INFORMATION

]ILING POINT	: >200 (F) >93 (C)	% VOLATILE BY VOLUME:	<4
,POR PRESSURE(20 C):	UNKN MM HG	EVAPORATION RATE	:<1
,POR DENSITY(AIR=1):	UNKN	(BUTYL ACETATE=1)	
(EEZING POINT	: NA (F) NA (C)	SPECIFIC GRAVITY	:1.04
:LTING POINT	: NA (F) NA (C)	(WATER=1)	
IYSICAL STATE	: LIQUID	DENSITY	:1040 KG/M3
)OR	: MILD	ACID/ALKALINITY	:UNKN MEG/G
)LOR	: WHITE	PH	:NA
)OR THRESHOLD	: UNK (PPM)		

)LUBILITY IN WATER(20C): NEGL.
)LUBILITY IN ORGANIC SOLVENT: PARTIALLY IN TOLUENE
STATE SOLVENT)

*** IV FIRE AND EXPLOSITION DATA ***

LASH PT: 110 (F) 43 (C) BY PMCC. IGNITION TEMP: UNKN(F) UNKN (C)
LAMMABLE LIMITS IN AIR(%): LOWER UNKN UPPER UNKN
ENSITIVITY TO MECHANICAL IMPACT (Y/N): N
ENSITIVITY TO STATIC DISCHARGE:
SENSITIVITY TO STATIC DISCHARGE IS EXPECTED; MATERIAL HAS A FLASH POINT BELOW 200 F.
:XTINGUISHING MEDIA:
ALL STANDARD FIREFIGHTING MEDIA
:PECIAL FIREFIGHTING PROCEDURES:
COMBUSTIBLE.

*** V REACTIVITY DATA ***

;TABILITY: HAZARDOUS:
X STABLE UNSTABLE POLYMERIZATION WILL NOT OCCUR
HAZARDOUS DECOMPOSITION/COMBUSTION PRODUCTS:
CARBON MONOXIDE.
CARBON DIOXIDE.
SILICON DIOXIDE.
METHANOL.
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

*** VI HEALTH HAZARD DATA ***

ACUTE SIGNS/EFFECTS OF OVEREXPOSURE:
INGESTION:
NONE KNOWN
SKIN CONTACT:
SKIN IRRITATION IS NOT EXPECTED, BUT MAY OCCUR IN CERTAIN

SENSITIVE INDIVIDUALS.

INHALATION:
CAUSES MILD RESPIRATORY IRRITATION.
APPLIES ONLY IN UNCURED STATE.

EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.

MEDICAL CONDITIONS AGGRAVATED:
RESPIRATORY

OTHER:
METHANOL RELEASED DURING CURING.

CHRONIC EFFECTS OF OVEREXPOSURE:
NONE KNOWN.

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION:
NONE KNOWN.

SKIN:
TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER.

INHALATION:
MOVE PERSON TO FRESH AIR.

EYES:
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:
NONE KNOWN.

	METHYLTRIMETHOXYSILANE	
TOXICITY:		
ACUTE ORAL LD50:	12,500 (RAT)	MG/KG
ACUTE DERMAL LD50:	NONE FOUND	MG/KG
ACUTE INHALATION LC50:	NONE FOUND	
OTHER: NONE.		
AMES TEST:	UNKNOWN	

	TRADE SECRET COMPONENT	
TOXICITY:		
ACUTE ORAL LD50:	NONE FOUND	MG/KG
ACUTE DERMAL LD50:	NONE FOUND	MG/KG
ACUTE INHALATION LC50:	NONE FOUND	
OTHER: NONE.		
AMES TEST:	UNKNOWN	

PRINCIPALS ROUTES OF EXPOSURE:
EYES.

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IIS PRODUCT OR ONE OF ITS INGREDIENTS PRESENT 0.1% OR MORE
; NOT LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN BY
:P, IARC, OR OSHA
RODUCTS/INGREDIENTS
THIS SPACE RESERVED FOR SPECIAL USE.

PREVENTATIVE MEASURES (SECTIONS VII, VIII, IX)

*** VII SPECIAL PROTECTIVE EQUIPMENT ***

ESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
ROTECTIVE GLOVES:
CLOTH GLOVES.
YE AND FACE PROTECTION:
SAFETY GLASSES.
THER PROTECTIVE EQUIPMENT:
NONE KNOWN.
ENTILATION:
USE ONLY IN WELL VENTILATED AREA.

*** VIII SPILL, LEAK AND DISPOSAL PROCEDURES ***

CTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
WIPE, SCRAPE OR SOAK UP IN AN INERT MATERIAL AND PUT IN A CONTAINER FOR DISPOSAL.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD.
WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.
ISPOSAL METHOD:
DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
BURY IN A LICENSED LANDFILL OR BURN IN AN APPROVED INCINERATOR ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

*** IX SPECIAL PRECAUTIONS ***

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID CONTACT WITH SKIN AND EYES.
USE ONLY IN A WELL VENTILATED AREA.
CAUTION! COMBUSTIBLE.
REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGERTIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION.
PRODUCT RELEASES METHANOL DURING APPLICATION AND CURING.
UNCURED PRODUCT CONTACT IRRITATES EYES.
ENGINEERING CONTROLS:

EYEWASH STATIONS.
LOCALIZED VENTILATION SHOULD BE USED TO CONTROL DUST LEVELS.

*** X SHIPPING AND REGULATORY CLASSIFICATION DATA ***

DOT SHIPPING NAME: COMBUSTIBLE LIQUID NOS (CONTAINS METHYLTRIMETHOXYSILANE)
DOT HAZARD CLASS: COMBUSTIBLE LIQUID
DOT LABELS(S): NONE
UN/NA NUMBER: NA1993
PLACARDS:
COMBUSTIBLE FOR BULK SHIPMENTS
EXPORT:
FLAMMABLE LIQUID NOS (CONTAINS METHYLTRIMETHOXYSILANE), CLASS 3.3, FLAMMABLE LIQUID, UN1993, PACKAGING GROUP 3.

EPA HAZARD WASTE: D001
SARA HAZARD CLASS:
TO BE DETERMINED
WHMIS HAZARD CLASS:
B3 COMBUSTIBLE LIQUIDS
D2B TOXIC MATERIALS
C[illegible] CLASSIFICATION: COMBUSTIBLE LIQUID
TRANSPORTATION CLASS: 3.3
RID (OCTI) FLAMMABLE LIQUID
ADR (ECE) FLAMMABLE LIQUID
RAR (IATA) FLAMMABLE LIQUID
NFPA/HMIS CLASSIFICATION FLAMMABILITY 2 , REACTIVITY 0 , HEALTH 2

SCHEDULE B:
ECCN:

ADDITIONAL INFORMATION:
THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRALIAN INVENTORY (ACOIN).....
.....

C =	CEILING LIMIT	NEGL =	NEGLIGIBLE
EST=	ESTIMATED	NF =	NONE FOUND
NA =	NOT APPLICABLE	UNKN =	UNKNOWN
NE =	NONE ESTABLISHED	REC =	RECOMMENDED

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ND = NONE DETERMINED	V	=	RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-	SKN	=	SKIN
PRODUCT, TSCA INVENTORY	TS	=	TRADE SECRET
STATUS NOT REQUIRED UNDER	R	=	RECOMMENDED
40 CFR PART 720.30(H-2)	MST	=	MIST

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 10/25/95
PREPARER: DA POLSINELLI
CHEMICAL FAMILY/USE: SILICONE RUBBER
FORMULA: MIXTURE

---

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL TWA	OSHA PEL STEL	UNITS
A. HAZARDOUS						
METHYLTRIMETHOXYSILANE						
1185-55-3	1-5	200(R)	NE	200(R)	NE	PPM
1,3,5-TRIS(TRIMETHOXYSILYLPROPYL)-						
-ISOCYANURATE						
26115-70-8	1-5	NF	NE	NF	NE	NA
B. NON-HAZARDOUS						
DIMETHYLPOLYSILOXANES						
63148-62-9	5-10	NA	NE	NA	NE	NA
TRADE SECRET COMPONENT						
	10-30	10	NE	15	NE	MG/M3
DIMETHYL POLYSILOXANE SILANOL/ST						
70131-67-8	60-80	NA	NE	NA	NE	NA

See Section 15 for description of any WHMIS Trade Secret(s).

---

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
This section not in use
POTENTIAL HEALTH EFFECTS:
INGESTION:
May be harmful if swallowed.

*** CONTINUED ON NEXT PAGE ***

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SKIN CONTACT:
Uncured product contact will irritate lips,gums and tongue.
May cause mild skin irritation.
INHALATION:
Causes mild respiratory irritation.
Applies only in uncured state.
EYE CONTACT:
Uncured product contact irritates eyes.
MEDICAL CONDITIONS AGGRAVATED:
None known.
SUBCHRONIC (TARGET ORGAN) EFFECTS:
None known.
CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.
PRODUCTS/INGREDIENTS
This space reserved for special use.
PRINCIPLE ROUTES OF EXPOSURE:
Eyes.
OTHER:
This product contains Methylpolysiloxanes which can generate Formaldehyde at approximately 300 degrees farenheit (150'C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. An MSDS for Formaldehyde is available from GE Silicones.
Product releases methanol (1-3% by weight) during cure process.

---

4. FIRST AID MEASURES

INGESTION:
Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.
SKIN:
To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water.
INHALATION:
Move person to fresh air.
EYES:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
NOTE TO PHYSICIAN:
None known.

*** CONTINUED ON NEXT PAGE ***

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5. FIRE FIGHTING MEASURES

FLASH POINT:		NA	(C) NA	(F)
METHOD	:	NA		
IGNITION TEMP	:	NA	(C) NA	(F)
FLAMMABLE LIMITS IN AIR - LOWER (%):		NA		
FLAMMABLE LIMITS IN AIR - UPPER (%):		NA		
SENSITIVITY TO MECHANICAL IMPACT (Y/N):		NO		

SENSITIVITY TO STATIC DISCHARGE:
Sensitivity to static discharge is not expected.
EXTINGUISHING MEDIA:
All standard firefighting media
SPECIAL FIREFIGHTING PROCEDURES:
None known.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Wipe, scrape or soak up in an inert material and put in a container for disposal.
Wash walking surfaces with detergent and water to reduce slipping hazard.
Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Avoid contact with skin and eyes.
Use only in a well ventilated area.
Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation.
Product releases methanol during application and curing. (methanol TLV = 200 ppm).
Uncured product contact irritates eyes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Eyewash stations.

*** CONTINUED ON NEXT PAGE ***

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Use in a well ventilated area.
RESPIRATORY PROTECTION:
Use in a well ventilated area.
PROTECTIVE GLOVES:
Cloth gloves.
EYE AND FACE PROTECTION:
Safety glasses.
OTHER PROTECTIVE EQUIPMENT:
None known.
VENTILATION:
Use only in well ventilated area.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C) NA	(F)
VAPOR PRESSURE(20 C)(MM HG)	:	NEG		
VAPOR DENSITY (AIR=1)	:	NEG		
FREEZING POINT	:	NA	(C) NA	(F)
MELTING POINT	:	NA	(C) NA	(F)
PHYSICAL STATE	:	SOLID		
ODOR	:	SWEET		
COLOR	:	WHITE		
ODOR THRESHOLD (PPM)	:	UNK		
% VOLATILE BY VOLUME	:	<4		
EVAP. RATE(BUTYL ACETATE=1)	:	<1		
SPECIFIC GRAVITY (WATER=1)	:	1.085		
DENSITY (KG/M3)	:	1085		
ACID/ALKALINITY (MEQ/G)	:	UNK		
PH	:	NA		
VOC (EPA METH.24) (G/L)	:	<5		
SOLUBILITY IN WATER (20 C)	:	INSOLUBLE		

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT): TOLUENE

---

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
Methanol.
Formaldehyde.

*** CONTINUED ON NEXT PAGE ***

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INCOMPATIBILITY (MATERIALS TO AVOID):
None known.
CONDITIONS TO AVOID:
None known.

---

11. TOXICOLOGICAL INFORMATION

METHYLTRIMETHOXYSILANE
ACUTE ORAL LD50 (MG/KG): 12,500 (RAT)
ACUTE DERMAL LD50 (MG/KG): >10,000 (RBT)
ACUTE INHALATION LC50 (MG/L): UNKNOWN
OTHER:
None.

AMES TEST:

1,3,5-TRIS(TRIMETHOXYSILYLPROPYL)-
ACUTE ORAL LD50 (MG/KG): UNKNOWN
ACUTE DERMAL LD50 (MG/KG): UNKNOWN
ACUTE INHALATION LC50 (MG/L): UNKNOWN
OTHER:
None.

AMES TEST:

DIMETHYLPOLYSILOXANES
ACUTE ORAL LD50 (MG/KG): >40,000
ACUTE DERMAL LD50 (MG/KG): NONE FOUND
ACUTE INHALATION LC50 (MG/L): >535 MG/L (RAT)
OTHER:
Non-irritating to skin (rbt).
AMES TEST:

TRADE SECRET COMPONENT
ACUTE ORAL LD50 (MG/KG): 3160 (RAT) (EST)
ACUTE DERMAL LD50 (MG/KG): UNKNOWN
ACUTE INHALATION LC50 (MG/L): UNKNOWN
OTHER:
None.

AMES TEST:

DIMETHYL POLYSILOXANE SILANOL/ST
ACUTE ORAL LD50 (MG/KG): RAT >40,000
ACUTE DERMAL LD50 (MG/KG): UNKNOWN
ACUTE INHALATION LC50 (MG/L): RAT >535 MG/L (4HR)

*** CONTINUED ON NEXT PAGE ***

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OTHER:
Non-irritating to skin (rbt).
AMES TEST:

---

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time

---

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Disposal should be made in accordance with federal, state and local regulations.
Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations.

---

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NONE
DOT LABEL(S): NONE
UN/NA NUMBER: NONE
PLACARDS: NONE
IATA:
NA
IMO IMDG-code: NONE
EUROPEAN CLASS:
RID (OCTI): NONE
ADR (ECE) : NONE
RAP (IATA): NONE

---

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311,312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA
WHMIS HAZARD CLASS:

*** CONTINUED ON NEXT PAGE ***

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D2B TOXIC MATERIALS
WHMIS TRADE SECRET:
None
EXPORT:
SCHDLE B/HTSUS: 3910.00 Silicones in Primary Form
ECCN: 1C96G
HAZARD RATING SYSTEMS
HMIS FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2
NFPA FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 2
CALIFORNIA PROPOSITION 65:
NONE

---

16. *OTHER INFORMATION*

This product or its components are on the European inventory of existing commercial chemicals (EINECS).....
.....
These data are offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific content of the intended use.....
.....
This product or its components are on the Australian inventory (ACOIN).....
.....

C = ceiling limit	NEGL = negligible
EST= estimated	NF = none found
NA = not applicable	UNKN = unknown
NE = none established	REC = recommended
ND = none determined	V = recomm. By vendor
By-product = reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)	SKN = skin
	TS = trade secret
	R = recommended
	MST = mist
STEL = short term exposure limit	NT = not tested

.....

DATE PRINTED: 11/16/95

*** END OF MSDS ***

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CSL safetydata

Prepared October, 24, 1988 Reviewed January 12, 1994 **MSDS NO. 250**

I PRODUCT IDENTIFICATION

PRODUCT NAME	CSL 588 Electronic Grade Sealant/Adhesive
CHEMICAL NAME	Not Applicable
CHEMICAL FORMULA	Silicone Sealant
MOLECULAR WEIGHT	Polymer

II HAZARDOUS INGREDIENTS OF MATERIAL

MATERIAL	%	CAS Number	ACGIH TLV	LD50
Amorphous Silica	5-10	7631-86-9	5mg/m^3	>5000 mg/kg oral/rat
Oximino Silane	1-5	22984-54-9	Not Est.	2400-3700 mg/kg oral/rat
Amino Alkyl Silane	1-5	919-30-2	Not Est.	1780/kg oral/rat 4000 mg/kg Skin Rabbit

III PHYSICAL DATA

Boiling Point (°C)	Not Available
Freezing Point (°C)	Not Available
Vapor Pressure (mmHg)	Negligible @ 25°C.
Vapor Density (Air = 1)	Not Applicable
% Volatile by Volume	2 - 10
Specific Gravity (Water = 1)	1.03 - 1.04
Solubility in Water	Insoluble
Solubility in Other Solvents	Soluble in most organic solvents
Evaporation Rate (Butyl Acetate = 1)	Not Applicable
Appearance and Odor	Smooth, thixotropic paste, almost odorless
Odor Threshold	Not Applicable

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IV FIRE AND EXPLOSION DATA

Flash Point of Curing Byproduct and Method	85°C. P.M.C.C. ASTM D-93
Lower Explosive Limit %	Not Established
Upper Explosive Limit %	Not Established
Autoignition Temperature	No Data
Fire Extinguishing Agents	Dry Chemical, Waterspray, Chemical Foam, CO_2
Fire Fighting Procedures	Wear Self Contained Breathing Apparatus (SCBA) which provides eye protection and which is NIOSH approved. Sealant will burn if strongly heated. Water can be used to cool material below flash point.
Unusual Fire/Explosion Hazard	None
Hazardous Combustion Products	Carbon Dioxide, Carbon Monoxide, Silicon Dioxide, Nitrogen Oxides

V HEALTH HAZARD AND TOXICOLOGICAL DATA

A. EFFECTS OF CHRONIC EXPOSURE

Health Effects	Pulmonary Edema, Dermatitis
Toxicological Data	LD50 of mixture (calculated) Ingestion/Rat 3810-4670 mg/kg
Carcinogenicity Data	The ingredients of this product are not listed as carcinogens by the National Toxicology Program, and have not been evaluated by the International Agency for Research on Cancer or the American Conference of Governmental Industrial Hygienists.
Reproductive Data	No information available and no adverse reproductive effects are anticipated.
Mutagenicity Data	No information available and no adverse mutagenic effects are anticipated.
Teratogenicity Data	No information available and no adverse teratogenic effects are anticipated.
Synergistic Products	None known
Delayed Effects	Decomposition product Methyl Ethyl Ketoxime (MEKO). Preliminary results from a lifetime study of rats and mice indicate potential for long term health effects. Until the study is completed we do not know if these effects will be relevant to human health. Until such time, exposure to MEKO should be as low as reasonably achievable. Exposure levels experienced by users indicate exposures of 2 ppm or less.

B. EFFECTS OF ACUTE EXPOSURE

Inhalation	*Not normally an inhalation hazard. At high vapor concentration, curing by-product has a narcotic action with no irreversible effects.*
Eyes	Moderate irritation. Can cause burns.
Skin	Mild irritant; may cause transient reddening of skin.

Ingestion	Very low oral toxicity. May cause some nausea and an obstruction to gastro-intestinal tract.
Delayed	(Subchromic & Chronic) Effects: Decomposition product Methyl Ethyl Ketoxime (MEKO). In a chronic oral toxicity animal study, methyl ethyl ketoxime produced an adverse effect upon red blood cells. This was found for all dose levels tested. Gross histopathologic alterations were observed in the spleen, lung, and kidney. In an acute dermal animal study, 200 mg/kg caused mild hematologic (blood) effects. No effects were seen at 20 mg/kg.

FIRST AID PROCEDURES

..alation	No emergency care anticipated. Treat symptomatically. If symptoms persist, consult physician.
Eye Contact	Do not attempt to physically remove solids or gums from eye. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Obtain medical attention immediately.
Skin Contact	Remove contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. If symptoms persist, obtain medical attention. Contaminated clothing should be laundered before re-use.
Ingestion	Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have the victim drink 8 to 10 ozs. (240 to 300 ml) of water or milk to dilute material in the stomach. If vomiting occurs naturally, have the victim lean forward to reduce the risk of aspiration. Repeat the administration of water/milk. Obtain medical attention immediately.
First Aid	Provide general supportive measures (comfort, warmth, rest). Consult a physician and/or the nearest Poison Control Center for all exposures except minor instances of inhalation or skin contact. Solid or plastic material should be removed only by a physician.

VII REACTIVITY DATA

Product Stability	Stable
Hazardous Polymerization	Will not occur
Incompatible Materials	CONCENTRATED ACIDS OR BASES - cause degradation of polymer. Boiling water may soften and weaken material.
Hazardous Decomposition Products	Combustion will produce silicon dioxide, carbon monoxide and carbon dioxide.

VIII PREVENTATIVE MEASURES

A. PERSONAL PROTECTION EQUIPMENT

Respiratory Protection	Not required unless normal ventilation is inadequate.
Eye/Face Protection	Chemical splash goggles
Skin Protection	Gloves, coveralls, apron may be useful to prevent contamination of skin or clothing.
Resistance of Materials for Protective Clothing	No specific data. Most rubbers and plastics are adequate.
Ventilation Requirements	Local exhaust to provide sufficient removal of vapors.

B. STORAGE AND HANDLING

Storage Conditions	Store under cool dry conditions. Keep container tightly sealed when not in use.
Handling Procedure	No special measures required. Do not inhale vapor or ingest sealant. Cured CSL Product requires no special precautions.

C. ENVIRONMENTAL PROTECTION

Spill and Leak Procedure	Restrict access to the area of spill. Provide ventilation and protective clothing if necessary. Scrape-up sealant with cardboard/rag and place in container.
Waste Disposal	Review environmental regulations prior to disposal. Silicone wastes can often be incinerated in approved facilities. Solid wastes may be sent to a designated landfill site.

IX ADDITIONAL INFORMATION AND SOURCES USED

1. American Conference of Governmental Industrial Hygienists Inc., Documentation of the Threshold Limit Values (TLV's) and Biological Exposure Indices, 5th Edition, 1986, Cincinnati, OH.
2. National Institute for Occupational Health and Safety. Registry of Toxic Effects of Chemical Substances.
3. Sigma-Aldrich Corp., U.S.A., The Sigma-Aldrich Library of Chemical Safety Data, 1985.
4. Sittig, M., Handbook of Toxic and Hazardous Chemicals and Carcinogens, 2nd Edition, 1985, Park Ridge, NJ.
5. Canadian Centre for Occupational Health and Safety, CHEMINFO, Record #15E, 26E.
6. Material Safety Data Sheets from Cabot Corproation, Wacker-Chemie GMBH, General Filtration, Dow Corning, Union Carbide, Hoechst Canada.

X PREPARATION INFORMATION

Date Issued	October 24, 1988
Prepared By	Baz Mistry
Emergency Contact	Baz Mistry, Manager, Research and Development

XI REGULATORY CLASSIFICATION

WHMIS Classification:	1. CLASS B-Flammable and Combustible Liquid Division 3-Combustible Liquid 2. CLASS D-Poisonous and Infectious Material Division 2-Other Toxic Effects Subdivision b-Toxic
TDG Information:	Not regulated in Canada

JUN 09 199-

MOR 001214

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CSL SILICONES INC.
144 Woodlawn Road West, Guelph, Ontario Canada N1H 1B5
Telephone: (519) 836-9044 FAX: (519) 836-9069

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) 3140 RTV COATING

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone:	(517) 496-5900
Customer Service:	(517) 496-6000
Product Disposal Information:	(517) 496-6315
Transportation Information:	(517) 496-8577
CHEMTREC:	(800) 424-9300

MSDS No: 01015788 Current Version: 10/20/95

Generic Description: Silicone elastomer
Physical Form: Liquid
Color: Translucent white
Odor: Slight odor
NFPA Profile: Health 1 Flammability 1 Reactivity 0

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
001185553	6	Methyltrimethoxysilane	Dow Corning guide: TWA 50 ppm. Also see methyl alcohol comments.
068909206	16	Trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).

Comments: Methyl alcohol forms on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 200 ppm and ACGIH TLV-skin: TWA 200 ppm, STEL 250 ppm. The effects of overexposure listed in Section 3 include health effects related to conversion of methoxysilanes to methyl alcohol upon exposure to moist or humid air.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact irritates slightly with redness and swelling.

Skin: A single relatively short exposure causes no known adverse effect. Several repeated or prolonged exposures (24 to 48 hours) may irritate.

Inhalation: Vapor may irritate nose and throat. Product generates methyl alcohol which may cause blindness and damage to nervous system. Vapor overexposure may cause drowsiness.

Oral: Product generates methyl alcohol which may cause blindness and possibly death if swallowed.

Repeated Exposure Effects

Skin: None Known.

Inhalation: Product generates methyl alcohol which may cause blindness and damage to nervous system.

Oral: Product generates methyl alcohol which may cause blindness and possibly death if swallowed.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer; and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water for 15 minutes.

Skin: No first aid should be needed.

Inhalation: Remove to fresh air. Get medical attention if ill effects persist.

Oral: Get medical attention. If conscious, induce vomiting. Lie down, keep warm, and cover eyes to exclude light.

Comments: Treat same as methyl alcohol poisoning.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	> 213.98 DEGREE F / 101.10 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extinguishing Media:	Carbon dioxide (CO2). Water spray. Dry chemical. Foam. Water can be used to cool fire exposed containers.
Unsuitable Extinguishing Media:	None
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None

MOR 001216

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Metal oxides. Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop up, or wipe up, or soak up with absorbent and contain for salvage or

disposal. For large spills, provide diking or other appropriate containment to keep material from spreading. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: Keep container closed and store away from water or moisture.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust:	Recommended
General Ventilation:	Recommended

Personal Protective Equipment For Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Because of the nature of the fluorescent agent in this material, small amounts on the skin will fluoresce under UV light. This does not present a hazard. Washing at mealtime and end of shift is recommended. Continued washing with soap and water will eventually remove the fluorescing agent from the skin.
Suitable Gloves:	No special protection needed.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or air sampling data show exposures are within recommended exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Self-contained breathing apparatus (SCBA) or other supplied-air respirator.

Personal Protective Equipment For Spills

Eye:	Use full face respirator.
Skin:	Because of the nature of the fluorescent agent in this material, small amounts on the skin will fluoresce under UV light. This does not present a hazard. Washing at mealtime and end of shift is recommended. Continued washing with soap and water will eventually remove the fluorescing agent from the skin.
Inhalation/ Suitable Respirator:	Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.

Precautionary Measures: Avoid eye contact. Avoid breathing vapor. Keep container closed. Do not take internally.

Comments: Product evolves methyl alcohol when exposed to water or humid air. Provide ventilation during use to control exposure within Section 2 guidelines or use air-supplied or self-contained breathing apparatus.

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Liquid
Color:	Translucent white
Odor:	Slight odor
Specific Gravity @ 25C:	1.05
Viscosity:	300.00 P
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Available.
Vapor Pressure @ 25C:	Not Determined.
Vapor Density:	Not Determined.
Solubility in Water:	Not Determined.
pH:	Not Applicable.
Volatile content:	Not Determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: Water, moisture, or humid air can cause hazardous vapors to form as described in Section 2.

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL INFORMATION

RCRA Hazard Class (40CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? N

Federal Hazardous Waste Code: NA

Characteristic Waste: Ignitable: NA Corrosive: NA Reactive: NA

TCLP: NA

State or local laws may impose additional regulatory requirements regarding disposal.

NA = Not Applicable

Call Dow Corning Corporate Environmental Management, (517)496-6315, if additional information is required.

SECTION 14. TRANSPORT INFORMATION

DOW CORNING(R) 3140 RTV COATING

DOT Information (49CFR 172.101)

Proper Shipping Name: Not Applicable

Hazard Technical Name: Not Applicable

Hazard Class: Not Applicable

UN/NA Number: Not Applicable

Packing Group: Not Applicable

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:
None

Section 312 Hazard Class:

Acute:	Y
Chronic:	Y
Fire:	N
Pressure:	N
Reactive:	N

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

DOW CORNING(R) 3140 RTV COATING

New Jersey

070131678	76	Dimethyl siloxane, hydroxy-terminated
068909206	16	Trimethylated silica
001185553	6	Methyltrimethoxysilane

Pennsylvania

070131678	76	Dimethyl siloxane, hydroxy-terminated
068909206	16	Trimethylated silica
001185553	6	Methyltrimethoxysilane

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark

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DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

SILASTIC(R) E RTV SILICONE RUBBER BASE

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation South Saginaw Road Midland, Michigan 48686	24 Hour Emergency Telephone: Customer Service: Product Disposal Information: Transportation Information: CHEMTREC:	(517) 496-5900 (517) 496-6000 (517) 496-6315 (517) 496-8577 (800) 424-9300

MSDS No: 1231197 Current Version: 08/29/96

Generic Description: Liquid silicone rubber.
Physical Form: Viscous Liquid
Color: White
Odor: Not reported
NFPA Profile: Health 1 Flammability 1 Reactivity 0

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
068909206	26	Trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).
068988896	7	Dimethylvinylated and trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).
None	3	Silylated titanium dioxide	Observe titanium dioxide limits: OSHA PEL (final rule) and ACGIH TLV: TWA 10 m g/m3 total dust.

Comments: The above components are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct eye contact may cause temporary discomfort with mild redness and dryness similar to windburn.

Skin: A single prolonged exposure (24 to 48 hours) causes no known adverse effect.

Inhalation: No irritation to eyes and respiratory passages. No injury is likely from relatively short exposures of less than 8 hours.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: None Known.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer; and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water.

Skin: No first aid should be needed.

Inhalation: No first aid should be needed.

Oral:	No first aid should be needed.
Comments:	Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	212.00 DEGREE F / 100.00 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extinguishing Media:	Water spray. Carbon dioxide (CO2). Dry chemical. Foam. Water can be used to cool fire exposed containers.
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire Hazards:	None

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop up, or wipe up, or soak up with absorbent and contain for salvage or disposal. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. For large spills, provide diking or other appropriate containment to keep material from spreading. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: No special precautions. Use reasonable care.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust: None should be needed
General Ventilation: Recommended

Personal Protective Equipment For Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: No special protection needed.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment For Spills

Eye: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/
Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Viscous Liquid
Color:	White
Odor:	Not reported
Specific Gravity @ 25C:	1.14
Viscosity:	800.00 P
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Available.
Vapor Pressure @ 25C:	Not Determined.
Vapor Density:	Not Determined.
Solubility in Water:	Not Determined.
pH:	Not Applicable.
Volatile content:	< 5.00 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: None

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL INFORMATION

RCRA Hazard Class (40CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? N

Federal Hazardous Waste Code: NA

Characteristic Waste: Ignitable: NA Corrosive: NA Reactive: NA

TCLP: NA

State or local laws may impose additional regulatory requirements regarding disposal.

NA = Not Applicable

Call Dow Corning Corporate Environmental Management, (517)496-6315, if additional information is required.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name:	Not Applicable
Hazard Technical Name:	Not Applicable
Hazard Class:	Not Applicable
UN/NA Number:	0000
Packing Group:	NA

0000 and NA = Not Applicable

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:

001330207	.2	Xylene	100.00 LB RQ

Section 312 Hazard Class:

Acute:	N
Chronic:	N
Fire:	N
Pressure:	N
Reactive:	N

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

068083192	63	Dimethyl siloxane, dimethylvinyl-terminated

068909206	26	Trimethylated silica
068988896	7	Dimethylvinylated and trimethylated silica
None	3	Silylated titanium dioxide

Pennsylvania

068083192	63	Dimethyl siloxane, dimethylvinyl-terminated
068909206	26	Trimethylated silica
068988896	7	Dimethylvinylated and trimethylated silica
None	3	Silylated titanium dioxide

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark

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DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

SILASTIC(R) E RTV SILICONE RUBBER CURING AGENT

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation	24 Hour Emergency Telephone:	(517) 496-5900
South Saginaw Road	Customer Service:	(517) 496-6000
Midland, Michigan 48686	Product Disposal Information:	(517) 496-6315
	Transportation Information:	(517) 496-8577
	CHEMTREC:	(800) 424-9300

MSDS No: 1004867 Current Version: 03/01/96

Generic Description: Silicone compound
Physical Form: Liquid
Color: White
Odor: Not reported
NFPA Profile: Health 1 Flammability 1 Reactivity 1

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
068037592	34	Dimethyl, methylhydrogen siloxane	None established.
068988896	20	Dimethylvinylated and trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).

Comments: The above components are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. *EFFECTS OF OVEREXPOSURE*

Acute Effects

Eye: Direct eye contact may cause temporary discomfort with mild redness and dryness similar to windburn.

Skin: A single prolonged exposure (24 to 48 hours) causes no known adverse effect.

Inhalation: No irritation to eyes and respiratory passages. No injury is likely from relatively short exposures of less than 8 hours.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: None Known.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer; and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water.

Skin: No first aid should be needed.

Inhalation: No first aid should be needed.

Oral: No first aid should be needed.

Comments: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	> 213.98 DEGREE F / 101.10 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extinguishing Media:	Water spray. Carbon dioxide (CO2). Dry chemical. Foam. Water can be used to cool fire exposed containers.
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Formaldehyde. Hydrogen. Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Determine whether to evacuate or isolate the area depending on such specific factors as site location, population density, traffic flow, size of the release or spill, weather conditions, the material's hazards and risks to people, and whether a fire is underway or possible. Mop up, wipe up, or soak up with absorbent and place in a vented container for salvage or disposal. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. For large spills, provide diking or other appropriate containment to keep material from spreading. Observe all personal protection equipment recom-

mendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: Product evolves minute quantities of flammable hydrogen gas. Do not repackage or store in unvented containers. Adequately ventilate the work area to maintain vapors well below established flammability limits and exposure guidelines. Keep container closed and store away from water or moisture.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust: None should be needed
General Ventilation: Recommended

Personal Protective Equipment For Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: No special protection needed.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment For Spills

Eye: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/
Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Liquid
Color:	White
Odor:	Not reported
Specific Gravity @ 25C:	0.99
Viscosity:	3200.00 CST
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Available.
Vapor Pressure @ 25C:	< 5.00 MM HG
Vapor Density:	Not Determined.
Solubility in Water:	Not Determined.
pH:	Not Applicable.
Volatile content:	2.00 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: Water, alcohols, acidic or basic materials, and many metals or metallic compounds, when in contact with product, liberate flammable hydrogen gas, which can form explosive mixtures in air.

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL INFORMATION

RCRA Hazard Class (40CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Y

Federal Hazardous Waste Code: NA

Characteristic Waste: Ignitable: NA Corrosive: NA Reactive: D003

TCLP: NA

State or local laws may impose additional regulatory requirements regarding disposal.

NA = Not Applicable

Call Dow Corning Corporate Environmental Management, (517)496-6315, if additional information is required.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name: Not Applicable

Hazard Technical Name: Not Applicable

Hazard Class: Not Applicable

UN/NA Number: Not Applicable

Packing Group: Not Applicable

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:

001330207	.4	Xylene	100.00 LB RQ

Section 312 Hazard Class:

Acute:	N
Chronic:	N
Fire:	N
Pressure:	N
Reactive:	Y

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

068083192	43	*Dimethyl siloxane, dimethylvinyl-terminated*

068037592	34	Dimethyl, methylhydrogen siloxane
068988896	20	Dimethylvinylated and trimethylated silica
002554065	2	Tetramethyl tetravinyl cyclotetrasiloxane

Pennsylvania

068988896	20	Dimethylvinylated and trimethylated silica
068083192	43	Dimethyl siloxane, dimethylvinyl-terminated
068037592	34	Dimethyl, methylhydrogen siloxane

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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6306 Pineview Road • Dallas, Texas 75248 • (214) 701-8943 • Fax: (214) 701-8608

SILICONES UNLIMITED

MATERIAL SAFETY DATA SHEET

DATE ISSUED: April, 1998

SILICONES UNLIMITED, INC.
6306 PINEVIEW ROAD
DALLAS, TX 75248
(972) 701-8943
(770) 643-1880

I PRODUCT IDENTIFICATION

Product Identification: **SU 100 SILICONE SEALANT/ADHESIVE REMOVER**

II HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS (SPECIFIC CHEMICAL I.D., COMMON NAMES)

THIS PRODUCT IS HYDROCARBON BASED. DOES NOT CONTAIN CHLORINATED SOLVENTS, MEK, ACETONE, ALCOHOLS, XYLENE, TOLUENE OR SIMILAR DANGEROUS SOLVENTS. IT IS NOT A CARCINOGEN OR POTENTIAL CARCINOGEN.

HMIS RATINGS:	HEALTH:	1	FLAMMABILITY:	2
	REACTIVITY:	0	PROTECTION:	G

III PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT:	380F	SPECIFIC GRAVITY:	0.82
VAPOR PRESSURE:	1 @ 68F	MELTING POINT:	N/A
WEIGHT/GALLON:	6.8 LBS.	EVAPORATION RATE:	LESS THAN 1.0

SOLUBILITY IN WATER: COMPLETE
APPEARANCE: LIGHT TO DARK BROWN
ODOR: TYPICAL HYDROCARBON

IV FIRE AND EXPLOSION HAZARD

FLASH POINT (TCC): 158F
FLAMMABLE LIMITS: LEL: 1.4, UEL: 9.3

EXTINGUISHING MEDIA: WATER, FOAM, MIST, CO2, WHATEVER SURROUNDING MATERIALS ARE INVOLVED.

SPECIAL FIRE FIGHTING PROCEDURES: SELF CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE AND PROTECTIVE CLOTHING RECOMMENDED.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS: NONE KNOWN

V REACTIVITY DATA

STABILITY: STABLE CONDITIONS TO AVOID: DISCARD SOAKED ITEMS

INCOMPATIBILITY: STRONG OXIDIZING AND REDUCING AGENTS

HAZARDOUS DECOMPOSITION: NO UNUSUAL REACTIVITY

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

VI HEALTH HAZARD DATA

ROUTES OF ENTRY:
INHALATION: YES SKIN: YES INGESTION: YES
HEALTH HAZARDS (ACUTE AND CHRONIC): ASPIRATION MAY CAUSE PULMONARY EDEMA
CARCINOGENICITY NTP? NO IARC MONOGRAPHS? NO
OSHA REGULATED? NO
SIGNS AND SYMPTOMS OF EXPOSURE: MAY CAUSE EYE AND SKIN IRRITATION
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE KNOWN
EMERGENCY FIRST AID PROCEDURES: IF INGESTED, DRINK LARGE AMOUNTS OF WATER, DO NOT INDUCE VOMITING, CALL PHYSICIAN IMMEDIATELY

VII PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

ELIMINATE SOURCES OF IGNITION

ABSORB WITH SAND, EARTH OR INERT INGREDIENTS AND DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

WASTE DISPOSAL METHOD: DISPOSE OF AT A GOVERNMENTAL APPROVED LANDFILL, INCINERATOR OR RECOVERY FACILITY. OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

PRECAUTIONS IN HANDLING AND STORAGE: AVOID CONTACT WITH SKIN AND EYES, STORE IN COOL, DRY PLACE, REMOVE AND DISPOSE OF ANY CONTAMINATED CLOTHING

OTHER PRECAUTIONS: AVOID FREQUENT AND/OR PROLONGED SKIN CONTACT OR INHALATION EXTREMES.

VIII CONTROL MEASURES

RESPIRATORY PROTECTION: NIOSH APPROVED, HAVE RESPIRATORS PRESENT

VENTILATION:

LOCAL EXHAUST:	X, MEETING TLD REQUIREMENTS	SPECIAL:	NO
MECHANICAL	X,	OTHER:	NO

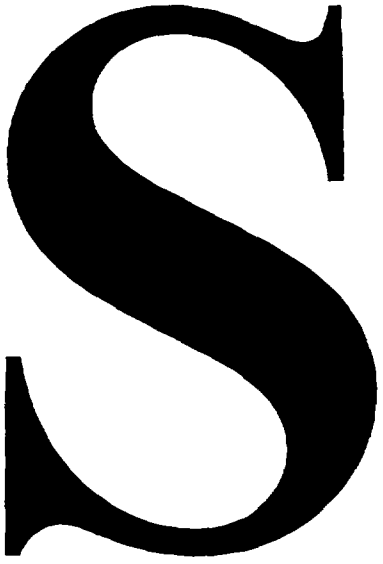
PROTECTIVE GLOVES: YES, NEOPRENE OR LATEX

EYE PROTECTION: WEAR GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: YES, STANDARD

WORK/HYGIENIC PRACTICES: SHOWER BATH AND EYE WASH SHOULD BE AVAILABLE

THE
MOREY
CORPORATION



100 Morey Drive Woodridge Illinois 60517 Tel: 630.754.2200 Fax: 630.754.2001 www.morey.com

CHOMERICS INC
77 Dragon Court
Woburn, MA 01888

EMERGENCY/SAFETY INFORMATION: (617) 935-4850
OR: (617) 938-8630
ADDITIONAL MSDS: (617) 828-3300

THC #'s
1170121
1007299
1133659
1007165

Rec by Morey Corp
2/8/96

SECTION I - IDENTIFICATION

PRODUCT (TRADE) NAME: Cho-Therm 1674

General Chemical Description: Solvent-based silicone

SECTION II - INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Aluminum Oxide	60-80%	10 mg/m3	10 mg/m3
Silicone Resin	15-30%	NE	NE
Toluene	10-20%	100 ppm	50 ppm
Isopropanol	2-5%	50 ppm	50 ppm

SECTION III - PHYSICAL DATA

Boiling Point (Degree F):)200
Vapor Pressure (mm Hg @25 C): (4
Percent volatiles by weight: (20
Specific Gravity (water =1):) 1.75
Solubility in Water : Insoluble
Vapor Density : Heavier than air
Appearance and Odor : Gray liquid; solvent odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree F):
40-50, based on toluene

Flammable limits:
Lel: 1.3% UEL: 7.1% for Toluene

Extinguishing Media:
Use carbon dioxide, dry chemical, foam.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions. Vapors may form flammable mixtures with air. Vapors from this product are heavier than air, and may travel a considerable distance to a source of ignition and flash back.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION V - REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases.

Hazardous Decompositions Products;
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on th conditions of combustion.

Conditions to avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION VI - RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate all explosion-proof exhuast ventilation in the immediate spill area. Extinguish open flames and eliminate all other sources of ignition. Wipe up, or absorb with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate chemical waste containers. Dispose of as an ignitable waste in accordance with all current Federal, State, and local regulations.

Large Spills:
Evacuate all personnel not directly involved with control/cleanup operations from the immediate spill area. Extinguish open flames and all other sources of ignition. Activate explosion-proof exhaust ventilation in the immediate spill area. Shut off the source of the release if this can be done without risk of injury. Use only spill response equipment approved for use in potential flammable/explosive environments. Dike area to contain the spill and prevent releases to sewers or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering sewers or other waterways. Collect abosrbed material and water rinses in appropriate waste containers. Dispose of as an ignitable waste in accordance with Federal, State, and local regulations.

SECTION VII - HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause severe eye irritation. Prevent eye contact through the use of splash-proof chemical goggles or face shield. This product can cause skin irritation. Components of this product may be absorbed through the skin. Wear appropriate protective gloves to minimize skin contact. If necessary a prompter chemical-resistant apron and additional impervious clothing should be used to minimize skin contact and prevent contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective explosion-proof mechanical exhaust ventilation to draw vapors, mists, or fumes generated during processing away from the worker and prevent routine inhalation. Ventilation must be sufficient to maintain airborne concentrations of Section 2 ingredients below their PEL/TLV values. The type of respiratory protection selected will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Do not store near heat, sparks or open flame. To prevent fire or explosion risk from static electricity accumulation and discharge, effectively ground storage and transfer containers in accordance with NFPA standards. Empty containers may contain flammable liquid or vapor residue. Do not cut, weld, solder, drill, grind or expose container to heat, flame or other source of ignition. They may explode and

cause injury or death.

SECTION VIII - HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respriatory disorders.

Eye Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. Toluene may be absorbed through the skin.

Inhalation:
High vapor concentrations may cause respiratory irritation, headaches, nausea, dizziness; may cause anesthetic efforts or other temporary central nervous system effects. Severity of effects will be dependent upon vapor concentration and severity of exposure.

Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Overexposure to toluene has produced severe but reversible liver and kidney injury in humans. Repeated and prolonged overexposure has been associated with central nervous system injury and cardiac sensitization.

SECTION IX- FIRST AID PROCEDURES:

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Do NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION X ADDITIONAL INFORMATION

TSCA STATUS:
All components of this product are listed in the EPA toxic Substance Control Act Inventory.

SARA STATUS:
The components listed in Section 2 which are substances regulated by the SARA Section 313 amendments to RCRA are as follows:
Toluene (108-88-3)

Special Notes:
Date prepared: 5/12/93
Document number : 1674

Abbreviations: NA= Not Applicable NE = Not Established ND= Not Determined
ppm= Parts per Million mg/m3= Milligrams Per Cubic Meter
C= Ceiling Concentration STEL= Short Term Exposure Limit

Provided By Electrical Insulation Suppliers Inc.

Provided By Electrical Insulation Suppliers Inc.

TMC-1014770

Rec. 5/10/01

BOW ELECTRONIC SOLDERS
1 CROSSMAN ROAD, SAYREVILLE, NJ 08872 TEL: 732-316-2100 FAX:732-316-1185

TRI-PURE HG

For Electronic Grade High Reliability Soldering

TRI-PURE HG is manufactured from virgin metals, with a new manufacturing process for Bar Solder that REDUCES DROSS by 12% to 18%. This will be a direct COST REDUCTION for our customers as this process will not add to the cost of our products. Manufacturing will also have the added benefit of LESS DROSS, MORE FLUID SOLDER BATH, STRONGER SOLDER JOINTS AND BRIGHTER CONNECTIONS. BOW ELECTRONIC SOLDERS feels this new process combined with their use of virgin metals will meet the demands of today's sophisticated electronic manufacturing processes.

Tin		62.75-63.5
Antimony	<	0.02
Copper	<	0.001
Silver	<	0.001
Bismuth	<	0.01
Iron		0.0003
Arsenic		0.0009
Zinc		0.0003
Aluminum		0.0003
Cadmium	<	0.001
Sulfur		0.0003
Phosphorus		0.0005
Nickel		0.0003
Lead		Balance
Gold	<	0.001
Indium		0.003

TRI-PURE HG is designed to meet today's sophisticated electronic manufacturing processes and provide a reliable and strong solder joint. TRI-PURE HG is available in 1 lb. and 1 kg bars.

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29CFR 1910.1200

Rev. 5/1/00

TIN/LEAD **TRI-PURE HG** Tin/Lead 1%Sn/99%Pb to 99%Sn/1%Pb

BOW ELECTRONIC SOLDERS
1 CROSSMAN ROAD
SAYREVILLE, NJ 08872

Phone No. 732-316-2100
Infotrac Emergency No. 1-800-535-5053

1. PRODUCT INGREDIENTS

Chemical Name	CAS No.	Weight %	Permissible Air Concen.(mg/cu.m) OSHA	ACGIH	SARA Title III Sect.313Chem
TIN	7440-31-5	0-100	2.0	2.0	NO
LEAD	7439-92-1	0-100	0.05	0.15	YES

No other hazardous material is present in concentration greater than 1%(0.1% for carcinogens)

2. PHYSICAL DATA

Material is	Appearance and Odor
SOLID	SILVER-WHITE METAL

Melting Point	Boiling Point	Specific Gravity	Vapor Density
METAL-179-312°C	>1300°C	7.3-11.3	N/A

Solubility in Water	Vapor Pressure	Evaporation Rate	PH
INSOLUBLE	N/A	N/A	N/A

3. FIRE AND EXPLOSION DATA

Flash Point	Flammable Limits	Auto Ignition Temp.
METAL N/A CORE-300°F	N/A	N/A

Unusual Fire and Explosion Hazards
MOLTEN METALS PRODUCE FUME OR VAPOR THAT MAY BE TOXIC AND/OR RESPIRATORY IRRITANTS. REACTS VIOLENTLY WITH OXYDIZING AGENTS.

Fire Extinguishing Agents Recommended
USE CO2 OR DRY CHEMICAL ON SURROUNDING FIRE.

Fire Extinguishing Agents to Avoid
DO NOT USE WATER ON FIRE WHERE MOLTEN METAL IS PRESENT.

RCRA Status of Unused Material
IF DISCARDED IN UNALTERED FORM, MATERIAL SHOULD BE TESTED TO DETERMINE IF IT MUST BE CLASSIFIED AS A HAZARDOUS WASTE FOR DISPOSAL PURPOSES. UNDER SPECIFIC CIRCUMSTANCES, APPLICATION CAN BE MADE TO THE EPA ADMINISTRATOR TO HAVE A PARTICULAR WASTE DESIGNATED NON-HAZARDOUS.

9. ADDITIONAL INFORMATION

Precautions to be taken in handling and storing: NONE

Other Precautions: NONE

10. TRANSPORTATION REQUIREMENTS

D.O.T. HAZARD CLASS	N/A
D.O.T. PROPER SHIPPING NAME	*
D.O.T. LABELS REQUIRED	N/A
D.O.T. PLACARD REQUIRED	N/A
UN/NA CODE	N/A

***THIS PRODUCT IS NOT REGULATED BY THE D.O.T. AS SHIPPED. THIS MATERIAL IS ONLY REGULATED BY THE D.O.T. IF IN A POWDER FORM WITH A PARTICLE SIZE LESS THAN 100 MICROMETERS. (0.0040 INCHES)**

11. CERCLA INFORMATION

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE RELEASE REQUIREMENTS OF SECTION 302:

CHEMICAL NAME:	LEAD	
REPORTABLE QUANTITY(LBS)	1.0	CERLA STATUTORY RQ

SPILLS TO THE ENVIRONMENT EXCEEDING THE REPORTABLE QUANTITY IN ANY 24 HOUR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800-424-8802). NO REPORTING OF RELEASES OF THE HAZARDOUS SUBSTANCE IS REQUIRED IF THE DIAMETER OF THE PIECES OF THE SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 100 MICROMETERS (0.400 INCHES).

This Material Safety Data Sheet is offered for your information, consideration and investigation. Stew Electronic Solders provides no warranties, either express or implied and assumes no responsibilities for the accuracy or completeness of the data contained in this document. The data in this Material Safety Data Sheet relates to this product and does not relate to use in combination with any other material or in any process.

Personal Hygiene
AVOID INHALATION OR INGESTION. PRACTICE GOOD HOUSEKEEPING AND PERSONAL HYGIENE PROCEDURES. A SHOWER IS RECOMMENDED IF SIGNIFICANT DUST EXPOSURE OCCURS.

Engineering Controls
LOCAL EXHAUST VENTILATION IS RECOMMENDED FOR DUST AND/OR FUME GENERATION OPERATIONS WHERE AIRBORN EXPOSURES MAY EXCEED PERMISSIBLE AIR CONCENTRATIONS.

Storage
GENERAL STORAGE PROCEDURES ACCEPTABLE.

Special Precautions, Procedures, Label Instruction
SPECIAL ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE OSHA LEAD STANDARD (1910.1025) AND RESPIRATOR STANDARD (1910.134) SHOULD AIRBORN EXPOSURES EXCEED THE OSHA ACTION LEVEL OR PEL.

6. PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection
WHERE AIRBORN EXPOSURES MAY EXCEED OSHA/ACGIH PERMISSIBLE AIR CONCENTRATIONS, THE MINIMUM RESPIRATORY PROTECTION RECOMMENDED IS A NEGATIVE PRESSURE AIR PURIFYING RESPIRATOR WITH CARTRIDGES THAT ARE NIOSH/MSHA APPROVED AGAINST DUST, FUMES AND MISTS HAVING A TWA NOT LESS THAN 0/05 MG/CU M.

Eyes and Face
SAFETY GLASSES RECOMMENDED WHERE THE POSSIBILITY OF GETTING DUST PARTICLES IN EYES EXISTS OR WHEN HANDLING MOLTEN METAL.

Other Clothing and Equipment
GLOVES AND OTHER PROTECTIVE CLOTHING RECOMMENDED IF SKIN CONTACT IS APPRECIABLE.

7. REACTIVITY DATA

Stability: STABLE **Conditions to Avoid: NOT APPLICABLE**

Incompatibility: STRONG OXIDIZERS MAY CAUSE VIOLENT REACTION

Hazardous Decomposition Products: AT TEMPERATURES ABOVE THE MELTING POINT, TOXIC FUMES OR VAPORS MAY BE EMITTED.

8. ENVIRONMENTAL

Regulated by DOT? NO

Waste Disposal Method(DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS)
IF HAZARDOUS UNDER 40 CFR 261, SUBPARTS B AND C, MATERIAL MUST BE TREATED OR DISPOSED IN A FACILITY MEETING THE REQUIREMENTS OF 40 CFR 254 OR 265. IF NON-HAZARDOUS, MATERIAL SHOULD BE DISPOSED IN A FACILITY MEETING THE REQUIREMENTS OF 40 CFR 257.

Special Fire Fighting Precautions
USE NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL BODY PROTECTIVE CLOTHING.

4. HEALTH HAZARD INFORMATION

Primary Routes of Entry
INGESTION X INHALATION ABSORPTION

Carcinogencity
THIS PRODUCT HAS NOT BEEN LISTED AS A SUSPECT CARCINOGEN BY NTP, IARC OR OSHA.

Acute Overexposure(symptoms and effects)
SEVERE SHORT-TERM OVEREXPOSURE MAY LEAD TO CENTRAL NERVOUS SYSTEM DISORDERS, CHARACTERIZED BY DROWSINESS, SEIZURES, COMA AND DEATH. IT SHOULD BE RECOGNIZED THAT EXPOSURES OF THIS MAGNITUDE IN AN INDUSTRIAL ENVIRONMENT ARE EXTREMELY UNLIKELY.

Chronic Overexposure(symptoms and effects)
PROLONGED OVEREXPOSURE TO LEAD CAN RESULT IN SYSTEMIC POISONING WITH SYMPTOMS OF METALLIC TASTE, ANEMIA, INSOMNIA, WEAKNESS, CONSTIPATION, ABDOMINAL PAIN, GASTROINTESTINAL DISORDERS, JOINT AND MUSCLE PAIN AND MUSCULAR WEAKNESS AND MAY CAUSE DAMAGE TO THE BLOOD-FORMING, NERVOUS, KIDNEYS AND REPRODUCTIVE SYSTEMS. DAMAGE MAY INCLUDE REDUCED FERTILITY IN BOTH MEN AND WOMEN, DAMAGE TO THE FETUS OF EXPOSED PREGNANT WOMEN, ANEMIA, MUSCULAR WEAKNESS AND KIDNEY DYSFUNCTION.

Medical Conditions Possibly Aggravated by Exposure
DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS, KIDNEYS, NERVOUS AND POSSIBLY REPRODUCTIVE SYSTEMS.

First Aid Procedures
INHALATION: REMOVE FROM EXPOSURE AND CALL A PHYSICIAN.
SKIN CONTACT:WASH AFFECTED AREAS WITH SOAP AND WATER. IF BURNS SHOULD OCCUR FROM MOLTEN METAL, TREAT FOR BURN AND GET IMMEDIATE MEDICAL ASSISTANCE.
EYE CONTACT: FLUSH EYES WITH WATER FOR 15 MINUTES, CALL A PHYSICIAN.
INGESTION: INGEST LARGE QUANTITIES OF WATER, CALL A PHYSICIAN.

5. PRECAUTIONS/PROCEDURES

OVERHEATING OF ALLOY CAN PRODUCE METAL FUMES AND OXIDES. MACHINING OPERATIONS SUCH AS GRINDING, SAWING OR BUFFING CAN GENERATE AIRBORN PARTICULATES IN THE WORK AREA. EXPOSURE LEVELS INDICATED IN SECTION 1 ARE RELAVENT TO THESE AND OTHER OPERATIONS.

Normal Handling
USE OF APPROVED RESPIRATORS IS REQUIRED FOR APPLICATIONS WHERE ADEQUATE VENTILATION CANNOT BE PROVIDED. ACTIVITIES WHICH GENERATE DUST OR FUME SHOULD BE AVOIDED. WHEN MELTED, THE TEMPERATURE SHOULD BE KEPT AS LOW AS POSSIBLE.

Spill or Leak
ANY METHOD THAT KEEPS DUST TO A MINIMUM IS ACCEPTABLE. VACUUMING IS PREFERRED. USE OF APPROVED RESPIRATORY PROTECTION WHERE POSSIBILITY OF DUST/FUME EXPOSURE EXISTS. DO NOT USE COMPRESSED AIR FOR CLEANING.

Material Safety Data Sheet

MSDS Date : 11/2/98

MSDS No: 3195

Multicore Solders, Inc.
1751 Jay Ell Drive
Richardson, TX 75081
Preparer: Robert Gilbert
Information: 972-238-1224

IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS CALL:800-424-9300

Identity: Date Printed : 7/19/99

SN62 CR32 AGS89.5	SN62 CR32 DAS89.5

[redacted]
222646
JBC
9.25.01

Transportation Requirements:

D.O.T. Hazard Class: N/A
D.O.T. Proper Shipping Name: N/A
UN/NA Code: N/A
D.O.T. Label Required: N/A
Packing Group: N/A

N.F.P.A. /Health: 2
Reactivity: 0
Fire: 0

Section I (Hazardous Ingredients / Identity Information)

Hazardous Components	CAS. Number	OSHA Pel	ACGIH TLV	SARA 313 Percent
Lead	7439-92-1	0.05 mg/m ^{3}	0.05 mg/m ^{3}	30-40
Tin	7440-31-5	2 mg/m^3	2 mg/m ^{3}	50-60
Silver	7440-22-4	0.01 mg/m^3	0.1 mg/m ^{3}	1-2
Rosin core solder decomposition products as resin acids colophony	8050-09-7	Sensitizer. Reduce exposure as low as possible.		3-5

Section II (Physical / Chemical Characteristics)

Boiling Point: N/A

Specific Gravity: (Water = 1) @ 25° C: 4.5

Vapor Density (Air=1): N/A

Vapor Pressure (mm Hg.): N/A

Evaporation Rate (Butyl Acetate=1): N/A

Percent Volatile By Volume: N/A

Melting Point: 179 °C

Solubility in Water:Insoluble.

Appearance and Odor: Gray metallic paste with a sweet odor.

Section III (Fire and Explosion Hazard Data)

Flash Point (Method Used) N/A

Flammable Limits: LEL: N/A UEL: N/A

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures: Use full body protective clothing and full face piece, self-contained breathing appartatus operated in a positive-pressure mode.

Unusual Fire and Explosion Hazards: Do not use water on fires where molten metal is present. High temperatures may produce heavy metal fumes, dust and or vapor.

Section IV (Reactivity Data)

Stability: Unstable? No Stable? Yes

Incompatibility (Materials to Avoid): Strong Oxidizers

Hazardous Decomposition or By-products:

High temperatures may produce heavy metal fumes, dust and or vapors.

Hazardous Polymerization:

May Occur?No Will Not Occur?Yes

Conditions to Avoid: None Known

NL - Not Listed N/A - Not Applicable

msds_r4

Section V (Health Hazard Data)

Routes of Entry:
Inhalation? Yes Skin? No Ingestion? Yes Other: None

Health Hazards (Acute and Chronic)

Acute: Weakness, vomiting, loss of appetite, convulsions, stupor and possibly coma.

Chronic: Weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chroni c overexposure to lead may result in damage to blood-forming, nervous, urinary and reproductive system.

California Proposition 65 Warning! This product contains a chemical known to the state of California to cause cancer, and that may cause birth defects or other reproductive harm.

Carcinogenicity: NTP? No IARC Monographs?Yes OSHA Regulated? No Other? No

Formaldehyde formed during the decomposition of rosin flux is listed as a suspected human carcinogen by ACGIH. Lead listed by IARC as 2B.

Signs and Symptoms of Exposure:

Dust, vapor and or fumes may be irritating to skin, eyes and respiratory system.

Medical Conditions Generally Aggravated by Exposure:

Note to physicians: Lead and its inorganic compounds are neurotoxins which may produce neuropathy.Rosin is an allergen.

Emergency First Aid Procedures

Eyes: Flush with copious quantities of water. Get medical attention.
Skin: Wash with soap and water.
Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.
Ingestion: Get immediate medical attention.

Section VI (Precautions for Safe Handling and Use)

Steps to be Taken in Case Material is Released or Spilled:

Particulate matter should be stored in dry containers for later disposal. Dust material should be vacuumed or wet swept. Do not use compressed air or dry sweeping as a means of cleaning.

Waste Disposal Method:

Dispose of in accordance with local, state and federal regulations. Consult a licensed hazardous waste company.

Precautions to be Taken in Handling and Storing:

Wash hands with soap and water after handling solder. Store in dry area. Avoid skin contact. Avoid breathing smoke during soldering.

Other Precautions: None known.

Section VII (Control Measures)

Respiratory Protection (Specify Type):

As specified by 29 CFR 1910.1025 (F) if exposure exceeds PEL.

Ventilation:

Local exhaust : Remove smoke from breathing area. Special: None needed
Mechanical (General): Adequate Other: None needed.

Protective Gloves: Impervious
Eye Protection: Face shield or safety glasses

Other Protective Clothing or Equipment:

Personal clothing and shoes should be protected from contamination. Eye wash station.

Work/Hygenic Practices:

Do not eat, drink or smoke in work areas. Wash hands thoroughly before eating or smoking.

Material Safety Data Sheet

MSDS Date : 12/12/95

MSDS No: 7043

Multicore Solders, Inc.
1751 Jay Ell Drive
Richardson, TX 75081
Preparer: Robert Gilbert
Information: 972-238-1224
IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS CALL:800-424-9300

Identity: Date Printed : 5/5/99

Sn63 (Sn63Pb37) CRYSTAL 400 2%	**Sn63 (Sn63Pb37) CRYSTAL 400 3%**

TMC # 1095533

LOT # 22348

Rec 10/8/01

Transportation Requirements:

D.O.T. Hazard Class: N/A
D.O.T. Proper Shipping Name: N/A
UN/NA Code: N/A
D.O.T. Label Required: N/A
Packing Group: N/A

N.F.P.A. /Health: 2
Reactivity: 0
Fire: 0

Section I (Hazardous Ingredients / Identity Information)

Hazardous Components	CAS. Number	OSHA Pel	ACGIH TLV	SARA 313 Percent
Lead	7439-92-1	0.05 mg/m ^{3}	0.05 mg/m ^{3}	35-40
Tin	7440-31-5	2 mg/m^3	2 mg/m ^{3}	60-65
Rosin core solder decomposition products as resin acids colophony	8050-09-7	Sensitizer. Reduce exposure as low as possible.		0-2

Section II (Physical / Chemical Characteristics)

Boiling Point: N/A
Vapor Density (Air=1): N/A
Evaporation Rate (Butyl Acetate=1): N/A

Specific Gravity: (Water = 1) @ 25° C: 8
Vapor Pressure (mm Hg.): N/A
Percent Volatile By Volume: N/A
Melting Point: 183 °C

Solubility in Water:Insoluble.
Appearance and Odor: Gray metal with neutral odor.

Section III (Fire and Explosion Hazard Data)

Flash Point (Method Used) N/A
Flammable Limits: LEL: N/A UEL: N/A

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures: Use full body protective clothing and full face piece, self-contained breathing appartatus operated in a positive-pressure mode.

Unusual Fire and Explosion Hazards: Do not use water on fires where molten metal is present. High temperatures may produce heavy metal fumes, dust and or vapor.

Section IV (Reactivity Data)

Stability: Unstable? No Stable? Yes

Incompatibility (Materials to Avoid): Strong Oxidizers

Hazardous Decomposition or By-products:
High temperatures may produce heavy metal fumes, dust and or vapors.

Hazardous Polymerization:
May Occur?No Will Not Occur?Yes

Conditions to Avoid: None Known

NL - Not Listed N/A - Not Applicable

msds_r4

Section V (Health Hazard Data)

Routes of Entry:
Inhalation? Yes Skin? No Ingestion? Yes Other: None

Health Hazards (Acute and Chronic)
Acute: Weakness, vomiting, loss of appetite, convulsions, stupor and possibly coma.
Chronic: Weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chronic overexposure to lead may result in damage to blood-forming, nervous, urinary and reproductive system.

California Proposition 65 Warning! This product contains a chemical known to the state of California to cause cancer, and that may cause birth defects or other reproductive harm.

Carcinogenicity: NTP? No IARC Monographs? Yes OSHA Regulated? No Other? No
Formaldehyde formed during the decomposition of rosin flux is listed as a suspected human carcinogen by ACGIH. Lead listed by IARC as 2B.

Signs and Symptoms of Exposure:
Dust, vapor and or fumes may be irritating to skin, eyes and respiratory system.

Medical Conditions Generally Aggravated by Exposure:
Note to physicians: Lead and its inorganic compounds are neurotoxins which may produce neuropathy. Rosin is an allergen.

Emergency First Aid Procedures
Eyes: Flush with copious quantities of water. Get medical attention.
Skin: Wash with soap and water.
Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.
Ingestion: Get immediate medical attention.

Section VI (Precautions for Safe Handling and Use)

Steps to be Taken in Case Material is Released or Spilled:
Particulate matter should be stored in dry containers for later disposal. Dust material should be vacuumed or wet swept. Do not use compressed air or dry sweeping as a means of cleaning.

Waste Disposal Method:
Dispose of in accordance with local, state and federal regulations. Consult a licensed hazardous waste company.

Precautions to be Taken in Handling and Storing:
Wash hands with soap and water after handling solder. Store in dry area. Avoid skin contact. Avoid breathing smoke during soldering. Shelf life of 10 years if stored in a dry area at room temperature.

Other Precautions: None known.

Section VII (Control Measures)

Respiratory Protection (Specify Type):
As specified by 29 CFR 1910.1025 (F) if exposure exceeds PEL.

Ventilation:
Local exhaust: Remove smoke from breathing area. Special: None needed
Mechanical (General): Adequate Other: None needed.

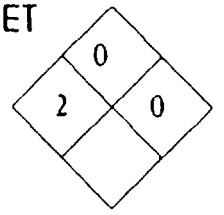
Protective Gloves: Impervious
Eye Protection: Face shield or safety glasses

Other Protective Clothing or Equipment:
Personal clothing and shoes should be protected from contamination. Eye wash station.

Work/Hygenic Practices:
Do not eat, drink or smoke in work areas. Wash hands thoroughly before eating or smoking.

MATERIAL SAFETY DATA SHEET

alphametals
600 Route 440
Jersey City New Jersey 07304
Telephone 201-434-6778



SECTION I. GENERAL INFORMATION

PRODUCT NAME (NUMBER) Solder Paste 63Sn/37Pb Ultraprint 78 (86-90% Alloy)

CHEMICAL FAMILY Mixture
D.O.T. HAZARD CLASS Not regulated.

SECTION II. HAZARDOUS INGREDIENTS

INGREDIENTS	CAS NUMBER	WEIGHT PERCENT	OSHA PEL	ACGIH TLV
Tin	7440-31-5	54-57	2.0 mg/cum	2.0 mg/cum
Lead	7439-92-1	31-33	0.05 mg/cum	0.05 mg/cum
Rosins (modified), proprietary		4-7	*	*

* Sensitizer, reduce exposure as low as possible.

SECTION III. PHYSICAL DATA

(PUBLISHED OR ESTIMATED VALUES)

BOILING POINT Deg F. (760 mm Hg)	NA	SPECIFIC GRAVITY (H2O=1)	NA
VAPOR PRESSURE (mm Hg at 20 Deg. C.)	NA	% VOLATILE BY WEIGHT	NIL
		EVAPORATION RATE	NIL
VAPOR DENSITY (AIR=1)	NA		
SOLUBILITY IN WATER	Insoluble	pH	NA
APPEARANCE AND ODOR	Grey, viscous paste, mild odor.		

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) LEL: NA UEL: NA

FLASH POINT Deg F. NA

EXTINGUISHING MEDIA NA

SPECIAL FIRE FIGHTING PROCEDURES: Use NIOSH approved self-contained breathing apparatus if product is involved in a fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: NA

MOR 001253

NA - NOT APPLICABLE NE - NOT ESTABLISHED NL - NOT LISTED UN - UNKNOWN

Solder Paste 63Sn/37Pb Ultraprint 78 (86-90% Alloy)

SECTION V.(A) HEALTH HAZARD DATA (Symptoms/Effects Of Overexposure)

LEAD: Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, insomnia, weakness, constipation, nausea and abdominal pain. Overexposure may cause damage to blood-forming, nervous, reproductive, intestinal and urinary systems. For occupational exposure requirements see 29 CFR 1910.1025 Lead Standard and its appendices.

CHRONIC TOXICITY: Women of child bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to a developing fetus and possible effects on reproduction. For overexposure to TIN see Section X.

LISTED CARCINOGENS: None of the metal elements of this product are confirmed as human carcinogens at this time by NTP, IARC, or OSHA. IARC classifies lead and some lead compounds as 2B carcinogens (possibly carcinogenic to humans).

MEDICAL CONDITIONS POSSIBLY AGGRAVATED: See Section X.

SECTION V.(B) HEALTH HAZARD DATA (Emergency and First Aid Procedures)

INHALATION	If inhaled when heated to soldering temperatures, remove individual to fresh air. If breathing is difficult administer oxygen and consult a physician.
INGESTION	Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.
SKIN CONTACT	Wash exposed area with soap and water. Remove contaminated clothing.
EYE CONTACT	Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.

SECTION VI. REACTIVITY DATA

STABILITY
STABLE: X UNSTABLE: CONDITIONS TO AVOID NA

MOR 001254

INCOMPATABILITY (Materials to Avoid): Oxidizing materials, strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce CO, CO2, abietic acid, aliphatic aldehydes, terpenes and other acids.

HAZARDOUS POLYMERIZATION
WILL OCCUR: WILL NOT OCCUR: X CONDITIONS TO AVOID NA

Solder Paste 63Sn/37Pb Ultraprint 78 (86-90% Alloy)

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Material is a heavy viscous paste. Scoop into appropriate containers. Clean with degreasing detergent or solvent such as alcohol.

WASTE DISPOSAL: Reclaim (Recycle) solder alloy portion of paste or store in sealed containers for later disposal.
EPA Hazardous waste classification (D008).

Must be in accordance with Federal, State and Local Laws and Regulations

SECTION VIII. SPECIAL PROTECTION

RESPIRATORY: If threshold limit value is exceeded or ventilation is not adequate to remove smoke from the breathing zone, then a NIOSH/MSHA approved, cartridge type respirator for organic fume should be worn.

EYEWEAR: Safety glasses are recommended. Eye bath sould be located near work site.

CLOTHING/ GLOVES: Protective gloves or chemically resistant finger cots are recommended. Finger cots should not be re-used when contaminated.

VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure levels below TLVs.

SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Read all container labeling. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in areas where solder paste may be used. Always wash hands after handling solder paste and before eating, drinking or smoking.
Material should be stored refrigerated upon receipt at 34 deg F to 45 deg F.

OTHER PRECAUTIONS:

MOR 001255

Containers: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

Solder Paste 63Sn/37Pb Ultraprint 78 (86-90% Alloy)

SECTION X: ADDITIONAL INFORMATION

HEALTH HAZARD DATA: (continued)
MEDICAL CONDITIONS POSSIBLY AGGRAVATED:
Diseases of the blood and blood-forming organs, kidneys, nervous and possibly reproductive systems. Chemical hypersensitivity and diseases of the lungs.
CHRONIC TOXICITY:
TIN: Overexposure to dust or fume may cause irritation of the skin and mucous membranes, and may result in a benign pneumoconiosis (stannosis).

OVEREXPOSURE TO ROSIN:
INHALATION: Exposure to rosin fume may cause dizziness or headache. May also cause an allergic reaction such as throat and respiratory irritation or damage.
INGESTION: Essentially non-hazardous at room temperature. (NOT likely to occur.)
SKIN: Repeated exposure to rosin fume may cause a skin rash.
EYES: Can cause irritation. Not a primary irritant. Can be abrasive.

---------- REGULATORY INFORMATION ----------

Toxic Substance Control Act (TSCA) Status:
All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):
Components present in this product at a level which could require reporting under the statute are:

Lead

California State Proposition 65:
"WARNING! This product contains LEAD known to the State of California to cause cancer, birth defects or other reproductive harm."

MOR 001256

EMERGENCY TELEPHONE NUMBER

CHEMTREC 1-800-424-9300 DAY OR NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information or the use of any materials designated.

lot: 225199
TMC: 109553 3

Material Safety Data Sheet

MSDS Date : 12/12/95

MSDS No: 7043 mBo

Multicore Solders, Inc.
1751 Jay Ell Drive
Richardson, TX 75081
Preparer: Robert Gilbert
Information: 972-238-1224

IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS CALL:800-424-9300

Identity: Date Printed : 5/5/99 10/17/01

Sn63 (Sn63Pb37) CRYSTAL 400 2%	**Sn63 (Sn63Pb37) CRYSTAL 400 3%**

Transportation Requirements:

D.O.T. Hazard Class: N/A
D.O.T. Proper Shipping Name: N/A
UN/NA Code: N/A
D.O.T. Label Required: N/A
***Packing Group:* N/A**

N.F.P.A. /Health: 2
Reactivity: 0
Fire: 0

Section I (Hazardous Ingredients / identity Information)

Hazardous Components	CAS. Number	OSHA Pel	ACGIH TLV	SARA 313 Percent
Lead	7439-92-1	0.05 mg/m ^{3}	0.05 mg/m ^{3}	35-40
Tin	7440-31-5	2 mg/m^3	2 mg/m ^{3}	60-65
Rosin core solder decomposition products as resin acids colophony	8050-09-7	Sensitizer. Reduce exposure as low as possible.		0-2

Section II (Physical / Chemical Characteristics)

Boiling Point: N/A
Specific Gravity: (Water = 1) @ 25° C: 8
Vapor Density (Air=1): N/A
Vapor Pressure (mm Hg.): N/A
Evaporation Rate (Butyl Acetate=1): N/A
Percent Volatile By Volume: N/A
Melting Point: 183 °C

Solubility in Water:Insoluble.
Appearance and Odor: Gray metal with neutral odor.

Section III (Fire and Explosion Hazard Data)

Flash Point (Method Used) N/A
Flammable Limits: LEL: N/A UEL: N/A
Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam
Special Fire Fighting Procedures: Use full body protective clothing and full face piece, self-contained breathing appartatus operated in a positive-pressure mode.
Unusual Fire and Explosion Hazards: Do not use water on fires where molten metal is present. High temperatures may produce heavy metal fumes, dust and or vapor.

Section IV (Reactivity Data)

Stability: Unstable? No Stable? Yes
Incompatibility (Materials to Avoid): Strong Oxidizers
Hazardous Decomposition or By-products:
High temperatures may produce heavy metal fumes, dust and or vapors.
Hazardous Polymerization:
May Occur?No Will Not Occur?Yes
Conditions to Avoid: None Known
NL - Not Listed N/A - Not Applicable

msds_r4

Section V (Health Hazard Data)

Routes of Entry:
Inhalation? Yes Skin? No Ingestion? Yes Other: None

Health Hazards (Acute and Chronic)
Acute: Weakness, vomiting, loss of appetite, convulsions, stupor and possibly coma.
Chronic: Weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chronic overexposure to lead may result in damage to blood-forming, nervous, urinary and reproductive system.

California Proposition 65 Warning! This product contains a chemical known to the state of California to cause cancer, and that may cause birth defects or other reproductive harm.

Carcinogenicity: NTP? No IARC Monographs? Yes OSHA Regulated? No Other? No
Formaldehyde formed during the decomposition of rosin flux is listed as a suspected human carcinogen by ACGIH. Lead listed by IARC as 2B.

Signs and Symptoms of Exposure:
Dust, vapor and or fumes may be irritating to skin, eyes and respiratory system.

Medical Conditions Generally Aggravated by Exposure:
Note to physicians: Lead and its inorganic compounds are neurotoxins which may produce neuropathy. Rosin is an allergen.

Emergency First Aid Procedures
Eyes: Flush with copious quantities of water. Get medical attention.
Skin: Wash with soap and water.
Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.
Ingestion: Get immediate medical attention.

Section VI (Precautions for Safe Handling and Use)

Steps to be Taken in Case Material is Released or Spilled:
Particulate matter should be stored in dry containers for later disposal. Dust material should be vacuumed or wet swept. Do not use compressed air or dry sweeping as a means of cleaning.

Waste Disposal Method:
Dispose of in accordance with local, state and federal regulations. Consult a licensed hazardous waste company.

Precautions to be Taken in Handling and Storing:
Wash hands with soap and water after handling solder. Store in dry area. Avoid skin contact. Avoid breathing smoke during soldering. Shelf life of 10 years if stored in a dry area at room temperature.

Other Precautions: None known.

Section VII (Control Measures)

Respiratory Protection (Specify Type):
As specified by 29 CFR 1910.1025 (F) if exposure exceeds PEL.

Ventilation:
Local exhaust : Remove smoke from breathing area. Special: None needed
Mechanical (General): Adequate Other: None needed.

Protective Gloves: Impervious
Eye Protection: Face shield or safety glasses

Other Protective Clothing or Equipment:
Personal clothing and shoes should be protected from contamination. Eye wash station.

Work/Hygenic Practices:
Do not eat, drink or smoke in work areas. Wash hands thoroughly before eating or smoking.

Rec. 7/20/01

Material Safety Data Sheet

MSDS Date : 12/12/95

MSDS No: 7043

Multicore Solders, Inc.
1751 Jay Ell Drive
Richardson, TX 75081
Preparer: Robert Gilbert
Information: 972-238-1224
IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS CALL:800-424-9300

Identity: Date Printed : 5/14/98

Sn63 (Sn63Pb37) CRYSTAL 400 2%	Sn63 (Sn63Pb37) CRYSTAL 400 3%

Lot: 222141
TMC: 1189032
MBO
9/19/01

Transportation Requirements:

D.O.T. Hazard Class: N/A
D.O.T. Proper Shipping Name: N/A
UN/NA Code: N/A
D.O.T. Label Required: N/A
Packing Group: N/A

N.F.P.A. /Health: 2
Reactivity: 0
Fire: 0

Section I (Hazardous Ingredients / Identity Information)

Hazardous Components	CAS. Number	OSHA Pel	ACGIH TLV	SARA 313 Percent
Lead	7439-92-1	0.05 mg/m ^{3}	0.05 mg/m ^{3}	35-40
Tin	7440-31-5	2 mg/m^3	2 mg/m ^{3}	60-65
Rosin core solder decomposition products as resin acids colophony	8050-09-7	Sensitizer. Reduce exposure as low as possible.		0-2

Section II (Physical / Chemical Characteristics)

Boiling Point: N/A
Vapor Density (Air=1): N/A
Evaporation Rate (Butyl Acetate=1): N/A

Specific Gravity: (Water = 1) @ 25° C: 8
Vapor Pressure (mm Hg.): N/A
Percent Volatile By Volume: N/A
Melting Point: 183 °C

Solubility in Water:Insoluble.
Appearance and Odor: Gray metal with neutral odor.

Section III (Fire and Explosion Hazard Data)

Flash Point (Method Used) N/A
Flammable Limits: LEL: N/A UEL: N/A
Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam
Special Fire Fighting Procedures: Use full body protective clothing and full face piece, self-contained breathing appartatus operated in a positive-pressure mode.
Unusual Fire and Explosion Hazards: Do not use water on fires where molten metal is present. High temperatures may produce heavy metal fumes, dust and or vapor.

Section IV (Reactivity Data)

Stability: Unstable? No Stable? Yes
Incompatibility (Materials to Avoid): Strong Oxidizers
Hazardous Decomposition or By-products:
High temperatures may produce heavy metal fumes, dust and or vapors.
Hazardous Polymerization:
May Occur?No Will Not Occur?Yes
Conditions to Avoid: None Known
NL - Not Listed N/A - Not Applicable

msds_r4

No: 7043

Section V (Health Hazard Data)

Routes of Entry:

Inhalation?Yes Skin? No Ingestion? Yes Other: None

Health Hazards (Acute and Chronic)

Acute: Weakness, vomiting, loss of appetite, convulsions, stupor and possibly coma.

Chronic: Weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chronic overexposure to lead may result in damage to blood-forming, nervous, urinary and reproductive system.

California Proposition 65 Warning! This product contains a chemical known to the state of California to cause cancer, and that may cause birth defects or other reproductive harm.

Carcinogenicity: NTP? No IARC Monographs?Yes OSHA Regulated? No Other? No

Formaldehyde formed during the decomposition of rosin flux is listed as a suspected human carcinogen by ACGIH. Lead listed by IARC as 2B.

Signs and Symptoms of Exposure:

Dust, vapor and or fumes may be irritating to skin, eyes and respiratory system.

Medical Conditions Generally Aggravated by Exposure:

Note to physicians: Lead and its inorganic compounds are neurotoxins which may produce neuropathy.Rosin is an allergen.

Emergency First Aid Procedures

Eyes: Flush with copious quantities of water. Get medical attention.

Skin: Wash with soap and water.

Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.

Ingestion: Get immediate medical attention.

Section VI (Precautions for Safe Handling and Use)

Steps to be Taken in Case Material is Released or Spilled:

Particulate matter should be stored in dry containers for later disposal. Dust material should be vacuumed or wet swept. Do not use compressed air or dry sweeping as a means of cleaning.

Waste Disposal Method:

Dispose of in accordance with local, state and federal regulations. Consult a licensed hazardous waste company.

Precautions to be Taken in Handling and Storing:

Wash hands with soap and water after handling solder. Store in dry area. Avoid skin contact. Avoid breathing smoke during soldering. Shelf life of 10 years if stored in a dry area at room temperature.

Other Precautions: None known.

Section VII (Control Measures)

Respiratory Protection (Specify Type):

As specified by 29 CFR 1910.1025 (F) if exposure exceeds PEL.

Ventilation:

Local exhaust: Remove smoke from breathing area. Special: None needed
Mechanical (General): Adequate Other: None needed.

Protective Gloves: Impervious

Eye Protection: Face shield or safety glasses

Other Protective Clothing or Equipment:

Personal clothing and shoes should be protected from contamination. Eye wash station.

Work/Hygenic Practices:

Do not eat, drink or smoke in work areas. Wash hands thoroughly before eating or smoking.

Material Safety Data Sheet

MSDS Date : 12/12/95

MSDS No: 7043

Multicore Solders, Inc.
1751 Jay Ell Drive
Richardson, TX 75081
Preparer: Robert Gilbert
Information: 972-238-1224

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Identity: Date Printed : 5/14/98

Sn63 (Sn63Pb37) CRYSTAL 400 2%	Sn63 (Sn63Pb37) CRYSTAL 400 3%

TMC# 1015467
LOT# 223022

Transportation Requirements:

D.O.T. Hazard Class: N/A
D.O.T. Proper Shipping Name: N/A
UN/NA Code: N/A
D.O.T. Label Required: N/A
Packing Group: N/A

N.F.P.A. /Health: 2
Reactivity: 0
Fire: 0

Section I (Hazardous Ingredients / Identity Information)

Hazardous Components	CAS. Number	OSHA Pel	ACGIH TLV	SARA 313 Percent
Lead	7439-92-1	0.05 mg/m ^{3}	0.05 mg/m ^{3}	35-40
Tin	7440-31-5	2 mg/m^3	2 mg/m ^{3}	60-65
Rosin core solder decomposition products as resin acids colophony	8050-09-7	Sensitizer. Reduce exposure as low as possible.		0-2

Section II (Physical / Chemical Characteristics)

Boiling Point: N/A
Vapor Density (Air=1): N/A
Evaporation Rate (Butyl Acetate=1): N/A
Specific Gravity: (Water = 1) @ 25° C: 8
Vapor Pressure (mm Hg.): N/A
Percent Volatile By Volume: N/A
Melting Point: 183 °C
Solubility in Water: Insoluble.
Appearance and Odor: Gray metal with neutral odor.

Section III (Fire and Explosion Hazard Data)

Flash Point (Method Used) N/A
Flammable Limits: LEL: N/A UEL: N/A
Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam
Special Fire Fighting Procedures: Use full body protective clothing and full face piece, self-contained breathing appartatus operated in a positive-pressure mode.
Unusual Fire and Explosion Hazards: Do not use water on fires where molten metal is present. High temperatures may produce heavy metal fumes, dust and or vapor.

Section IV (Reactivity Data)

Stability: Unstable? No Stable? Yes
Incompatibility (Materials to Avoid): Strong Oxidizers
Hazardous Decomposition or By-products:
High temperatures may produce heavy metal fumes, dust and or vapors.
Hazardous Polymerization:
May Occur? No Will Not Occur? Yes
Conditions to Avoid: None Known

NL - Not Listed N/A - Not Applicable

msds_r4

No: 7043

Section V (Health Hazard Data)

Routes of Entry:

Inhalation? Yes Skin? No *Ingestion?* Yes Other: None

Health Hazards (Acute and Chronic)

Acute: Weakness, vomiting, loss of appetite, convulsions, stupor and possibly coma.

Chronic: Weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chronic overexposure to lead may result in damage to blood-forming, nervous, urinary and reproductive system.

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Carcinogenicity: NTP? No IARC Monographs?Yes OSHA Regulated? No Other? No

Formaldehyde formed during the decomposition of rosin flux is listed as a suspected human carcinogen by ACGIH Lead listed by IARC as 2B.

Signs and Symptoms of Exposure:

Dust, vapor and or fumes may be irritating to skin, eyes and respiratory system.

Medical Conditions Generally Aggravated by Exposure:

Note to physicians: Lead and its inorganic compounds are neurotoxins which may produce neuropathy.Rosin is an allergen.

Emergency First Aid Procedures

Eyes: Flush with copious quantities of water. Get medical attention.

Skin: Wash with soap and water.

Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.

Ingestion: Get immediate medical attention.

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Waste Disposal Method:

Dispose of in accordance with local, state and federal regulations. Consult a licensed hazardous waste company.

Precautions to be Taken in Handling and Storing:

Wash hands with soap and water after handling solder. Store in dry area. Avoid skin contact. Avoid breathing smoke during soldering. Shelf life of 10 years if stored in a dry area at room temperature.

Other Precautions: None known.

Section VII (Control Measures)

Respiratory Protection (Specify Type):

As specified by 29 CFR 1910.1025 (F) if exposure exceeds PEL.

Ventilation:

Local exhaust : Remove smoke from breathing area. Special: None needed

Mechanical (General): Adequate Other: None needed.

Protective Gloves: Impervious

Eye Protection: Face shield or safety glasses

Other Protective Clothing or Equipment:

Personal clothing and shoes should be protected from contamination. Eye wash station.

Work/Hygenic Practices:

Do not eat, drink or smoke in work areas. Wash hands thoroughly before eating or smoking.

APR 22 '94 13:13 PO # 74774 Attn: Donna

Material Safety Data Sheet

KESTER SOLDER
515 E. TOUHY AVENUE
DES PLAINES, IL 60018
297-1600

MSDS Number: "245" Core
Date Prepared: 20 May 1993
Supersedes: 01 June 1992
Prepared By: D.Bernier

Telephone Number For Information: (708) 297-1600
CHEMTREC 24-Hour Emergency Telephone Number: (800) 424-9300

708 960-7[illegible]

SECTION 1 - PRODUCT IDENTIFICATION AND USE

"245" FLUX CORED SOLDER
Product Name And Number As Used On Label

RECEIVED
APR 22 1994
THE MOREY CORP.

PRODUCT USE: Soldering flux in cored solder for electrical or electronic applications.

NFPA Rating:	Health:	1	Flammability:	2	Reactivity:	0	Special:	
HMIS Rating:	Health:	1	Flammability:	2	Reactivity:	0	Personal Protection:	X

DOT: Not Regulated.
WHMIS: Class D, Division 2, Subdivision B.
TDG: Not Regulated.

NA = Not Applicable *NE = Not Established* *UN = Unknown*

SECTION 2 - INGREDIENTS AND HAZARDS

HAZARDOUS INGREDIENTS 1% or greater CARCINOGENS 0.1% or greater	C.A.S. Number	WT. %	OSHA PEL mg/m^3	ACGIH TLV TWA mg/m^3
Lead	7439-92-1*	**	0.05	0.15
Tin	7440-31-5	**	2.0	2.0
Silver	7440-22-4*	**	0.01	0.1
Bismuth	7440-69-9	**	NE	NE
Antimony	7440-36-0*	**	0.5	0.5
Modified Rosin	65997-05-9	<1	NE	NE
Carboxylic Acid	68603-86-1	<1	NE	NE
NON-HAZARDOUS INGREDIENTS				

MOR 001263

NOTES : *This Chemical is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

** Composition and weight % of solder alloys varies widely and can be determined by product label.

SECTION 3 - PHYSICAL DATA

Boiling Point (760 mm Hg): NA°F NA°C

Vapor Pressure (mm Hg at 20 °C): NA

Vapor Density (air=1): NA

Solubility in Water (% by weight): 0

pH: NA

Specific Gravity (water =1 at 25 °C): >1

Melting Point: NA°F NA°C

Evaporation Rate (butyl acetate=1): NA

% Volatile(by volume): NA

Volatile Organic Compound (VOC): NA g/liter

Odor Threshold: NE

Appearance and Odor: Silver-gray metal in wire, ribbon or preformed shapes with a core of flux.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (T.O.C.): NA °F NA °C Auto-Ignition Temperature: NA °F NA °C

Flammability Limits % by volume in air LEL:NA UEL: NA

Extinguishing Media: ( ) WATER ( ) CARBON DIOXIDE ( ) ALCOHOL FOAM ( ) DRY CHEMICAL

Hazardous Combustion Products: Melted solder may liberate carbon monoxide, carbon dioxide, lead oxide fumes.

Eq on Sensitivity: Impact - None Identified Static discharge - ( ) Yes (X) No

pecial Firefighting Procedures: Wear self-contained breathing apparatus if this material is in the vicinity of a fire.

nusual Fire and Explosion Hazards: Flux in cored solder may ignite when the solder melts in a fire.

SECTION 5 - REACTIVITY HAZARD DATA

TABILITY (X) Stable ( ) Unstable Conditions to Avoid: None

ompatability(materials to avoid): Strong acid, strong oxidizers.

azardous Decomposition Products: When heated to soldering temperatures, the solvent in the flux will boil away and carry droplets of resin and thermal degradation products such as aliphatic aldehydes, acids and terpenes. No lead is detected in fumes from soldering below 1000 °F (537 °C).

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AZARDOUS POLYMERIZATION:

) Occur Conditions To Avoid: NE

) Will Not Occur

SECTION 6 - HEALTH HAZARD DATA

EXPOSURE LIMITS: Ingested LD(50): NE g/Kg Inhaled LC(50): NE g/Kg

Primary exposure during soldering is to evaporated solvent which may contain droplets of rosin and / or other organic decomposition products.

PRIMARY ROUTES OF ENTRY: ( ) Skin (X) Eyes (X) Inhalation (X) Ingestion

TARGET ORGANS: Flux fumes: eyes, mucous membranes and respiratory system. Ingestion of lead metal can affect kidneys, gastrointestinal, reproductive and neurological systems.

EFFECTS OF ACUTE (severe short-term) EXPOSURE:

INHALATION: Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.

SKIN CONTACT: Possible local irritation by contact with flux or fumes.

SKIN ABSORPTION: None.

EYE CONTACT: Irritation from contact with smoke from soldering.

INGESTION: Not likely to occur.

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EFFECTS OF CHRONIC (prolonged) EXPOSURE: Breathing fumes during soldering may cause respiratory irritation, headache and irritation of mucous membranes. Repeated ingestion of lead can result in systemic poisoning.

Medical Conditions Generally Aggravated by Exposure: Pre-existing conditions of the lungs, diseases of the blood and blood-forming organs, kidneys, nerves and possibly reproductive system

CARCINOGEN ( ) NTP ( ) OSHA (9) IARC ( ) Not Listed

EMERGENCY FIRST AID PROCEDURES: Seek medical assistance for further treatment, observation and support if needed

EYE CONTACT: For burns flush immediately with cool water. For fume irritation use eye drops and remove from exposure.

SKIN CONTACT: For burns flush immediately with cool water. If a rash develops from flux fumes, remove person from exposure and wash skin with soap and water.

INHALATION: Remove person from exposure to fumes.

INGESTION: NA

SECTION 7 - PROCEDURES FOR MATERIAL CONTROL

Steps to be Taken If Material Is Spilled Or Released: Melted solder will solidify on cooling and can be scraped up. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

Waste Disposal Methods: Solder can be reclaimed.

CAUTION : Empty containers may contain product residue. Observe all label precautions.

Precautions to be Taken in Handling and Storage: Store away from sources of sulfur. Wash hands after handling solder containing lead before eating or smoking. Avoid breathing smoke / fumes generated during soldering. Do not place flux cored solder into a hot solder pot because the flux may ignite.

SECTION 8 - PROTECTIVE MEASURES

Respiratory Protection: Usually not required. When ventilation is not sufficient to remove fumes from the breathing zone, a cartridge type respirator should be worn.

Protective Gloves: Usually not required. **Eye Protection:** When soldering, use goggles or face shield.

VENTILATION TO BE USED: Provide adequate exhaust ventilation (general and / or local) to meet TLV requirements

or Protective Clothing and Equipment: None.

Hygienic Work Practices: Wash hands thoroughly after handling solder containing lead before eating or smoking.

SECTION 9 - ADDITIONAL INFORMATION

If the solder contains lead, these precautions are applicable.
This product contains lead which is known to the State of California to cause cancer, birth defects or other reproductive harm.
Lead and its compounds have been placed in Class B2, probably carcinogenic to humans by USEPA.
IARC has placed lead and its compounds in Class 2B, possibly carcinogenic to humans.

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THE MOREY CORP.

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester Solder extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by or under the direction of technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in their handling. Hazard communication regulations, U.S.A. Occupational Safety and Health Act (OSHA) and Canada Workplace Hazardous Materials Information System (WHMIS), require that employees must be trained how to use a

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 6/12/01
23:49:12
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Rec 6/25/01

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 5900 Silicone
Item No.: 20167
Product Type: Elastomeric Rubber

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Calcium carbonate	471-34-1	25-50
Poly(dimethylsiloxane), hydroxy terminated	70131-67-8	20-40
Poly(dimethylsiloxane), dimethyl	63148-62-9	5-20
Oximinosilane	Proprietary	1-10
Silica, amorphous, treated	71889-01-5	1-5
CARBON BLACK	1333-86-4	1-3
Stearic acid	57-11-4	0.5-2
Methyl ethyl ketoxime	Proprietary	***

***When this product is exposed to moisture, up to 10% methyl ethyl ketoxime may be formed.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Calcium carbonate	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 respir.	None
Silica, amorphous, treated	10mg/m3 (Inhal) 3mg/m3 (Resp)	20 mppcf	6 mg/m3
CARBON BLACK	3.5 mg/m3 TWA	3.5 mg/m3 TWA	5ppm
Methyl ethyl ketoxime	None	None	3 ppm TWA 10 ppm STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Skin and eye irritant. Moderately toxic ingestion.
When heated to temperatures above 300°F (150°C) in the presence of air, this product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate eyes, nose and throat. Safe handling conditions may be maintained by keeping vapor concentrations below the OSHA permissible limit for formaldehyde.

Primary Routes of Entry: Skin, ingestion, inhalation.

Signs and Symptoms of Exposure: Methyl ethyl ketoxime produced during cure is toxic and irritates eyes, nose and throat.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Calcium carbonate	NUI	NO	NO	NO
Poly(dimethylsiloxane), hydroxy terminated	NTO	NO	NO	NO
Poly(dimethylsiloxane), dimethyl	IRR	NO	NO	NO
Oximinosilane	No Data	NO	NO	NO
Silica, amorphous, treated	No Data	NO	NO	NO
CARBON BLACK	RES	NO	2B	NO
Stearic acid	IRR	NO	NO	NO
Methyl ethyl ketoxime	ALG BLO CNS EYE IRR SOM	NO	NO	NO

Abbreviations

2B Possibly carcinogenic to humans
BLO Blood
EYE Eyes
NTO No Target Organs
RES Respiratory
ALG Allergen
CNS Central nervous system
IRR Irritant
NUI Nuisance dust
SOM Evidence of some carcinogenicity

Product Name: 5900 Silicone
Item No.: 20167

4. FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wipe off paste with paper towel or cloth. Wash thoroughly with soap and water
Eye Contact:	Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	More than 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Formaldehyde, silica fume, oxides of carbon.
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Not available
(% by volume in air)Upper	Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Wipe or scrape up spilled material. Maintain good ventilation for large spills. Place scrap material in a well ventilated area and allow to cure to rubber.

7. HANDLING AND STORAGE

Safe Storage:	Store in a dry area below 90°F. Keep containers closed when not in use.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid skin and eye contact. Avoid breathing vapor.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles. Avoid contact lenses.
Skin:	Rubber or plastic gloves.
Ventilation:	Provide local ventilation for prolonged use in a confined area.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black paste.
Odor:	Mild.
Boiling Point:	Not Applicable, Polymeric
pH:	7-8
Solubility in Water:	Polymerized
Specific Gravity	1.31
Volatile Organic Compound (EPA Method 24)	4.01%; 52.5 grams per liter
Vapor Pressure:	Less than 5mm at 70°F.
Vapor Density:	3.0
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers. Polymerized by contact with moisture.
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	Methyl ethyl ketoxime

Product Name: 5900 Silicone
Item No.: 20167

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Cured rubber can be incinerated or landfilled following EPA and local regulations

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted
- Hazard Class or Division: Unrestricted
- Identification Number: None
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted
- Class or Division: Unrestricted
- UN or ID Number: None

15. REGULATORY INFORMATION

CA Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Traces of ethylene oxide, propylene oxide and dioxane.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 1
- Fire Hazard: 1
- Reactivity Hazard: 0
- Specific Hazard: No water

Estimated HMIS(R) Code:
- Health Hazard: 1
- Flammability Hazard: 1
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist - Health & Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0010

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

Rec. 1/26/01

SILASTIC(R) E RTV SILICONE RUBBER BASE

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation South Saginaw Road Midland, Michigan 48686	24 Hour Emergency Telephone: Customer Service: Product Disposal Information: Transportation Information: CHEMTREC:	(517) 496-5900 (517) 496-6000 (517) 496-6315 (517) 496-8577 (800) 424-9300

MSDS No: 1231197 Current Version: 08/29/96

Generic Description: Liquid silicone rubber.
Physical Form: Viscous Liquid
Color: White
Odor: Not reported
NFPA Profile: Health 1 Flammability 1 Reactivity 0

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
068909206	26	Trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).
068988896	7	Dimethylvinylated and trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).
None	3	Silylated titanium dioxide	Observe titanium dioxide limits: OSHA PEL (final rule) and ACGIH TLV: TWA 10 m g/m3 total dust.

Comments: The above components are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct eye contact may cause temporary discomfort with mild redness and dryness similar to windburn.

Skin: A single prolonged exposure (24 to 48 hours) causes no known adverse effect.

Inhalation: No irritation to eyes and respiratory passages. No injury is likely from relatively short exposures of less than 8 hours.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: None Known.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer; and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water.

Skin: No first aid should be needed.

Inhalation: No first aid should be needed.

Oral: No first aid should be needed.

Comments: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	212.00 DEGREE F / 100.00 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extinguishing Media:	Water spray. Carbon dioxide (CO2). Dry chemical. Foam. Water can be used to cool fire exposed containers.
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire Hazards:	None

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop up, or wipe up, or soak up with absorbent and contain for salvage or disposal. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. For large spills, provide diking or other appropriate containment to keep material from spreading. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: No special precautions. Use reasonable care.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust: None should be needed
General Ventilation: Recommended

Personal Protective Equipment For Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: No special protection needed.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment For Spills

Eye: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/
Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Viscous Liquid
Color:	White
Odor:	Not reported
Specific Gravity @ 25C:	1.14
Viscosity:	800.00 P
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Available.
Vapor Pressure @ 25C:	Not Determined.
Vapor Density:	Not Determined.
Solubility in Water:	Not Determined.
pH:	Not Applicable.
Volatile content:	< 5.00 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: None

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL INFORMATION

RCRA Hazard Class (40CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? N

Federal Hazardous Waste Code: NA

Characteristic Waste: Ignitable: NA Corrosive: NA Reactive: NA

TCLP: NA

State or local laws may impose additional regulatory requirements regarding disposal.

NA = Not Applicable

Call Dow Corning Corporate Environmental Management, (517)496-6315, if additional information is required.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name:	Not Applicable
Hazard Technical Name:	Not Applicable
Hazard Class:	Not Applicable
UN/NA Number:	0000
Packing Group:	NA

0000 and NA = Not Applicable

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:

001330207	.2	Xylene	100.00 LB RQ

Section 312 Hazard Class:

Acute:	N
Chronic:	N
Fire:	N
Pressure:	N
Reactive:	N

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

068083192	63	Dimethyl siloxane, dimethylvinyl-terminated

068909206	26	Trimethylated silica
068988896	7	Dimethylvinylated and trimethylated silica
None	3	Silylated titanium dioxide

Pennsylvania

068083192	63	Dimethyl siloxane, dimethylvinyl-terminated
068909206	26	Trimethylated silica
068988896	7	Dimethylvinylated and trimethylated silica
None	3	Silylated titanium dioxide

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark

* * * * * This is the last page. * * * * *

GE SILICONES

MATERIAL SAFETY DATA SHEET
FORMAT: USA COPYRIGHT GENERAL ELECTRIC CO.

PRODUCT: RTV133 SILICONE SEALANT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES .
260 HUDSON RIVER ROAD
WATERFORD, CT. 12188

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 02/26/97
PREPARER: CE HANNIGAN
CHEMICAL FAMILY/USE: SILICONE RUBBER
FORMULA: MIXTURE

2. COMPOSITION INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL TWA	OSHA PEL STEL	UNITS
A. HAZARDOUS						
TIANIUM, BIS(ETHYL ACETOACETATO)-DIISOPROPOXY-						
27858-32-8	1-5	NE	NA	NE	NA	NA
METHYLTRIMETHOXYSILANE						
1185-55-3	1-5	NA	NE	NA	NE	NA
B. NON-HAZARDOUS						
VINYLSTOPPED PHENYLMETHYL POLYMER						
68951-96-2	5-10	NA	NE	NA	NE	NA
DIMETHYL POLYSILOXANE SILANOL/ST						
70131-67-8	30-60	NA	NE	NA	NE	NA
D4 & HMDZ TREATED SILICON DIOXIDE						
68937-51-9	10-30	10	NE	15	NE	MG/M3
QUARTZ						
14808-60-7	10-30	0.1	NE	0.1	NE	MG/M3

SEE SECTION 15 FOR DESCRIPTION OF ANY WHMIS TRADE SECRET(S).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
This section not in use
POTENTIAL HEALTH EFFECTS:
INGESTION:
MAY BE harmful if swallowed.
SKIN CONTACT:
UNCURED PRODUCT WILL IRRITATE LIPS, GUMS AND TONGUE.
UNCURED PRODUCT CONTACT MAY IRRITATE THE SKIN.
INHALATION:
CAUSES MILD RESPIRATORY IRRITATION.
APPLIES ONLY IN UNCURED STATE.
EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.
MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.
SUBCHRONIC (TARGET ORGAN) EFFECTS:
NONE KNOWN.
CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by

NTP, IARC, or OSHA.

PRODUCTS/INGREDIENTS

This space reserved for special use.

PRINCIPLE ROUTES OF EXPOSURE:

Eyes.

DERMAL-SKIN

OTHER:

METHANOL RELEASED DURING CURING. THIS PRODUCT CONTAINS METHYL-POLYSILOXANES WHICH CAN GENERATE FORMALDEHYDE AT APPROXIMATELY 300 DEGREES FARENHEIT (150'C) AND ABOVE, IN ATMOSPHERES WHICH CONTAIN OXYGEN. FORMALDEHYDE IS A SKIN AND RESPIRATORY SENSITIZER, EYE AND THROAT IRRITANT, ACUTE TOXICANT, AND POTENTIAL CANCER HAZARD. AN MSDS FOR FORMALDEHYDE IS AVAILABLE FROM GE SILICONES.

4. FIRST AID MEASURES

INGESTION:

RINSE MOUTH WITH WATER SEVERAL TIMES.

SKIN:

TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER. GET MEDICAL ATTN. IF IRRITATION PERSISTS.

INHALATION:

MOVE PERSON TO FRESH AIR.

EYES:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention IF IRRITATION PERSISTS.

NOTE TO PHYSICIAN:

None Known.

5. FIRE FIGHTING MEASURES

FLASH POINT:		NA	(C)	NA	(F)
METHOD	:	NA			
IGNTIION TEMP	:	NA	(C)	NA	(F)
FLAMMABLE LIMITS IN AIR - LOWER(%):		NA			
FLAMMABLE LIMITS IN AIR - UPPER(%):		NA			
SENSITIVITY TO MECHANICAL IMPACT (Y/N):		NO			

SENSITIVITY TO STATIC DISCHARGE:

Sensitivity to static discharge is NOT EXPECTED.

EXTINGUISHING MEDIA:

All standard firefighting media.

SPECIAL FIREFIGHTING PROCEDURES:

NONE KNOWN..

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wipe, scrape or soak up in an inert material and put in a container for disposal.

WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD. WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID CONTACT WITH SKIN AND EYES. CAUTION! COMBUSTIBLE. REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGERTIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION. PRODUCT RELEASES METHANOL DURING APPLICATION AND CURING. (METHANOL TLV=200 PPM).

UNCURED PRODUCT CONTACT IRRITATES EYES.

UNCURED PRODUCT CONTACT MAY IRRITATE SKIN.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Eyewash stations.

Use in a well ventilated area.

RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
PROTECTIVE GLOVES:
CLOTH GLOVES.
EYE AND FACE PROTECTION:
Safety glasses.
OTHER PROTECTIVE EQUIPMENT:
NONE KNOWN.
VENTILATION:
Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C)	NA	(F)
VAPOR PRESSURE (20C)(MMHG)	:	NEG.			
VAPOR DENSITY (AIR=1)	:	NEG.			
FREEZING POINT	:	NA	(C)	NA	(F)
MELTING POINT	:	NA	(C)	NA	(F)
PHYSICAL STATE	:	SOLID			
ODOR	:	SWEET			
COLOR	:	BLACK			
ODOR THRESHOLD (PPM)	:	UNK			
% VOLATILE BY VOLUME	:	<4.9			
EVAP.RATE (BUTYL ACETATE=1)	:	<1			
SPECIFIC GRAVITY (WATER=1)	:	1.23			
DENSITY (KG/M3)	:	1230			
ACID/ALKALINITY (MEQ/G)	:	UNK			
PH	:	NA			
VOC (EPA METH.24) (G/L)	:	<60			
SOLUBILITY IN WATER (20C)	:	NEG			

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):SLIGHT IN TOLUENE

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
METHANOL.
FORMALDEHYDE
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION
ACUTE ORAL LD50 (MG/KG): NA
ACUTE DERMAL LD50 (MG/KG): NA
ACUTE INALATION LC50 (MG/L): NA
OTHER:
None.
AMES TEST: UNKNOWN

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Disposal should be made in accordance with federal,state and local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NOT DOT REGULATED
DOT LABEL(S): NA
UN/NA NUMBER: NA
PLACARDS: NONE
IATA: NA

IMO IMDG-CODE: NA
EUROPEAN CLASS:
RID (OCTI): NA
ADR (ECE): NA
RAR (IATA): NA

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311, 312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA
WHMIS HAZARD CLASS:
D2B TOXIC MATERIALS
WHMIS TRADE SECRET:
NONE
EXPORT:
SCHDLE B/HTSUS:
ECCN: 3910.00 SILICONES IN PRIMARY FORM.
HAZARD RATING SYSTEMS EAR99
HMIS FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
NFPA FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
CALIFORNIA PROPOSITION 65:
NONE

16. OTHER INFORMATION

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRAILIAN INVENTORY (ACOIN).....
.....

C = CEILING LIMIT	NEGL = NEGLIGIBLE
EST= ESTIMATED	NF = NONE FOUND
NA = NOT APPLICABLE	UNKN = UNKNOWN
NE = NONE ESTABLISHED	REC = RECOMMENDED
ND = NONE DETERMINED	V = RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-	SKIN = SKIN
PRODUCT, TSCA INVENTORY	TS = TRADE SECRET
STATUS NOT REQUIRED UNDER	R = RECOMMENDED
40 CFR PART 720.30 (H-2)	MST = MIST
STEL = SHORT LIMIT EXPOSURE LIMIT	NT = NOT TESTED

.....

Rec. 1/26/01

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

SILASTIC(R) E RTV SILICONE RUBBER CURING AGENT

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation South Saginaw Road Midland, Michigan 48686	24 Hour Emergency Telephone: Customer Service: Product Disposal Information: Transportation Information: CHEMTREC:	(517) 496-5900 (517) 496-6000 (517) 496-6315 (517) 496-8577 (800) 424-9300

MSDS No: 1004867 Current Version: 03/01/96

Generic Description: Silicone compound
Physical Form: Liquid
Color: White
Odor: Not reported
NFPA Profile: Health 1 Flammability 1 Reactivity 1

Note: NFPA = National Fire Protection Association

SECTION 2. OSHA HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
068037592	34	Dimethyl, methylhydrogen siloxane	None established.
068988896	20	Dimethylvinylated and trimethylated silica	Dow Corning guide: 5 mg/m3 Ceiling (as dust).

Comments: The above components are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct eye contact may cause temporary discomfort with mild redness and dryness similar to windburn.

Skin: A single prolonged exposure (24 to 48 hours) causes no known adverse effect.

Inhalation: No irritation to eyes and respiratory passages. No injury is likely from relatively short exposures of less than 8 hours.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: None Known.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: When heated to temperatures above 180 degrees C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer; and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water.

Skin: No first aid should be needed.

Inhalation: No first aid should be needed.

Oral: No first aid should be needed.

Comments: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	> 213.98 DEGREE F / 101.10 DEGREE C
Autoignition Temperature:	Not Determined
Flammability Limits in Air:	Not Determined
Extinguishing Media:	Water spray. Carbon dioxide (CO2). Dry chemical. Foam. Water can be used to cool fire exposed containers.
Fire Fighting Procedures:	Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.
Unusual Fire Hazards:	None

Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Formaldehyde. Hydrogen. Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Determine whether to evacuate or isolate the area depending on such specific factors as site location, population density, traffic flow, size of the release or spill, weather conditions, the material's hazards and risks to people, and whether a fire is underway or possible. Mop up, wipe up, or soak up with absorbent and place in a vented container for salvage or disposal. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. For large spills, provide diking or other appropriate containment to keep material from spreading. Observe all personal protection equipment recom-

mendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: Product evolves minute quantities of flammable hydrogen gas. Do not repackage or store in unvented containers. Adequately ventilate the work area to maintain vapors well below established flammability limits and exposure guidelines. Keep container closed and store away from water or moisture.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust: None should be needed
General Ventilation: Recommended

Personal Protective Equipment For Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Suitable Gloves: No special protection needed.

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment For Spills

Eye: Use proper protection - safety glasses as a minimum.

Skin: Washing at mealtime and end of shift is adequate.

Inhalation/
Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Use reasonable care.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form:	Liquid
Color:	White
Odor:	Not reported
Specific Gravity @ 25C:	0.99
Viscosity:	3200.00 CST
Freezing/Melting Point:	Not Applicable.
Boiling Point:	Not Available.
Vapor Pressure @ 25C:	< 5.00 MM HG
Vapor Density:	Not Determined.
Solubility in Water:	Not Determined.
pH:	Not Applicable.
Volatile content:	2.00 %

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

Comments: Water, alcohols, acidic or basic materials, and many metals or metallic compounds, when in contact with product, liberate flammable hydrogen gas, which can form explosive mixtures in air.

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL INFORMATION

RCRA Hazard Class (40CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Y

Federal Hazardous Waste Code: NA

Characteristic Waste: Ignitable: NA Corrosive: NA Reactive: D003

TCLP: NA

State or local laws may impose additional regulatory requirements regarding disposal.

NA = Not Applicable

Call Dow Corning Corporate Environmental Management, (517)496-6315, if additional information is required.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name: Not Applicable

Hazard Technical Name: Not Applicable

Hazard Class: Not Applicable

UN/NA Number: Not Applicable

Packing Group: Not Applicable

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:

001330207	.4	Xylene	100.00 LB RQ

Section 312 Hazard Class:

Acute:	N
Chronic:	N
Fire:	N
Pressure:	N
Reactive:	Y

Y = Yes N = No

Section 313 Toxic Chemicals:
None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number	Wt%	Component

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer.

None Known.

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm.

None Known.

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

068083192	43	Dimethyl siloxane, dimethylvinyl-terminated

068037592	34	Dimethyl, methylhydrogen siloxane
068988896	20	Dimethylvinylated and trimethylated silica
002554065	2	Tetramethyl tetravinyl cyclotetrasiloxane

Pennsylvania

068988896	20	Dimethylvinylated and trimethylated silica
068083192	43	Dimethyl siloxane, dimethylvinyl-terminated
068037592	34	Dimethyl, methylhydrogen siloxane

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark

* * * * * This is the last page. * * * * *

MATERIAL SAFETY DATA SHEET
SLIDE PRODUCTS, INC.
430 S. WHEELING RD.
WHEELING, IL 60090

Rec. 8/13/99

PRODUCT NAME: SLIDE EPOXEASE AEROSOL

EMERGENCY TELEPHONE: 800-535-5053
INFORMATION TELEPHONE: 847-541-7220
D.U.N.S. NUMBER: 00-299-4168
PREPARED BY: MICHAEL MUTH

REVISION DATE: 6-1-97
PRODUCT NUMBER: 40616T
FAX NUMBER: 847-541-7986

SECTION I. IDENTIFICATION

CHEMICAL NAME: SYNTHETIC WAX DISPERSION
CHEMICAL FAMILY: SYNTHETIC WAX
FORMULA: 40616T
SYNONYMS: EPOXEASE
DOT HAZARD CLASSIFICATION: ORM-D
DOT SHIPPING NAME: CONSUMER COMMODITY
CHEMICAL ABSTRACT REGISTRY NUMBER: N/A, MIXTURE
IDENTIFICATION NUMBER: NONE
H.M.I.S. RATING: 1,3,0,1

SECTION II. PHYSICAL DATA

DATA IN SECTION II APPLIES TO CONCENTRATE BEFORE ADDING PROPELLANT

BOILING POINT: 103-337 DEGREES F.
FREEZING POINT: < -40 DEGREES F.
SPECIFIC GRAVITY: (H20 =1): 1.02
WEIGHT PER GALLON @ 60 F.: 8.58
VAPOR PRESSURE @ 70 F. (MM HG): 350
VAPOR DENSITY (AIR = 1): > 1
SOLUBILITY IN WATER, % BY WT.: NIL
PERCENT VOLATILE BY WEIGHT: 96
EVAPORATION RATE (MINUTES): 20
APPEARANCE AND ODOR: OPAQUE BROWN LIQUID - CHLORINATED SOLVENT ODOR

SECTION III. HAZARDOUS INGREDIENTS

MATERIAL:	APPROX. WEIGHT %:	CAS NUMBER:	PEL (OSHA)
TRICHLOROETHYLENE **	55-65	79-01-6	100 PPM
PROPANE A-108	10-20	74-98-6	1000
ALIPHATIC NAPHTHA	20-26	68513-03-1*	130
SYNTHETIC WAX	1-6	MIXTURE	N/A

##CONTAINS NO OZONE DEPLETING CHEMICALS##
ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA DIRECTORY
**)SEE SECTIONS X AND XI FOR DETAILED CAUTIONS

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS IN AIR: LEL: 1.0 UEL: 9.5 (VOLUME %)
FLASH POINT: N/A
SPECIAL FIRE FIGHTING PROCEDURES: CHLORINATED HYDROCARBON FORM HCL, HF AND TRACES OF PHOSGENE UPON PYROLYSIS.
UNUSUAL FIRE & EXPLOSION HAZARDS: AEROSOLS MAY RUPTURE VIOLENTLY AT TEMPERATURES ABOVE 120' F.

SECTION V. REACTIVITY DATA

STABILITY: STABLE
INCOMPATIBILITY (MATERIALS TO AVOID): NONE KNOWN
HAZARDOUS COMBUSTION BY-PRODUCTS: SEE SECTION IV
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: TEMP. ABOVE 120' F. - DIRECT SUNLIGHT

SECTION VI. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 100 PPM

* EFFECTS OF OVEREXPOSURE *

INGESTION (SWALLOWING): N/A
INHALATION: GIDDINESS, NAUSEA, POSSIBLE NARCOSIS
SKIN CONTACT: DEFATTING OF SKIN
EYE CONTACT: TEMPORARY IRRITATION

* EMERGENCY AND FIRST AID PROCEDURES *

SKIN: WASH WITH SOAP AND WATER, APPLY HAND CREAM
INHALATION: REMOVE TO FRESH-AIR LOCATION AWAY FROM EXPOSURE
EYES: RINSE WITH PLENTY COOL CLEAN WATER UNTIL IRRITATION SUBSIDES

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: REMOVE LEAKING CONTAINER TO OUTSIDE DISPOSAL SITE.
WASTE DISPOSAL METHOD: EMPTY FULLY, INCLUDING GAS PRESSURE. DO NOT PUNCTURE OR INCINERATE. CAN MAY BE RECYCLED OR ALTERNATIVELY REMOVED TO A SANITARY LANDFILL - CHECK APPLICABLE REGULATIONS.

SECTION VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: (SPECIFY TYPE): NOT NEEDED WITH ADEQUATE VENTILATION
VENTILATION: ADEQUATE VENTILATION RECOMMENDED
PROTECTIVE GLOVES: RECOMMENDED BUT NOT REQUIRED
EYE PROTECTION: PROPER EYE CARE IS NEEDED IN ALL INDUSTRIAL OPERATIONS
OTHER PROTECTIVE EQUIPMENT: AS REQUIRED BY YOUR COMPANY

SECTION IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: STORE INDOORS AWAY FROM HEAT SOURCES OR DIRECT SUNLIGHT - DO NOT PUNCTURE OR INCINERATE - DO NOT DROP!
OTHER PRECAUTIONS: AVOID OVER-SPRAYING ONTO FLOORS OR SLIPPERY SURFACE MAY RESULT.

SECTION X. EFFECTS OF PROLONGED EXPOSURE

TRICHLOROETHYLENE: PROLONGED EXPOSURE MAY CAUSE SKIN IRRITATION. MAY BE ABSORBED THROUGH SKIN TO SOME DEGREE. EXCESSIVE INHALATION CAUSES IRRITATION TO UPPER RESPIRATORY TRACT AND MAY INCREASE SENSITIVITY TO EPINEPHRINE, AND INCREASED MYOCARDIAL IRRITABILITY (IRREGULAR HEART BEATS). MINIMAL ANESTHETIC EFFECTS AT LEVELS OF 200-400 PPM, DIZZINESS AT HIGHER LEVELS: AT 1000-2000 PPM UNCONSCIOUSNESS AND DEATH. CONCENTRATIONS OVER 6000 PPM ARE IMMEDIATELY HAZARDOUS TO LIFE. LC50 FOR RATS IS 12,500 PPM FOR 4 HOURS. ALCOHOL WILL ENHANCE ADVERSE EFFECTS. EXCESSIVE EXPOSURE MAY CAUSE LIVER OR KIDNEY EFFECTS: LOWER CONCENTRATIONS ABOVE ACCEPTED GUIDELINES MAY CAUSE CENTRAL OR PERIPHERAL NERVOUS SYSTEM EFFECTS.

SECTION XI. CARCINOGENIC HAZARD

PROLONGED EXPOSURE ABOVE THE OSHA PERMISSIBLE LIMITS MAY RESULT IN LIVER AND KIDNEY DAMAGE. TRICHLOROETHYLENE HAS BEEN EXTENSIVELY STUDIED FOR CHRONIC EFFECTS IN ANIMALS. WHILE THERE ARE STUDIES IN WHICH TUMORS WERE INDUCED IN MICE, THERE IS NO DOCUMENTED EVIDENCE THAT EXPOSURE TO TRICHLOROETHYLENE PRODUCES CANCER IN HUMANS. THRICHLOROETHYLENE IS LISTED IN GROUP 2A BY IARC BUT IS NOT LISTED BY NTP OR OSHA.

SECTION XII. SARA TITLE III REPORTING

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS REQUIRED TO BE REPORTED UNDER SARA TITLE III, SECTION 313: TRICHLOROETHYLENE, CAS NUMBER 79-01-6 REPORTING REQUIREMENTS UNDER SECTION 304 (CERCLA) ARE 1000 POUNDS OR OVER.

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCTS SPECIFICATION. NO WARRANTY, EXPRESS OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE. THE INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET IS BELIEVED TO BE CORRECT AS OF THIS DATE. THE REGULATIONS PROMULGATED BY OSHA FOR HAZARD COMMUNICATION, 29 CFR 1910.1200, AS WELL AS SEVERAL STATE AND LOCAL LAWS AND REGULATIONS, HAVE BEEN CONSULTED IN PREPARING THIS M.S.D.S.

CHRISTOPHER

APR 15 1996

Material Safety Data Sheet

Manufacturer: **Christopher Associates/Koki Co., Ltd.**
2601 South Oak Street
Santa Ana, CA 92707

Phone Numbers:
(714)979-7500
Chemtrec: (800)424-9300
Date: 3.1.93

SECTION I - IDENTITY INFORMATION

Product Name:	SS4-M951K	CAS#7439-92-1
Chemical Name:	Solder Paste	
Chemical Family:	Tin/Lead/Silver Alloy	
Formula:	Mixture	

SECTION II - HAZARDOUS INGREDIENTS

Principal Components (Chemical & Common Names)	%	TLV Units	CAS#
Lead	32	Lead 0.15ppm	7439-92-1
Tin	62	Tin 2 ppm	7440-31-5
Gum Rosin	3		N/A
Normal Chain Fatty Acid	<1		N/A

This product contains a chemical (lead) subject to 313, SARA Title III.

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point (°C):	230°C
Melting Point (°C):	183°C
Freezing Point (°C):	<-10
Specific Gravity (water = 1)	6.0
Vapor Pressure (mmHg)(at 20°C)	0.01
Vapor Density (air = 1):	5.6
% Volatile By Volume (%):	<5
Evaporation Rate (BuAc = 1):	0.01
Solubility in Water:	Insoluble
Solubility in Organic Solvent:	Soluble (Partially) Acetone, Ethyl Acetate
Physical State:	Paste
Color:	Pale Grey
pH:	5.0
Odor:	Plant Oil (Mild)

SECTION IV - FIRE & EXPLOSION DATA

Flashpoint (°C):	120
Ignition point (°C):	<300
Flammable Limits In Air % By Volume:	Unknown
Acidity/Alkalinity	Mildly Acidic
Extinguishing Media:	CO_2, Foam, Sand, Water
Special Firefighting Procedures:	None Known
Unusual Fire and Explosion Hazards:	None Known

Material Safety Data Sheet

Manufacturer: **Christopher Associates/Koki Co., Ltd.**
2601 South Oak Street
Santa Ana, CA 92707

Phone Numbers:
(714)979-7500
Chemtrec: (800)424-9300

SECTION V- PHYSICAL HAZARDS

Stability:	(x) Stable ( ) Unstable
Conditions to Avoid:	Extreme Heat
Incompatible Materials to Avoid:	Alkaline Materials
Hazardous Decomposition Products:	Lead
Hazardous Polymerization:	( ) May Occur (x) Will Not Occur

SECTION VI - HEALTH HAZARDS

Toxicity: Lead

Ingestion: May cause stomach discomfort. Can cause vomiting, nausea, diarrhea, and paralysis. Irritation of the mouth, throat and stomach.
Skin contact: Mild irritant.
Inhalation: Causes respiratory irritation.
Eye contact: Irritates eyes.
Chronic Effects of Overexposure: Muscle pain. Stomach and muscle paralysis. Liver and kidney damage.

Medical Conditions Generally Aggravated By Overexposure: None Known
Chemical Listed as Carcinogen or Potential Carcinogen?: No

National Toxicity Program (NTP):	( )	Yes	(x)	No
IARC Monographs:	( )	Yes	(x)	No
OSHA:	( )	Yes	(x)	No

OSHA Permissible Exposure Limit (PEL): 0.15ppm
ACGIH Threshold Limit Value (TLV): N/D
Other Exposure Limit Used: Acute Oral LD50, 100~200 mg/kg (Guinea Pig)

Emergency and First Aid Procedures:

1. Inhalation: Move person to fresh air.
2. Eyes: In case of contact, immediately flush eyes with large amounts of water for at least 15 minutes and get medical attention if irritation persists.
3. Skin: Clean skin with solvent (Alcohol), wash skin with soap. Seek medical attention if irritation persists.
4. Ingestion: Rinse mouth with water several times, seek medical attention immediately.

Material Safety Data Sheet

Manufacturer: **Christopher Associates/Koki Co., Ltd.**
2601 South Oak Street
Santa Ana, CA 92707

Phone Numbers:
(714)979-7500
Chemtrec: (800)424-9300

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Type Protection: NIOSH Approved Corrosive Resistant Respirator.
Ventilation: Use only in a well ventilated area.
Local Exhaust: Recommended
Mechanical: Recommended
Special: N/A
Other: N/A

Protective Gloves: Plastic
Other Protective Clothing or Equipment: Safety Shower, Eye Bath, Apron, Mask, Chemical Safety Glasses, monogoggles

SECTION VIII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be taken in handling/storage: Store in a refrigerated space, away from bases or oxidizers. Do not store at extreme temperatures.

Do not store near sources of ignition. Keep container closed when not in use.

Other Precautions: Do not consume food or drinks near product.

Steps to be taken in case material is spilled or released:

Wipe, scrape, or soak up in an inert non-combustible material and put in a container for disposal. This solder paste contains lead, and must be disposed of according to all local, state, and federal regulations.

Waste Disposal Methods: Dispose of according to all local, state, and federal regulations.

Proper Shipping Name: Solder Paste
D.O.T. Class: Not Regulated
Hazardous Classification: Solder Paste/Mixture

Angela Maniaci

The information contained herein is, to our knowledge, true and accurate. Because conditions of use are beyond our control, we make no warranty or representation, expressed or implied, except that the products discussed herein conform to the chemical description shown on their labels. Nothing contained herein should be construed as permission or recommendation to infringe any patent. No agent, representative, or employee of this company is authorized to vary any terms of this notice.

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 8/30/00
34:30
FAX: (860) 571-5465

MATERIAL SAFETY DATA SHEET

Rec. 9/8/00

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SOLVENTLESS ACTVT 1 LT CN
Item No.: 18109
Product Type: Primer

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Hydroxyalkyl methacrylate	27813-02-1	95-100
METHACRYLIC ACID	79-41-4	0.1-2
2,6-DI-tert-BUTYL-p-CRESOL	128-37-0	0.1-1
Organocopper compound	13395-16-9	0.1-1

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Hydroxyalkyl methacrylate	None	None	1 ppm TWA 3 ppm STEL
METHACRYLIC ACID	20 ppm TWA 70 mg/m3	20 ppm TWA skin 70 mg/m3 skin	4 ppm skin 10 ppm skinSTEL
2,6-DI-tert-BUTYL-p-CRESOL	None	None	10 mg/m3
Organocopper compound	Cu 0.2mg/m3fume Cu 1 mg/M3 dust	Cu 0.1mg/m3 TWA Cu 1 mg/M3 dust	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)

3. HAZARDS IDENTIFICATION

Toxicity: Severe eye irritant. Moderate skin irritant. Possible inhalation irritant. May be harmful if swallowed. May cause kidney or liver damage. Estimated oral LD50 more than 5000 mg/kg. Estimated dermal LD50 more than 2000 mg/kg.

Primary Routes of Entry: Eye, skin, inhalation, ingestion.

Signs and Symptoms of Exposure: May cause severe dermatitis on prolonged contact in sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Hydroxyalkyl methacrylate	ALG IRR	NO	NO	NO
METHACRYLIC ACID	ALG COR IRR	NO	NO	NO
2,6-DI-tert-BUTYL-p-CRESOL	IRR MUT	NO	N/A	NO
Organocopper compound	BLO IRR KID LIV	NO	NO	NO

Abbreviations

N/A Not Applicable
BLO Blood
IRR Irritant
LIV Liver
ALG Allergen
COR Corrosive
KID Kidney
MUT Mutagen

MOR 001296

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention

Skin Contact: Wash with soap and water.

Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: More than 200°F Method: Tag Closed Cup

Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical

Special Firefighting Procedures: Not available

Hazardous Products formed by Fire or Thermal Decomp: Irritating organic vapors; oxides of carbon.

Product Name: SOLVENTLESS ACTVT 1 LT CN
Item No.: 18109

Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air)Lower Not available
(% by volume in air)Upper Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Soak up in an inert absorbent. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage: Store below 100°F
(Contact Loctite Customer Service 1-800-243-4874 for shelf life information)
Handling: Avoid prolonged skin contact. Keep away from eyes. Avoid prolonged breathing of vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Neoprene or latex gloves.
Ventilation: Sufficient to maintain vapor concentration below TLV.
Respiratory Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale blue liquid
Odor: Slightly acrylic
Boiling Point: 57°C at 0.5mm
pH: Approximately 5
Solubility in Water: 13%
Specific Gravity 1.07
Volatile Organic Compound (EPA Method 24) Not available
Vapor Pressure: 0.05mm at 68°F
Vapor Density: Approximately 1
Evaporation Rate (Ether = 1) Not available

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: Oxidizing and reducing agents.
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Incinerate following EPA and local regulations.
EPA Hazardous Waste Number NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted
Hazard Class or Division: Unrestricted
Identification Number: None
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted
Class or Division: Unrestricted
UN or ID Number: None

Product Name: SOLVENTLESS ACTVT 1 LT CN
Item No.: 18109

15. REGULATORY INFORMATION

CA Proposition 65: Not available

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	2
Fire Hazard:	1
Reactivity Hazard:	1
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	2
Flammability Hazard:	1
Reactivity Hazards:	1
Personal Protection:	See Section 8.

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HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist- Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 26, 1999 Revision: 0020

World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Date Printed 2/9/99
MSDS No: M00646

Rec. 8/17/99
Sp

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Hydroxide 8.00 ± 0.04N
Catalog Number: 14381

TMC# 122590

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Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00646
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Hazard: Causes burns.
Date of MSDS Preparation:
Day: 21
Month: September
Year: 1998

2. COMPOSITION / INFORMATION ON INGREDIENTS

Sodium Hydroxide
CAS No.: 1310-73-2
TSCA CAS Number: 1310-73-2
Percent Range: 25.0 - 35.0
Percent Range Units: weight / volume
LD50: Oral rat LDLo = 500 mg/kg.
LC50: None reported
TLV: 2 mg/m³
PEL: 2 mg/m³
Hazard: Causes severe burns. Toxic.

Demineralized Water
CAS No.: 7732-18-5
TSCA CAS Number: 7732-18-5
Percent Range: 65.0 - 75.0
Percent Range Units: volume / volume
LD50: None reported
LC50: None reported
TLV: Not established
PEL: Not established
Hazard: No effects anticipated.

3. HAZARDS IDENTIFICATION

Emergency Overview:

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Appearance: Clear, colorless liquid
Odor: None
CAUSES SEVERE BURNS

HMIS:
Health: 3
Flammability: 0
Reactivity: 1
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 3
Flammability: 0
Reactivity: 1
Symbol: Not applicable
Potential Health Effects:
Eye Contact: Causes severe burns
Skin Contact: Causes severe burns May cause: scarring
Skin Absorption: None reported
Target Organs: None reported
Ingestion: Causes: severe burns May cause: abdominal pain collapse death
Target Organs: None reported
Inhalation: Causes: severe burns May cause: pneumonitis
Target Organs: None reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions
Chronic Effects: Chronic overexposure may cause destruction of any tissue contacted
Cancer / Reproductive Toxicity Information:
This product does NOT contain any OSHA listed carcinogens.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

Additional Cancer / Reproductive Toxicity Information: None reported
Toxicologically Synergistic Products: None reported

4. FIRST AID

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.
Ingestion (First Aid): Do not induce vomiting. Give 1-2 glasses of water. Never give anything by mouth to an unconscious person. Call physician immediately.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: Not Flammable, but reacts with most metals to form flammable hydrogen gas.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:

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Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Autoignition Temperature: Not applicable
Hazardous Combustion Products: This material will not burn.
Fire / Explosion Hazards: This product will not burn or explode. Contact with metals gives off hydrogen gas which is flammable
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Use media appropriate to surrounding fire conditions
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Releases of this material may contaminate the environment. Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment. Dike the spill to contain material for later disposal.
Clean-up Technique: Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: a gallon or more of liquid is spilled. If conditions warrant, increase the size of the evacuation.
Special Instructions (for accidental release): Product is regulated as RCRA hazardous waste. Product is regulated as a hazardous water pollutant.
304 EHS RQ (40 CFR 355): Not applicable
D.O.T. Emergency Response Guide Number: 154

7. HANDLING / STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Store in a cool, dry place. Keep away from: heat acids / acid fumes.
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Have a safety shower nearby. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin Protection: disposable latex gloves lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Use with adequate ventilation. Keep away from: acids/acid fumes heat
TLV: Not established
PEL: Not established

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9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: None
pH: 14
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: ~ 100°C (212°F)
Melting Point: Not determined
Specific Gravity (water = 1): 1.28
Evaporation Rate (water = 1): 0.19
Volatile Organic Compounds Content: None
Partition Coefficient (n-octanol / water): Not applicable
Solubility:
Water: Miscible
Acid: Miscible
Other: Not determined
Metal Corrosivity:
Steel: 0.00 in/yr (0.00 mm/yr)
Aluminum: > 20 in/yr (> 508 mm/yr)

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Evaporation Extreme temperatures
Reactivity / Incompatibility: Incompatible with: acids halogenated organic compounds nitro compounds metals
Hazardous Decomposition: None reported
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: None reported
Mutation Data: None reported
Reproductive Effects Data: None reported
Ingredient Toxicological Data: Sodium Hydroxide: Oral rat LDLo = 500 mg/kg; skin and eye irritation test data reported in RTECS.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: --
No ecological data available for the ingredients of this product.

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13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002
Special Instructions (Disposal): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

D.O.T.:
D.O.T. Proper Shipping Name: Sodium Hydroxide Solution
—
DOT Hazard Class: 8
DOT Subsidiary Risk: NA
DOT ID Number: UN1824
DOT Packing Group: II
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Sodium Hydroxide Solution
—
ICAO Hazard Class: 8
ICAO Subsidiary Risk: NA
ICAO ID Number: UN1824
ICAO Packing Group: II
I.M.O.:
I.M.O. Proper Shipping Name: Sodium Hydroxide, Solution
—
I.M.O. Hazard Class: 8
I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: UN1824
I.M.O. Packing Group: II

15. REGULATORY INFORMATION

U.S. Federal Regulations:
O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard (29 CFR 1910.1200)
E.P.A.:
S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard
S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.
—
302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Sodium Hydroxide 1000 lbs.
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Sodium Hydroxide - RQ = 1000 lbs. (454 kgs.)
RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

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Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

C.P.S.C.: The label for this product bears the signal word "POISON" because the concentration of Sodium Hydroxide in the product is greater than/equal to 10%.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

TSCA CAS Number: Not applicable

16. OTHER INFORMATION

Intended Use: Laboratory Reagent

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. Lefevre, Marc J. First Aid Manual for Chemical Accidents, 2nd Ed. New York: Van Nostrand Reinhold Company, 1989. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 8/0[illegible]
10:1[illegible]
FAX: (860) 571-[illegible]

SUPER GLUE

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650
Product Type: Cyanoacrylate Ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
METHYL 2-CYANOACRYLATE	137-05-3	90-95
Poly (methyl methacrylate)	9011-14-7	5-10
HYDROQUINONE	123-31-9	0.1-0.5

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
METHYL 2-CYANOACRYLATE	2 ppm TWA 9.1 mg/M3	2 ppm TWA 8 mg/M3	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL 2-CYANOACRYLATE	4 ppm 18 mg/M3	4 ppm 16 mg/M3

3. HAZARDS IDENTIFICATION

Toxicity: Skin contact may cause burns.
Bonds skin rapidly and strongly.
Skin and eye irritant.
Estimated oral LD50 more than 5000mg/kg.
Estimated dermal LD 50 more than 2000 mg/kg.

Primary Routes of Entry: None known

Signs and symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure t vapors may produce symptoms of non-allergic asthma in sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSH
METHYL 2-CYANOACRYLATE	ALG IRR	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable
ALG Allergen
BNM Bone Marrow
EYE Eyes
IRR Irritant
SKI Skin
AC3 ACGIH animal carcinogen.
BLO Blood
CNS Central nervous system
IMM Immune system
MUT Mutagen

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4. FIRST AID MEASURES

Ingestion: Ingestion is not likely. See supplemental page for emergency procedures.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Soak in warm water. See supplemental page for emergency procedures.

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

4. FIRST AID MEASURES (continu

Eye Contact: Flush with water. See supplemental page for emergency procedures.

5. FIRE FIGHTING MEASURES

Flash Point: 150-200 F Method: Tag Closed Cup
Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical
Special Firefighting Procedures: Not available
Hazardous Products formed by Fire or Thermal Decomp: Irritating organic fragments.
Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air)Lower: Not available
(% by volume in air)Upper: Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Flood with water to polymerize. Soak up with an inert absorbent.

7. HANDLING AND STORAGE

Safe Storage: Store at or below 75 deg. F
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information
Handling: Avoid contact with skin and eyes. Avoid breathin vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation: Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV.
Respiratory: Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Sharp, irritating.
Boiling Point: More than 300 F
pH: Does not apply
Solubility in Water: Polymerized by water.
Specific Gravity: 1.09 at 75 F
Volatile Organic Compound (EPA Method 24): 92.6%; 1009.34 g/l
Vapor Pressure: Less than 0.2mm at 75 F
Vapor Density: Approximately 3
Evaporation Rate (Ether = 1): Not available

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10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: Polymerized by contact with water, alcohols, amines, alkalies.
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Polymerize as above. Incinerate in accordance with EPA and local regulations.

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
- Hazard Class or Division: Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
- Identification Number: None (Not more than 450 liters); NA 1993 (More than 450 liters)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted (Not more than one pint); Other regulated substances (More than one pint)
- Class or Division: Unrestricted (Not more than one pint); Class 9 (More than one pint)
- UN or ID Number: None (Not more than one pint) ID 8027 (More than one pint)

15. REGULATORY INFORMATION

CA Proposition 65: No California Proposition 65 chemicals are known to be present.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 2
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 2
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

MOR 001307

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Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0025

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INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT
Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION
First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION
In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL
Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH
If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS
Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn.
Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY
It should never be necessary to use such a drastic method to separate accidentally bonded skin

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3715 NORTHSIDE PKWY N.W.
SUITE 400, BLDG.100
ATLANTA, GA. 30327

Rec. 4/13/00 FAP

#S000000094
MOREY CORP.
2659 WISCONSIN AVE.
DOWNERS GROVE, IL 60515

BLR240
04/10/00 06:00:51 HAZARDOUS MATERIAL SAFETY SHEET CONTROL
BILLING BATCH

56479
MOREY CORP.

2659 WISCONSIN AVE.
DOWNERS GROVE, IL 60515

ELECTRICAL INSULATION SUPPLIERS
Bldg 100, Ste 400
3715 Northside Parkway, NW
Northcreek Office Park
ATLANTA, GA 30327

PHONE # (404)487-3613 Shannon Schoper
(404)487-3612 Dave Sharpe
FAX # (404)609-6084

MATERIAL SAFETY DATA SHEET INFORMATION:

PLEASE FIND ENCLOSED MATERIAL SAFETY DATA SHEETS (MSDS) COVERING ITEMS PURCHASED FROM ELECTRICAL INSULATION SUPPLIERS (EIS). OSHA REGULATIONS REQUIRE MSDS INFORMATION BE MADE AVAILABLE TO ALL PERSONNEL WHO MAY BE EXPOSED TO HAZARDOUS MATERIALS IN THE WORK PLACE.

UNDER THE "EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT OF 1986" INVENTORY AND LOCATION INFORMATION, CONCERNING HAZARDOUS MATERIALS MFG JOB SITE, MAY NEED TO BE REPORTED TO THE LOCAL FIRE DEPARTMENT, THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STANDARD RESPONSE COMMISSION. YOU MAY WANT TO REFERENCE 40 CFR PART 372 FOR ADDITIONAL INFORMATION. MANUFACTURERS MUST REPORT ANNUAL RELEASES OF LISTED TOXIC CHEMICALS INTO THE ENVIRONMENT, ACCORDING TO SARA TITLE III.

ACCORDING TO 29 CFR PART 1910.1200 PARAGRAPH (g)(6) OF THE HAZARD COMMUNICATION STANDARD, A MSDS IS TO BE PROVIDED THE FIRST TIME THE CUSTOMER BUYS AN ITEM REQUIRING A MSDS. IF AT ANY TIME THE MSDS IS UPDATED OR CHANGED, THE UPDATED MSDS MUST BE SUPPLIED WITH THE FIRST SHIPMENT AFTER THE MSDS UPDATE HAS OCCURRED.

IF YOU NEED FURTHER INFORMATION CONCERNING YOUR SITUATION, YOU MAY CONTACT THE EPA IN WASHINGTON, D.C. THEIR TOLL FREE NO. IS (800)535-0202; THE RCRA/SUPERFUND HOT LINE IS (800)424-9346 OR (703)920-9810; THE TSCA HOT LINE IS (202)554-1404.

BY PROVIDING THIS DOCUMENTATION, EIS IS COMPLYING WITH FEDERAL LAWS GOVERNING MSDS INFORMATION, AS IS KNOWN TO US. THIS IS A SERVICE AIMED AT HELPING YOUR BUSINESS TO ALSO COMPLY WITH GOVERNMENT REGULATIONS.

DAVE SHARPE

"SEE THE REVERSE SIDE FOR DOCUMENT NAME AND P.O. NUMBER"

56479/MOREY CORP.

SHIP

	MSDS DOCUMENT	DATE	CUSTOMER PURCHASE ORDER NUMBER
BLR240	CHOT1674	04/05/00	105181

Provided By Electrical Insulation Suppliers Inc.

CHOMERICS INC
77 Dragon Court
Woburn, MA 01888

EMERGENCY/SAFETY INFORMATION: (617) 935-4850
OR: (617) 938-8630
ADDITIONAL MSDS: (617) 828-3300

SECTION I - IDENTIFICATION

PRODUCT (TRADE) NAME: Cho-Therm 1674

General Chemical Description: Solvent-based silicone

SECTION II - INGREDIENTS

Components	% by Weight	Exposure Guidelines OSHA PEL	ACGIH TLV
Aluminum Oxide	60-80%	10 mg/m3	10 mg/m3
Silicone Resin	15-305	NE	NE
Toluene	10-20%	100 ppm	50 ppm
Isopropanol	2-5%	50 ppm	50 ppm

SECTION III - PHYSICAL DATA

Boiling Point (Degree F):)200
Vapor Pressure (mm Hg @25 C): (4
Percent volatiles by weight: (20
Specific Gravity (water =1):) 1.75
Solubility in Water : Insoluble
Vapor Density : Heavier than air
Appearance and Odor : Gray liquid; solvent odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Degree F):
40-50, based on toluene

Flammable limits:
Lel: 1.3% UEL: 7.1% for Toluene

Extinguishing Media:
Use carbon dioxide, dry chemical, foam.

Unusual Fire or Explosion Hazard:
Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions. Vapors may form flammable mixtures with air. Vapors from this product are heavier than air, and may travel a considerable distance to a source of ignition and flash back.

Special Firefighting Procedures:
Firefighters/rescue personnel should wear positive pressure self contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

SECTION V - REACTIVITY DATA

Product Stability:
Product is stable under normal handling and storage conditions. Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.

Incompatibility:
Incompatible with strong oxidizers, acids, bases.

Hazardous Decompositions Products;
Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on th conditions of combustion.

Conditions to avoid:
Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION VI - RELEASE RESPONSE DATA

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Small Spills:
Activate all explosion-proof exhuast ventilation in the immediate spill area. Extinguish open flames and eliminate all other sources of ignition. Wipe up, or absorb with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate chemical waste containers. Dispose of as an ignitable waste in accordance with all current Federal, State, and local regulations.

Large Spills:
Evacuate all personnel not directly involved with control/cleanup operations from the immediate spill area. Extinguish open flames and all other sources of ignition. Activate explosion-proof exhaust ventilation in the immediate spill area. Shut off the source of the release if this can be done without risk of injury. Use only spill response equipment approved for use in potential flammable/explosive environments. Dike area to contain the spill and prevent releases to sewers or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering sewers or other waterways. Collect abosrbed material and water rinses in appropriate waste containers. Dispose of as an ignitable waste in accordance with Federal, State, and local regulations.

SECTION VII - HANDLING PRECAUTIONS

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

Personal Protection:
This product can cause severe eye irritation. Prevent eye contact through the use of splash-proof chemical goggles or face shield. This product can cause skin irritation. Components of this product may be absorbed through the skin. Wear appropriate protective gloves to minimize skin contact. If necessary a promper chemical-resistant apron and additional impervious clothing should be used to minimize skin contact and prevent contamination of clothing. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

Ventilation Recommendations and Respiratory Protection:
Provide effective explosion-proof mechanical exhaust ventilation to draw vapors, mists, or fumes generated during processing away from the worker and prevent routine inhalation. Ventilation must be sufficient to maintain airborne concentrations of Section 2 ingredients below their PEL/TLV values. The type of respiratory protection selected will depend upon the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Storage:
Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Do not store near heat, sparks or open flame. To prevent fire or explosion risk from static electricity accumulation and discharge, effectively ground storage and transfer containers in accordance with NFPA standards. Empty containers may contain flammable liquid or vapor residue. Do not cut, weld, solder, drill, grind or expose container to heat, flame or other source of ignition. They may explode and

cause injury or death.

SECTION VIII - HEALTH DATA

Routes of Exposure:
Skin and eye contact, inhalation of vapors.

Medical Conditions Aggravated by Exposure:
Exposure may aggravate preexisting skin, eye and/or respriatory disorders.

Eye Contact:
Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. Toluene may be absorbed through the skin.

Inhalation:
High vapor concentrations may cause respiratory irritation, headaches, nausea, dizziness; may cause anesthetic efforts or other temporary central nervous system effects. Severity of effects will be dependent upon vapor concentration and severity of exposure.

Ingestion:
Harmful if swallowed.

Chronic Health Effects:
Overexposure to toluene has produced severe but reversible liver and kidney injury in humans. Repeated and prolonged overexposure has been associated with central nervous system injury and cardiac sensitization.

SECTION IX- FIRST AID PROCEDURES:

Eye Contact:
Immediately flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

Skin Contact:
Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

Inhalation:
Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

Ingestion:
Do NOT induce vomiting. If victim is conscious and alert, dilute by giving water to drink; never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.

SECTION X ADDITIONAL INFORMATION

TSCA STATUS:
All components of this product are listed in the EPA toxic Substance Control Act Inventory.

SARA STATUS:
The components listed in Section 2 which are substances regulated by the SARA Section 313 amendments to RCRA are as follows:
Toluene (108-88-3)

Special Notes:
Date prepared: 5/12/93
Document number : 1674

Abbreviations: NA= Not Applicable NE = Not Established ND= Not Determined
ppm= Parts per Million mg/m3= Milligrams Per Cubic Meter
C= Ceiling Concentration STEL= Short Term Exposure Limit

Provided By Electrical Insulation Suppliers Inc.

Provided By Electrical Insulation Suppliers Inc.

Rec. 3/8/01 SP

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE: November 25, 1985
REVISED: October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

Section 1 Product Identification

Manufacturer's Name: Various

Product Name / Trade Name	Common Name / Grade
Stainless Steel	3XX Series, 4XX Series

Section 2 Hazardous Ingredients

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Iron (Fe)	7439-89-6	60-88	10	5 (As Iron Oxide)
Alloying Elements				
Chromium (Cr)	7440-47-3	10-30	0.5	.5
Nickel (Ni)	7440-02-0	0-27	1	0.5
Manganese (Mn)	7439-96-5	<6	5	0.2
Molybendum (Mo)	7439-98-7	<6	15	10 (Insoluble Compound)
Copper (Cu)	7440-50-8	<6	1	1 (Dust & Mist)
Titanium (Ti)	7440-32-6	<6	15	10 (As Titanium Dioxide)
Carbon (C)	7440-44-0	<2	N.E.	3.5 (As Carbon Black)
Phosphorus (P)	7723-14-0	<2	.1	.1 (Yellow)
Sulfer (S)	7704-34-9	<2	13	5 (As SO_2)
Silicon (Si)	7740-21-3	<2	15	10 (Total Dust)
Cobalt (Co)	7440-48-2	<2	0.1	0.02 (Dust & Fume)
Niobium (Nb)	7440-03-1	<2	N.E.	N.E.
Tin (Sn)	7440-31-5	<2	2	2

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Section 3 Physical Data

Material Is (At Normal Conditions)	Appearance and Odor
Solid	Gray-Black, Odorless
Melting Point (Base Metal)	**Specific Gravity**
>2500° F	Approximately 7

Extinguishing Media: NA

Special Firefighting Procedures: Steel products in the solid state present no fire or explosion hazard.

Unusual Fire and Explosion Hazards: NA

MOR 001316

Section 5 Reactivity Data

Stability	Incompatability (Materials to Avoid)
Stable	Reacts with strong acids to produce hydrogen gas.

Conditions to Avoid: NA

Hazardous Decomposition Products: Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining. Refer to ANSI Z49.1

Product
Stainless

Section 6 - Health Hazard Data

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS *BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED*

MAJOR EXPOSURE HAZARD

☒ **Inhalation** ☐ **Skin Contact** ☐ **Skin Absorption** ☐ **Eye Contact** ☐ **Ingestion**

Effects of Overexposure

Short term exposure to fumes/dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese and copper may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenzalike symptoms.

Chronic inhalation of high concentrations of iron oxide fumes or dust may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

Chromium and nickel and their compounds are listed in the 3rd Annual Report on Carcinogens, as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitis, inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs.

Recent epidemiological studies of workers melting and working alloys containing nickel/chromium have found no increased risk of cancer.

Suspected Cancer Agent? _____ NO. This product's ingredients are not found in the lists below.
__X__ YES: ____ Federal OSHA __X__ NTP ____ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Section 7 - Spill or Leak Procedures

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Section 8 - Special Protection

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section 9 - Special Precautions

In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.

Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.

MOR 001317

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

LOCTITE CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
EMERGENCY PHONE: (860) 571-5100

ISSUED 8/06/97 10:17:02
FAX: (860) 571-5465

SUPER GLUE

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650
Product Type: Cyanoacrylate Ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
METHYL 2-CYANOACRYLATE	137-05-3	90-95
Poly (methyl methacrylate)	9011-14-7	5-10
HYDROQUINONE	123-31-9	0.1-0.5

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
METHYL 2-CYANOACRYLATE	2 ppm TWA 9.1 mg/M3	2 ppm TWA 8 mg/M3	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
METHYL 2-CYANOACRYLATE	4 ppm 18 mg/M3	4 ppm 16 mg/M3

3. HAZARDS IDENTIFICATION

Toxicity: Skin contact may cause burns.
Bonds skin rapidly and strongly.
Skin and eye irritant.
Estimated oral LD50 more than 5000mg/kg.
Estimated dermal LD 50 more than 2000 mg/kg.

Primary Routes of Entry: None known

Signs and symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
METHYL 2-CYANOACRYLATE	ALG IRR	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable
ALG Allergen
BNM Bone Marrow
EYE Eyes
IRR Irritant
SKI Skin
AC3 ACGIH animal carcinogen.
BLO Blood
CNS Central nervous system
IMM Immune system
MUT Mutagen

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4. FIRST AID MEASURES

Ingestion: Ingestion is not likely. See supplemental page for emergency procedures.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Soak in warm water. See supplemental page for emergency procedures.

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

4. FIRST AID MEASURES (continued)

Eye Contact: Flush with water. See supplemental page for emergency procedures.

5. FIRE FIGHTING MEASURES

Flash Point: 150-200 F Method: Tag Closed Cup
Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical
Special Firefighting Procedures: Not available
Hazardous Products formed by Fire or Thermal Decomp: Irritating organic fragments.
Unusual Fire or Explosion Hazards: None

Explosive Limits:
(% by volume in air)Lower Not available
(% by volume in air)Upper Not available

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Flood with water to polymerize. Soak up with an inert absorbent.

7. HANDLING AND STORAGE

Safe Storage: Store at or below 75 deg. F
(Contact Loctite Customer Service 1-800-243-4874 for shelf Life information)
Handling: Avoid contact with skin and eyes. Avoid breathing vapors.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes: Safety glasses or goggles.
Skin: Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation: Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV.
Respiratory: Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear liquid
Odor: Sharp, irritating.
Boiling Point: More than 300 F
pH: Does not apply
Solubility in Water: Polymerized by water.
Specific Gravity: 1.09 at 75 F
Volatile Organic Compound (EPA Method 24): 92.6%; 1009.34 g/l
Vapor Pressure: Less than 0.2mm at 75 F
Vapor Density: Approximately 3
Evaporation Rate (Ether = 1): Not available

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10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: Polymerized by contact with water, alcohols, amines, alkalies.
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Polymerize as above. Incinerate in accordance with EPA and local regulations.

EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
- Hazard Class or Division: Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
- Identification Number: None (Not more than 450 liters); NA 1993 (More than 450 liters)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Unrestricted (Not more than one pint); Other regulated substances (More than one pint)
- Class or Division: Unrestricted (Not more than one pint); Class 9 (More than one pint)
- UN or ID Number: None (Not more than one pint) ID 8027 (More than one pint)

15. REGULATORY INFORMATION

CA Proposition 65: No California Proposition 65 chemicals are known to be present.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 2
- Reactivity Hazard: 1
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 2
- Reactivity Hazards: 1
- Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Environmental Health & Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0025

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Product Name: Super Bonder(R) 496 Instant Adhesive
Item No.: 49650

Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT
Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION
First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION
In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL
Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH
If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS
Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY
It should never be necessary to use such a drastic method to separate accidentally bonded skin

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Rec. 6/15/01

MATERIAL SAFETY DATA SHEET

DATE OF LAST CHANGE: 05/01/01

DATE PRINTED.....: 05/01/01

MANUFACTURER'S NAME:

NAZDAR SHAWNEE
8501 HEDGE LANE TERRACE
SHAWNEE
KS 66227 USA

EMERGENCY TELEPHONE #: (800)424-9300
(U.S. and Canada)
EMERGENCY TELEPHONE #: (703)527-3887
(Outside U.S. and Canada, collect calls are accepted)
INFORMATION TELEPHONE #: (800)677-4657

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CODE: 89NL

TRADE NAME...: SUPERSET THERMOSET SERIES SCREEN INK

PRODUCT CLASS: SCREEN INK

INK SERIES...: 8900

- HMIS CODES -
HEALTH - 1*
FLAMMABILITY - 2
REACTIVITY - 0
PPE - X

Item Description	WT lb/gal	VOC g/L	VOC lb/gal	% VOC volume
8915 PERMANENT PRIMROSE YELLOW	10.5	147	1.2	16
8922 ULTRA BLUE	9.7	190	1.6	20
8925 WHITE	11.9	182	1.5	19
8948 FLATTING PASTE	10.3	178	1.5	18
8989 RED TONER	9.5	188	1.6	20
89401 HALFTONE CYAN DENSE	9.5	269	2.2	27
89403 HALFTONE YELLOW DENSE	9.6	269	2.2	27
89410 YELLOW	9.8	189	1.6	20
89417 RUBINE RED	9.5	188	1.6	20
89422 REFLEX BLUE	9.6	155	1.3	17
89440 PROCESS BLUE	10.2	182	1.5	19
89PB10 TRANS PRIMROSE YELLOW	9.4	187	1.6	19
89PB13 TRANS GREEN	9.6	177	1.5	19
89PB20 TRANS ORANGE	9.3	187	1.6	19
89PB60 STOP SIGN RED	9.3	206	1.7	21

Item Description	WT lb/gal	VOC g/L	VOC lb/gal	% VOC volume
8921 PEACOCK BLUE	10.0	188	1.5	20
8924 BLACK	9.9	171	1.4	18
8926 MIXING CLEAR	9.3	122	1.0	13
8975 SUPER OPAQUE WHITE	13.0	151	1.3	16
89400 HALFTONE EXT BASE	9.5	274	2.3	28
89402 HALFTONE MAGENTA DENSE	9.5	268	2.2	27
89404 HALFTONE BLACK DENSE	9.7	275	2.3	28
89411 WARM RED	9.4	175	1.5	18
89418 RHODAMINE RED	9.8	213	1.8	22
89433 PURPLE	9.9	203	1.7	21
89441 GREEN	10.0	154	1.3	17
89PB12 TRANS MEDIUM YELLOW	9.3	187	1.6	20
89PB18 TRANS RED	9.4	175	1.5	18
89PB22 TRANS BLUE	9.4	178	1.5	19
	.0	0	.0	0

SECTION 2 -- COMPOSITION, INFORMATION ON INGREDIENTS

CHEMICAL NAME; COMMON NAME; CAS NUMBER	PERCENT BY WEIGHT	OCCUPATIONAL EXPOSURE LIMITS ACGIH TLV	OCCUPATIONAL EXPOSURE LIMITS OSHA PEL	VAPOR PRESSURE IN mmHg	NOTES
RESIN MIXTURES; CAS #: NOT AVAILABLE	46-87	NOT ESTABLISHED	NOT ESTABLISHED	<1 @ 20C	
PETROLEUM DISTILLATE; AROMATIC HYDROCARBON; CAS #: 64742-94-5	4-8	NOT ESTABLISHED	NOT ESTABLISHED	<1 @ 20C	(1)
* DIETHYLENE GLYCOL BUTYL ETHER; 2-(2-BUTOXYETHOXY)-ETHANOL; CAS #: 112-34-5	< 7	NOT ESTABLISHED	NOT ESTABLISHED	0.06 @ 25C	(2)
TITANIUM DIOXIDE; CAS #: 13463-67-7	0-41	10 mg/m3	10 mg/m3	N/A	
SILICA, AMORPHOUS; CAS #: 112926-00-8	0-21	10 mg/m3	6 mg/m3	N/A	
PIGMENTS; MIXTURE; CAS #: NOT AVAILABLE	0-14	10 mg/m3 Total dust	15 mg/m3 Total dust	N/A	(3)
ALIPHATIC DIBASIC ACID ESTERS; DIBASIC ESTER MIXTURE; CAS #: NOT ESTABLISHED	0-11	NOT ESTABLISHED	NOT ESTABLISHED	0.2 @ 20C	(4)
SILICON DIOXIDE; AMORPHOUS FUMED SILICA; CAS #: 112945-52-5	0-7	NOT ESTABLISHED	20 mppcf	N/A	
BARIUM SULFATE; CAS #: 7727-43-7	0-6	10 mg/m3	10 mg/m3 Total Dust	N/A	

CARBON BLACK: PIGMENT BLACK: CAS #: 1333-86-4	0-6	3.500 mg/m3	3.500 mg/m3	N/A	
* 2-BUTOXYETHANOL: ETHYLENE GLYCOL MONOBUTYL ETHER: CAS #: 111-76-2	0-4	20 ppm Skin	25 ppm Skin	0.6 @ 20C	(5)

* SUBJECT TO REPORTING REQUIREMENT OF SECTION 313 OF TITLE III OF SARA (40 CFR PART 372).

1) Industry recommended exposure limit of 100 ppm.
2) Supplier recommended exposure limit of 35 ppm.
   This chemical is included on the list of Hazardous Air Pollutants (HAPs) from Title III of the Clean Air Act Amendments of 1990 (Glycol Ethers Category).
3) See Section 8 Exposure Controls, Personal Protection - Exposure Guidelines for more information on exposure limits.
4) Supplier recommended exposure limit of 10 mg/m3.
5) This chemical is included on the list of Hazardous Air Pollutants (HAPs) from Title III of the Clean Air Act Amendments of 1990 (Glycol Ethers Category).

The recommended permissible exposure limits (PEL) indicated above reflect the levels adopted by OSHA in 1989. Although, some of the 1989 levels have since been vacated, the Nazdar Company recommends that the lower exposure levels be observed as reasonable worker protection.

SECTION 3 -- HAZARDS IDENTIFICATION

GENERAL HEALTH EFFECTS

THE FOLLOWING INFORMATION HAS BEEN DEVELOPED BASED UPON USING THE PRODUCT AS INTENDED BY THE MANUFACTURER. The potential health effects of this product are based on the hazards of its components. The use of this product in combination with other products may produce synergistic (additive) health effects. Cautionary labeling and material safety data sheets of all materials used with this product should be reviewed before use.

EYES

Eye contact with liquid, vapors or mists may cause irritation, including burning, tearing, redness or swelling.

SKIN

Repeated or prolonged overexposure may cause skin irritation or dermatitis. Symptoms may include dryness, chapping and redness. Skin absorption is possible but harmful effects are not expected from this route of exposure under normal conditions of handling and use.

INHALATION

Repeated and prolonged overexposure by inhalation may cause respiratory tract irritation. Symptoms may include central nervous system disorders such as headaches, dizziness, weakness and fatigue.

INGESTION

Ingestion may cause gastrointestinal tract irritation. Symptoms may include nervous system depression including drowsiness or unconsciousness. Ingestion may cause vomiting. Aspiration of material into lungs may cause chemical pneumonitis which can be fatal.

CHRONIC EFFECTS/TARGET ORGANS

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

ANIMAL STUDIES

Diethylene glycol butyl ether caused liver and blood abnormalities and kidney damage in lab animals after overexposure. Aliphatic dibasic acid esters (or its components) have been suggested as a cause of the following effects in lab animals, after overexposure, and may aggravate pre-existing disorders of these organs in humans; mild, reversible liver effects, nasal damage. 2-Butoxyethanol has caused reproductive and blood disorders resulting in kidney, liver and lung damage in lab animals. For animal studies, reference TSCA Section 4 Test Rule Results or contact the manufacturer for further details.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pregnant women and persons with pre-existing health disorders should consult their physician before using this product. Repeated and prolonged overexposure and/or individual sensitivity may increase the potential for and degree of adverse health effects. See Section 3 "Hazards Identification" for effects of certain hazardous ingredients.

ROUTES OF EXPOSURE

Primary exposure routes: Inhalation-Dermal (Contact/Absorption)-Ingestion

SECTION 4 -- FIRST AID MEASURES

EYES

After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If irritation persists have eyes examined and tested by medical personnel.

SKIN
In case of contact, immediately wash skin with a mild soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Cool water is initially suggested to prevent the pores of the skin from opening. This will minimize both the area and time of skin contact. Lukewarm water may then be used to ensure all contaminants are removed. Skin should be monitored for reddening or chemical burns. Mild soap is suggested to help prevent abrading the skin or rubbing the chemicals into pores during cleansing. Get medical attention if irritation persists or significant contact has occurred. Thoroughly wash (or discard) clothing and shoes before reuse.

INHALATION
Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if breathing difficulty is experienced.

INGESTION
If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

OTHER COMMENTS
No Data Available

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT
145 Degrees - 150 Degrees Fahrenheit (TCC)

OSHA FLAMMABILITY CLASSIFICATION (NFPA)
Class IIIA Combustible Liquid

FLAMMABLE LIMITS (LEL-LOWER EXPLOSIVE LIMIT)
0.5% volume in air

EXTINGUISHING MEDIA
Foam-CO2-Dry Chemical-Water Spray

FIRE AND EXPLOSION HAZARDS
Isolate from heat, electrical equipment, sparks, and open flame. Keep containers tightly closed. Vapors may be heavier than air and can travel to a source of ignition then flash back. Closed containers may explode when exposed to extreme heat.

FIRE FIGHTING EQUIPMENT
Full protective equipment including self-contained breathing apparatus (SCBA) is recommended to protect firefighters.

SPECIAL FIRE FIGHTING PROCEDURES
Water may be ineffective but may be used to cool containers. Fumes released on burning may be toxic and dangerous.

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RELEASE MANAGEMENT MEASURES
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid contact or breathing vapors. Ventilate area. Contain release and remove with inert absorbent. Use non-sparking tools to place material in appropriate container for disposal. The National Response Center (800-424-8802) and local authorities should be contacted for any reportable spill/release.

SECTION 7 -- HANDLING AND STORAGE

HANDLING AND STORAGE METHODS
Use in a well ventilated area. Follow all MSDS/label precautions even after container is emptied; container may retain product residues. Store in closed containers in cool, dry, well ventilated area away from sources of ignition. Keep containers closed when not in use. Smoke in designated areas only. Avoid prolonged or repeated overexposure to this product. Keep out of reach of children. Follow label directions carefully. Do not take internally. Harmful or fatal if swallowed.

SECTION 8 -- EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION
If concentrations of hazardous ingredients exceed exposure limits listed in Section 2 an appropriate NIOSH (National Institute for Occupational Safety and Health) approved respirator with an organic vapor cartridge should be used. If material is handled under mist, spray or dust forming conditions, a P100 (99.97% efficiency) filter should be used in addition to the organic vapor cartridge. If no exposure limits are listed in Section 2, follow general safety guidelines in 29 CFR 1910.134 Respiratory Protection or other applicable respiratory standard.

SKIN PROTECTION
Use neoprene, nitrile or other gloves resistant to chemicals listed in Section 2. Contact a reputable safety supply company

for appropriate gloves. Solvent resistant aprons are recommended. Prevent prolonged skin contact with contaminated clothing.

EYE PROTECTION
Use ANSI (American National Standards Institute) approved safety glasses, faceshield or splash proof goggles to prevent eye contact. Contact a reputable safety supply company for appropriate eye protection. The availability of an eye wash is highly recommended.

EXPOSURE GUIDELINES
See Section 2 "Composition, Information on Ingredients" for occupational exposure limits. Excessive concentrations of nuisance dusts or particulates not otherwise classified (PNOC) or regulated (PNOR) may reduce visibility and cause unpleasant deposits in the eyes, ears, and nasal passages. The TLV and PEL has been established for all non-toxic "nuisance dusts" that are not otherwise classified and refers to both organic and inorganic dusts. Exposure or generation of these dusts is not anticipated during normal printing operations. The use of dry pigments and powders, grinding or sanding of printed products may generate quantities of these particulates. Refer to Section 2 Composition, Information on Ingredients for exposure limits.

HYGIENIC PRACTICES
Wash with soap and water before eating, smoking or using toilet facilities. Separately wash or discard clothing and footwear before reuse. NEVER try to remove ink from the skin by using solvent or thinner. Such action is likely to increase the possibility of undesirable effects. Remove contaminated clothing to prevent prolonged skin contact.

ENGINEERING CONTROLS
Use applicable engineering controls, work practices and personal protective equipment to ensure all concentrations are kept below the exposure limits listed in Section 2. Adequate controls should be implemented to ensure employee safety from fine mists which may be produced under some printing conditions.

OTHER PROTECTION
No Data Available

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

**

APPEARANCE:
Viscous liquid

ODOR:
Characteristic

PHYSICAL STATE:
Liquid

pH
Not applicable

VAPOR PRESSURE
See Section 2 for individual ingredients.

VAPOR DENSITY
Heavier than air

BOILING POINT
Greater than 300 degrees Fahrenheit

FREEZING POINT
Not available

SOLUBILITY IN WATER
Not tested

EVAPORATION RATE
Slower than ether

VISCOSITY
Greater than water

PERCENT VOLATILE BY VOLUME: SEE SECTION ONE

WEIGHT PER GALLON: SEE SECTION ONE

VOC: SEE SECTION ONE

PHOTOCHEMICALLY REACTIVE
No

Percent volatile = Percent VOC

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Avoid excessive heat, ignition sources, sparks and open flame.

INCOMPATIBILITY WITH OTHER MATERIALS
Strong acids/bases, oxidizing/reducing agents and reactive chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS
May produce hazardous fumes when heated to decomposition e.g. carbon monoxide, carbon dioxide and other noxious gases.

HAZARDOUS POLYMERIZATION
Not anticipated during normal printing and storage conditions.

SECTION 11 -- TOXICOLOGICAL INFORMATION

EXPERIMENTAL TOXICITY DATA
Refer to Section 3 Hazards Identification for additional toxicological data. Experimental toxicity data on petroleum distillate CAS# 64742-94-5 has given the following results: Oral LD50 Rat; 10 ml/kg; Dermal LD50 Rabbit 4 ml/kg: Inhalation LC50 Rat; 3800 mg/m3 4 hours. Experimental toxicity data on 2-butoxyethanol has given the following results: Oral LD50 Rabbit; 320 mg/kg: Intraperitoneal LD50 Rat; 550 mg/kg.

SECTION 12 -- ECOLOGICAL INFORMATION

ECOTOXICITY
Because this product may be a mixture of chemicals, some of which may be ecologically toxic, it is strongly suggested that it not be disposed of into the environment, i.e. soil, water courses, lakes, landfills, sewers, etc.

ENVIRONMENTAL FATE
No Data Available

SECTION 13 -- DISPOSAL CONSIDERATIONS

DISPOSAL METHODS
Dispose of in accordance with applicable local, county, state, provincial and federal regulations. Emptied containers may retain hazardous properties. Empty containers should be disposed of in an environmentally safe manner in accordance with applicable regulations.

SECTION 14 -- TRANSPORT INFORMATION

TRANSPORT INFORMATION
Not regulated. The product(s) described by this Material Safety Data Sheet do not meet the definition of nor are they classified as a hazardous material/dangerous good as defined by the United States Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) or the Canadian Transportation of Dangerous Goods Act (TDG).

SECTION 15 -- REGULATORY INFORMATION

SARA TITLE III 313 INFORMATION
See Section 2 "Composition, Information on Ingredients" for applicable chemicals.

TOXIC SUBSTANCES CONTROL ACT STATUS
All ingredients in Section 2 are listed on the U.S. Environmental Protection Agency's Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substance List.

OTHER REGULATORY INFORMATION
OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION (OSHA) - MSDS is compliant with Occupational Safety and Health Administration Hazard Communication Standard - 29 CFR 1910.1200. AMERICAN NATIONAL STANDARDS INSTITUTE - This MSDS follows the ANSI Z400.1-1993 format. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS) - This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION (CANADA):

No Data Available

SECTION 16 -- OTHER INFORMATION

DISCLOSURE

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind express or implied is made with respect to the information contained herein. The data in this MSDS relates only to the specific material designated herein and does not apply to use in combination with any other material or process.

DEFINITIONS

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CEILING: (TLV-Ceiling and PEL Ceiling Limit) The ceiling exposure limit or concentration not to be exceeded for even brief times.

DOT: Department of Transportation

HMIS: The Hazardous Materials Identification System (HMIS) developed by the National Paint and Coatings Association (NPCA) to provide information on the acute health hazards, reactivity and flammability of products encountered in the workplace at room temperatures.

HMIS codes assigned for this product are only suggested ratings based on anticipated normal screen printing applications. The employer has the ultimate responsibility for assigning these ratings and should fully evaluate the MSDS, work practices and environmental conditions prior to assigning the appropriate ratings.

HMIS rating involves data interpretations that may vary from company to company.

HMIS Personal Protection Index of "X-Ask your supervisor" is given on this MSDS due to varying work conditions which may dictate different levels of protection. Please review this MSDS before determining appropriate protective equipment and beginning work.

IARC: International Agency for Research on Cancer

NFPA: National Fire Protection Association

NTP: National Toxicology Program

STEL: Short-Term Exposure Limit: ACGIH terminology for the short-term exposure limit or maximum concentration for a continuous exposure period of 15 minutes.

TLV: Threshold Limit Value. A term ACGIH uses to express the airborne concentration of a material to which most workers can be exposed during a normal daily and weekly work schedule without adverse effects.

TWA: Time-Weighted Average

VOC: Volatile Organic Compound

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1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067-3910
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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tak Pak(R) 382 Instant Adhesive Ultra-Performance
Item No.: 38240 Part of Kit: 20420
Product Type: Cyanoacrylate Ester

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Ethyl cyanoacrylate	7085-85-0	85-90
Poly (methyl methacrylate)	9011-14-7	10-15
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	112945-52-5	1-3
PHTHALIC ANHYDRIDE*	85-44-9	0.1-1
HYDROQUINONE	123-31-9	0.1-0.5

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
Ethyl cyanoacrylate	None	None	2 ppm TWA 9.1 mg/m3
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	10 mg/m3 TWA	6 mg/m3 TWA	3 mg/m3 TWA resp. dust
PHTHALIC ANHYDRIDE	1 ppm TWA 6.1 mg/m3	1 ppm TWA 6 mg/m3	None
HYDROQUINONE	2 mg/m3 TWA	2 mg/m3 TWA	2 mg/m3 TWA 4 mg/m3 STEL

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
Ethyl cyanoacrylate	(4 ppm) (18 mg/m3)	(4 ppm) (16 mg/m3)

3. HAZARDS IDENTIFICATION

Toxicity: Skin contact may cause burns. Bonds skin rapidly and strongly. Skin and eye irritant.

Primary Routes of Entry: None known

Signs and symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.

Existing Conditions Aggravated by Exposure: None known

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Ethyl cyanoacrylate	ALG IRR RES	NO	NO	NO
Poly (methyl methacrylate)	IRR	NO	N/A	NO
SILICA, AMORPHOUS, FUMED, CRYSTALLINE-FREE	NUI	NO	N/A	NO
PHTHALIC ANHYDRIDE	AC4 ALG COR IRR	NO	NO	NO
HYDROQUINONE	AC3 BLO BNM CNS EYE IMM IRR MUT SKI	NO	N/A	NO

Abbreviations

N/A Not Applicable
AC4 ACGIH-Unclassifiable as human carc.
BLO Blood
CNS Central nervous system
EYE Eyes
AC3 ACGIH animal carcinogen.
ALG Allergen
BNM Bone Marrow
COR Corrosive
IMM Immune system

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MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 382 Instant Adhesive Ultra-Performance
Item No.: 38240

3. HAZARDS IDENTIFICATION (continued)

IRR Irritant
NUI Nuisance dust
SKI Skin
MUT Mutagen
RES Respiratory

4. FIRST AID MEASURES

Ingestion:	Ingestion is not likely. See supplemental page for emergency procedures.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Soak in warm water. See supplemental page for emergency procedures.
Eye Contact:	Flush with water. See supplemental page for emergency procedures.

5. FIRE FIGHTING MEASURES

Flash Point:	150 - 200°F Method: Tag Closed Cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	1.7% Phthalic anhydride
(% by volume in air)Upper	10.5% Phthalic anhydride

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Flood with water to polymerize. Soak up with an inert absorbent.

7. HANDLING AND STORAGE

Safe Storage:	Store at or below 75°F
(Contact Loctite Customer	Service 1-800-243-4874 for shelf Life information)
Handling:	Avoid contact with skin and eyes. Avoid breathing vapor.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Nitrile or polyethylene gloves and aprons. Do not use cotton. See supplemental page for additional information.
Ventilation:	Positive down-draft exhaust ventilation should be provided to maintain vapor concentration below TLV
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Odor:	Sharp, irritating
Boiling Point:	More than 300°F
pH:	Does not apply
Solubility in Water:	Polymerized
Specific Gravity	1.05 at 75°F
Volatile Organic Compound (EPA Method 24)	85.6%; 899 grams per liter
Vapor Pressure:	Less than 0.2 mm at 75°F
Vapor Density:	Approximately 3
Evaporation Rate (Ether = 1)	Not available

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MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 382 Instant Adhesive Ultra-Performance
Item No.: 38240

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur
Incompatibility: Polymerized by contact with water, alcohols, amines, alkalies.
Conditions to Avoid: Not available
Hazardous Decomposition Products (non-thermal): None

11. TOXICOLOGICAL INFORMATION

Estimated oral LD50 more than 5000 mg/kg.
Estimated dermal LD50 more than 2000 mg/kg.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal: Polymerize as above. Incinerate in accordance with EPA and local regulations.
EPA Hazardous Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
Proper Shipping Name: Unrestricted (Not more than 450 liters); Combustible liquids, n.o.s. (Cyanoacrylate ester) (More than 450 liters)
Hazard Class or Division: Unrestricted (Not more than 450 liters) Combustible liquid (More than 450 liters)
Identification Number: None (Not more than 450 liters); NA 1993 (More than 450 liters)
Marine Pollutant: None
IATA
Proper Shipping Name: Unrestricted (Not more than one pint); Other regulated substances (More than one pint)
Class or Division: Unrestricted (Not more than one pint); Class 9 (More than one pint)
UN or ID Number: None (Not more than one pint) ID 8027 (More than one pint)

15. REGULATORY INFORMATION

CA Proposition 65: No California Proposition 65 chemicals are known to be present.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
Health Hazard: 2
Fire Hazard: 2
Reactivity Hazard: 1
Specific Hazard: Does not apply

Estimated HMIS(R) Code:
Health Hazard: 2*
Flammability Hazard: 2
Reactivity Hazards: 1
Personal Protection: See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist, Health and Safety
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill, CT 06067

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Product Name: Tak Pak(R) 382 Instant Adhesive Ultra-Performance
Item No.: 38240

16. OTHER INFORMATION (continued)

(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0028

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MATERIAL SAFETY DATA SHEET

Product Name: Tak Pak(R) 382 Instant Adhesive Ultra-Performance
Item No.: 38240

Supplement

INFORMATION FOR FIRST AID AND CASUALTY ON TREATMENT FOR ADHESION OF HUMAN SKIN TO ITSELF IF CAUSED BY CYANOACRYLATE ADHESIVES

Cyanoacrylate adhesive is a very fast setting and strong adhesive. It bonds human tissue including skin in seconds. Experience has shown that accidents due to cyanoacrylates are handled best by passive, nonsurgical first aid. Treatment of specific types of accidents are given below.

SKIN CONTACT
Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin.

Avoid contact with clothes, fabrics, rags, or tissue. Contact with these materials may cause polymerization. The polymerization of large amounts of adhesive will generate heat causing smoke, skin burns, and strong, irritating vapors. Wear nitrile or polyethylene gloves and apron when handling large amounts of adhesive.

SKIN ADHESION
First immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e.g. a spatula or a teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull surfaces apart with a direct opposing action.

EYELID TO EYELID OR EYEBALL ADHESION
In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

ADHESIVE ON THE EYEBALL
Cyanoacrylate introduced into the eyes will attach itself to the eye protein and will disassociate from it over intermittent periods, generally covering several hours. This will cause periods of weeping until clearance is achieved. During the period of contamination, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.

MOUTH
If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action.

It is almost impossible to swallow cyanoacrylate. The adhesive solidifies and adheres in the mouth. Saliva will lift the adhesive in one half to two days. In case a lump forms in the mouth, position the patient to prevent ingestion of the lump when it detaches.

BURNS
Cyanoacrylates give off heat on solidification. In rare cases a large drop will increase in temperature enough to cause a burn. Burns should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.

SURGERY
It should never be necessary to use such a drastic method to separate accidentally bonded skin.

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05/26/99 07:00:24 HAZARDOUS MATERIAL SAFETY SHEET CONTROL
BILLING BATCH

GE-Silicones

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56479
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2659 WISCONSIN AVE.
DOWNERS GROVE , IL 60515

ELECTRICAL INSULATION SUPPLIERS
Bldg 100, Ste 400
3715 Northside Parkway, NW
Northcreek Office Park
ATLANTA, GA 30327

PHONE # (404)487-3613 Shannon Schoper
(404)487-3612 Dave Sharpe
FAX # (404)609-6084

MATERIAL SAFETY DATA SHEET INFORMATION:

PLEASE FIND ENCLOSED MATERIAL SAFETY DATA SHEETS (MSDS) COVERING ITEMS PURCHASED FROM ELECTRICAL INSULATION SUPPLIERS (EIS). OSHA REGULATIONS REQUIRE MSDS INFORMATION BE MADE AVAILABLE TO ALL PERSONNEL WHO MAY BE EXPOSED TO HAZARDOUS MATERIALS IN THE WORK PLACE.

UNDER THE "EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT OF 1986" INVENTORY AND LOCATION INFORMATION, CONCERNING HAZARDOUS MATERIALS MFG JOB SITE, MAY NEED TO BE REPORTED TO THE LOCAL FIRE DEPARTMENT, THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STANDARD RESPONSE COMMISSION. YOU MAY WANT TO REFERENCE 40 CFR PART 372 FOR ADDITIONAL INFORMATION. MANUFACTURERS MUST REPORT ANNUAL RELEASES OF LISTED TOXIC CHEMICALS INTO THE ENVIRONMENT, ACCORDING TO SARA TITLE III.

ACCORDING TO 29 CFR PART 1910.1200 PARAGRAPH (g)(6) OF THE HAZARD COMMUNICATION STANDARD, A MSDS IS TO BE PROVIDED THE FIRST TIME THE CUSTOMER BUYS AN ITEM REQUIRING A MSDS. IF AT ANY TIME THE MSDS IS UPDATED OR CHANGED, THE UPDATED MSDS MUST BE SUPPLIED WITH THE FIRST SHIPMENT AFTER THE MSDS UPDATE HAS OCCURRED.

IF YOU NEED FURTHER INFORMATION CONCERNING YOUR SITUATION, YOU MAY CONTACT THE EPA IN WASHINGTON, D.C. THEIR TOLL FREE NO. IS (800)535-0202; THE RCRA/SUPERFUND HOT LINE IS (800)424-9346 OR (703)920-9810; THE TSCA HOT LINE IS (202)554-1404.

BY PROVIDING THIS DOCUMENTATION, EIS IS COMPLYING WITH FEDERAL LAWS GOVERNING MSDS INFORMATION, AS IS KNOWN TO US. THIS IS A SERVICE AIMED AT HELPING YOUR BUSINESS TO ALSO COMPLY WITH GOVERNMENT REGULATIONS.

DAVE SHARPE

"SEE THE REVERSE SIDE FOR DOCUMENT NAME AND P.O. NUMBER"

56479/MOREY CORP.

SHIP

	MSDS DOCUMENT	DATE	CUSTOMER PURCHASE ORDER NUMBER
BLR240	GE133	05/24/99	110113

Provided By Electrical Insulation Suppliers Inc.

ENGINEERING CONTROLS:
Eyewash stations.
Use in a well ventilated area.
RESPIRATORY PROTECTION:
USE IN A WELL VENTILATED AREA.
PROTECTIVE GLOVES:
CLOTH GLOVES.
EYE AND FACE PROTECTION:
Safety glasses.
OTHER PROTECTIVE EQUIPMENT:
NONE KNOWN.
VENTILATION:
Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT INFORMATION:

BOILING POINT	:	NA	(C)	NA	(F)
VAPOR PRESSURE (20C)(MMHG)	:	NEG.			
VAPOR DENSITY (AIR=1)	:	NEG.			
FREEZING POINT	:	NA	(C)	NA	(F)
MELTING POINT	:	NA	(C)	NA	(F)
PHYSICAL STATE	:	SOLID			
ODOR	:	SWEET			
COLOR	:	BLACK			
ODOR THRESHOLD (PPM)	:	UNK			
% VOLATILE BY VOLUME	:	<4.9			
EVAP.RATE (BUTYL ACETATE=1)	:	<1			
SPECIFIC GRAVITY (WATER=1)	:	1.23			
DENSITY (KG/M3)	:	1230			
ACID/ALKALINITY (MEQ/G)	:	UNK			
PH	:	NA			
VOC (EPA METH.24) (G/L)	:	<60			
SOLUBILITY IN WATER (20C)	:	NEG			

SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):SLIGHT IN TOLUENE

10. STABILITY AND REACTIVITY

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:
Carbon monoxide.
Carbon dioxide.
Silicon dioxide.
METHANOL.
FORMALDEHYDE
INCOMPATIBILITY (MATERIALS TO AVOID):
NONE KNOWN.
CONDITIONS TO AVOID:
NONE KNOWN.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION
ACUTE ORAL LD50 (MG/KG): NA
ACUTE DERMAL LD50 (MG/KG): NA
ACUTE INALATION LC50 (MG/L): NA
OTHER:
None.
AMES TEST: UNKNOWN

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:

Disposal should be made in accordance with federal,state and local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: NONE
DOT HAZARD CLASS: NOT DOT REGULATED
DOT LABEL(S): NA
UN/NA NUMBER: NA
PLACARDS: NONE
IATA: NA

IMO IMDG-CODE: NA
EUROPEAN CLASS:
RID (OCTI): NA
ADR (ECE): NA
RAR (IATA): NA

15. REGULATORY INFORMATION

SARA SECTION 302:
None Found
SARA (311, 312) HAZARD CLASS:
ACUTE HEALTH HAZARD
SARA (313) CHEMICALS:
NONE
CPSC CLASSIFICATION: NA
WHMIS HAZARD CLASS:
D2B TOXIC MATERIALS
WHMIS TRADE SECRET:
NONE
EXPORT:
SCHDLE B/HTSUS:
ECCN: 3910.00 SILICONES IN PRIMARY FORM.
HAZARD RATING SYSTEMS EAR99
HMIS FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
NFPA FLAMMABILITY 0 , REACTIVITY 0 , HEALTH 22
CALIFORNIA PROPOSITION 65:
NONE

16. OTHER INFORMATION

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS MADE. THE RECOMMENDED HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTENT OF THE INTENDED USE.....
.....
THIS PRODUCT OR ITS COMPONENTS ARE ON THE AUSTRAILIAN INVENTORY (ACOIN).....
.....

C = CEILING LIMIT	NEGL = NEGLIGIBLE
EST= ESTIMATED	NF = NONE FOUND
NA = NOT APPLICABLE	UNKN = UNKNOWN
NE = NONE ESTABLISHED	REC = RECOMMENDED
ND = NONE DETERMINED	V = RECOMM. BY VENDOR
BY-PRODUCT = REACTION BY-	SKIN = SKIN
PRODUCT, TSCA INVENTORY	TS = TRADE SECRET
STATUS NOT REQUIRED UNDER	R = RECOMMENDED
40 CFR PART 720.30 (H-2)	MST = MIST
STEL = SHORT LIMIT EXPOSURE LIMIT	NT = NOT TESTED

.....

GE SILICONES

MATERIAL SAFETY DATA SHEET
FORMAT: USA COPYRIGHT GENERAL ELECTRIC CO.

PRODUCT: RTV133 SILICONE SEALANT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:
GE SILICONES .
260 HUDSON RIVER ROAD
WATERFORD, CT. 12188

SUPPLIED BY:
GE SILICONES
260 HUDSON RIVER ROAD
WATERFORD, NY 12188

EMERGENCY PHONE (24 HRS)
(518) 237-3330

EMERGENCY PHONE (24 HRS)
(518) 237-3330

REVISED: 06/10/98
PREPARER: CE HANNIGAN
CHEMICAL FAMILY/USE: SILICONE RUBBER
FORMULA: MIXTURE

2. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION/ CAS REG NO.	APPROX. WGT. %	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL TWA	OSHA PEL STEL	UNITS
A. HAZARDOUS						
TIANIUM, BIS(ETHYL ACETOACETATO)-DIISOPROPOXY- 27858-32-8	1-5	NE	NA	NE	NA	NA
METHYLTRIMETHOXYSILANE 1185-55-3	1-5	NA	NE	NA	NE	NA
B. NON-HAZARDOUS						
VINYLSTOPPED PHENYLMETHYL POLYMER 68951-96-2	5-10	NA	NE	NA	NE	NA
DIMETHYL POLYSILOXANE SILANOL/ST 70131-67-8	30-60	NA	NE	NA	NE	NA
D4 & HMDZ TREATED SILICON DIOXIDE 68937-51-9	10-30	10	NE	15	NE	MG/M3
QUARTZ 14808-60-7	10-30	0.1	NE	0.1	NE	MG/M3

SEE SECTION 15 FOR DESCRIPTION OF ANY WHMIS TRADE SECRET(S).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
This section not in use
POTENTIAL HEALTH EFFECTS:
INGESTION:
MAY BE harmful if swallowed.
SKIN CONTACT:
UNCURED PRODUCT WILL IRRITATE LIPS, GUMS AND TONGUE.
UNCURED PRODUCT CONTACT MAY IRRITATE THE SKIN.
INHALATION:
CAUSES MILD RESPIRATORY IRRITATION.
APPLIES ONLY IN UNCURED STATE.
EYE CONTACT:
UNCURED PRODUCT CONTACT IRRITATES EYES.
MEDICAL CONDITIONS AGGRAVATED:
NONE KNOWN.
SUBCHRONIC (TARGET ORGAN) EFFECTS:
NONE KNOWN.
CHRONIC EFFECTS/CARCINOGENICITY:
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by

NTP, IARC, or OSHA.
PRODUCTS/INGREDIENTS
This space reserved for special use.
PRINCIPLE ROUTES OF EXPOSURE:
Eyes.
DERMAL-SKIN
OTHER:
METHANOL RELEASED DURING CURING. THIS PRODUCT CONTAINS METHYL-POLYSILOXANES WHICH CAN GENERATE FORMALDEHYDE AT APPROXIMATELY 300 DEGREES FARENHEIT (150'C) AND ABOVE, IN ATMOSPHERES WHICH CONTAIN OXYGEN. FORMALDEHYDE IS A SKIN AND RESPIRATORY SENSITIZER, EYE AND THROAT IRRITANT, ACUTE TOXICANT, AND POTENTIAL CANCER HAZARD. AN MSDS FOR FORMALDEHYDE IS AVAILABLE FROM GE SILICONES.

4. FIRST AID MEASURES

INGESTION:
RINSE MOUTH WITH WATER SEVERAL TIMES.
SKIN:
TO CLEAN FROM SKIN, REMOVE COMPLETELY WITH A DRY CLOTH OR PAPER TOWEL, BEFORE WASHING WITH DETERGENT AND WATER. GET MEDICAL ATTN. IF IRRITATION PERSISTS.
INHALATION:
MOVE PERSON TO FRESH AIR.
EYES:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention IF IRRITATION PERSISTS.
NOTE TO PHYSICIAN:
None Known.

5. FIRE FIGHTING MEASURES

FLASH POINT:		NA	(C)	NA	(F)
METHOD	:	NA			
IGNTIION TEMP	:	NA	(C)	NA	(F)
FLAMMABLE LIMITS IN AIR - LOWER(%):		NA			
FLAMMABLE LIMITS IN AIR - UPPER(%):		NA			
SENSITIVITY TO MECHANICAL IMPACT (Y/N):		NO			

SENSITIVITY TO STATIC DISCHARGE:
Sensitivity to static discharge is NOT EXPECTED.
EXTINGUISHING MEDIA:
All standard firefighting media.
SPECIAL FIREFIGHTING PROCEDURES:
NONE KNOWN.

6. ACCIDENTAL RELEASE MEASURES

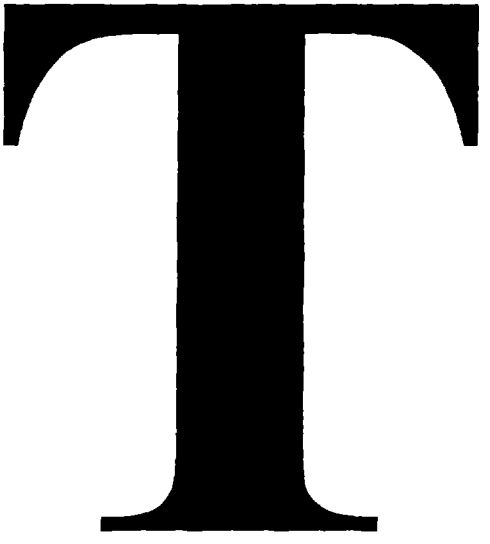
ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Wipe, scrape or soak up in an inert material and put in a container for disposal.
WASH WALKING SURFACES WITH DETERGENT AND WATER TO REDUCE SLIPPING HAZARD. WEAR PROPER PROTECTIVE EQUIPMENT AS SPECIFIED IN THE PROTECTIVE EQUIPMENT SECTION.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID CONTACT WITH SKIN AND EYES. CAUTION! COMBUSTIBLE. REMOVE CONTACT LENSES BEFORE USING SEALANT. DO NOT HANDLE LENSES UNTIL ALL SEALANT HAS BEEN CLEANED FROM THE FINGERTIPS, NAILS AND CUTICLES. RESIDUAL SEALANT MAY REMAIN ON FINGERS FOR SEVERAL DAYS AND TRANSFER TO LENSES AND CAUSE SEVERE EYE IRRITATION. PRODUCT RELEASES METHANOL DURING APPLICATION AND CURING. (METHANOL TLV=200 PPM).
UNCURED PRODUCT CONTACT IRRITATES EYES.
UNCURED PRODUCT CONTACT MAY IRRITATE SKIN.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE MOREY CORPORATION



MOR 001339

100 Morey Drive Woodridge Illinois 60517 Tel: 630 754 2300 Fax: 630 754 2001 www.moreycorp.com

RIBOL 930 HIGH TEMPERATURE CHAIN OIL
LD

A. Chemical Product and Company Identification

roduct Name: TRIBOL 930 HIGH TEMPERATURE CHAIN OIL
eneral Use: See Product Data Sheet
roduct Description: See Product Data Sheet.
SDS Code: 71860A
ynonyms/Trade Names: Same as product name.

Manufacturer: Castrol Industrial North America Inc.
Address (Line 1): 1001 West 31st Street
Address (Line 2): Downers Grove, IL 60515-1280
Emergency Phone: 1-800-424-9300 (CHEMTREC)

Information Phone: 1-800-621-2661
Regulatory Questions/MSDS Preparation - SHEA Department
Product Chemistry/Application Questions - Technical Support

f available in Canada, this product is supplied by:
Castrol Canada Inc.
3660 Lakeshore Blvd. West
Toronto, Ontario M8W 1P2

Information Phone: 416-252-5511

B. Composition/Information on Ingredients

ngredient Name	CAS Number	%

ontains no ingredients now known to be hazardous by OSHA

CAS Number	Exposure Guideline

If applicable, the exposure limits listed are found in the ACGIH TLV guide for TWA unless otherwise noted.

313 Listed Chemicals
If none listed here, or in Section 0,there are no 313 chemicals present ab ve threshold value.

Castrol Industrial North America Inc
Performance Lubricants Division
1001 W. 31st Street, Downers Grove, IL 60515 • (630) 753-2000 • FAX (630) 753-2100

Molub-Alloy®
Optimol®

C. Hazards Identification

********** EMERGENCY OVERVIEW **********

Appearance:
lear yellowish liquid. Faint characteristic odor.

FPA: Health 1 Flammability 1 Reactivity 0 Special
****

otential Health Effects
Eye: May cause eye irritation.
Skin Contact: May cause skin irritation.
Skin Absorption: No acute effects expected.
Ingestion: LD 50 not established. Do not ingest. Ingestion may irritate the gastrointestinal tract and may cause nausea and vomiting.
Inhalation: Vapors may irritate the mucosal membranes of mouth, nose, and throat. Intense and/or prolonged exposure to vapor concentrations exceeding the TLV/PEL may cause headache, nausea, and vomiting. Oil vapors may accumulate in the lungs, and may cause chemical pneumonitis.
Chronic Effects: A review of the literature does not show obvious long term hazard.
Carcinogenicity: No component known to be present in this product at >0.1% is presently listed as a carcinogen by IARC, NTP or OSHA, unless otherwise noted in Section P - Other Information.
Routes of Exposure: Skin contact. Eye contact. Inhalation.

D. First Aid Measures

Eye: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin: Wipe off, then wash thoroughly with soap and water. Get medical attention if irritation occurs.
Ingestion: If the individual is conscious, give 1-2 glasses of milk or water to dilute stomach content. Do not physically induce vomiting. Never give anything by mouth to an unconscious person. Get prompt medical attention.

Inhalation: Immediately remove the individual to fresh air. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Get prompt medical attention.

E. Fire Fighting Measures

Flammable Properties
Flash Point (degrees F/C): 545°F / 285°C Method:
Upper Flammable Limit: Not available
Lower Flammable Limit: Not available
Autoignition Temperature: Not determined
Hazardous Products of Combustion: Potential combustion products are oxides

IBOL 930 HIGH TEMPERATURE CHAIN OIL
D

E. Fire Fighting Measures (Cont.)

of carbon and nitrogen.
Properties That Could Increase Fire or Explosion Hazard:None known.
tinguishing Media: Dry chemical, water-fog, chemical foam, or CO2. Direct water-stream may cause frothing.
ire Fighting Instructions: Wear self contained breathing apparatus when fire fighting in a confined space. Cool fire exposed containers with waterspray to prevent rupture.

F. Accidental Release Measures

ear adequate protection and eliminate all sources of ignition. Stop the leak, f it can be safely done. Ventilate the area and dike the spill to prevent ntry into sewer or watercourses. Absorb with an oil-absorbent. Advise uthorities if product has entered or may enter sewers, watercourses or xtensive land areas.

G. Handling and Storage

eep containers closed when not in use. Do not store near heat, sparks, flame r strong oxidants. Store in a clean, dry area below 49C/120F, away from all gnition sources and incompatible materials. Avoid contact with skin and eyes. void breathing mists.

H. Exposure Controls/Personal Protection

ersonal Protective Equipment (PPE)
Eye/Face Protection: Wear chemical safety goggles plus full face shield to protect against splashing.
Skin Protection: Oil-impervious and solvent-resistant (e.g. neoprene) type.
Respiratory Protection: Good industrial hygiene practices recommend that engineering controls be used to reduce environmental concentrations to the threshold limit value (TLV) or permissible exposure limit (PEL). If any associated TLV or PEL is exceeded, provide NIOSH approved respiratory protection. This product does not constitute a health or physical hazard during normal industrial use. As in all industrial applications, adequate ventilation and good hygienic practices are advisable.

)ther: Eyewash facility. Oil-impervious (e.g. neoprene) clothing to avoid skin contact.

Exposure Guidelines: See information provided in Section B, Ingredients.

Castrol Industrial North America Inc
Performance Lubricants Division
1301 W. 147th Street, Hawthorne, CA 90250 • (310) 679-0271 • FAX (310) 679-0862

Molub-Alloy®
Optimol®
Tribol®

I. Physical and Chemical Properties

Appearance/Odor:
:lear yellowish liquid. Faint characteristic odor.
pH (conc): Not applicable pH at :Not applicable
Vapor Pressure (mm Hg): Not determined
Vapor Density (Air = 1): Not determined
Boiling Point (degrees F/C): Not known / Not known
Freezing Point (degrees F/C): not determined
Melting Point (degrees F/C): Not known / Not known
Solubility in Water: Negligible
Specific Gravity at 60 degrees F (H2O = 1): 0.9900 +/-
Density: Not calculated
Softening Point (degrees F): Not determined
Evaporation Rate (n-Butyl Acetate = 1): Not determined
Viscosity: Not available
Bulk Density: Not determined
% Volatile: Not determined
VOC: Not testedlbs/gallon Method: Not Tested
Octanol/Water Partition Coefficient: Not determined
Saturated Vapor Concentration: Not determined
Molecular Weight: Not applicable

J. Stability and Reactivity

Chemical Stability: Stable under normal conditions.
Conditions To Avoid: Prolonged exposure to elevated temperatures.
Incompatibility With Other Materials: Strong oxidizers, acids and alkalies.
Hazardous Decomposition Products: Potential combustion products are oxides of carbon and nitrogen.

K. Toxicological Information

Eye Effects: May cause eye irritation.
Skin Effects, Contact: May cause skin irritation.
Skin Effects, Absorption: No acute effects expected.
Acute Oral Effects (Ingestion): LD 50 not established. Do not ingest. Ingestion may irritate the gastrointestinal tract and may cause nausea and vomiting.
Acute Inhalation Effects: Vapors may irritate the mucosal membranes of mouth, nose, and throat. Intense and/or prolonged exposure to vapor concentrations exceeding the TLV/PEL may cause headache, nausea, and vomiting. Oil vapors may accumulate in the lungs, and may cause chemical pneumonitis.
Chronic Effects: A review of the literature does not show obvious long term hazard.
Carcinogenicity: No component known to be present in this product at >0.1% is presently listed as a carcinogen by IARC, NTP or OSHA, unless otherwise noted in Section P - Other Information.

L. Ecological Information

Ecotoxicological Information: No specific ecological data available for this product.

M. Disposal Considerations

US EPA Hazardous Waste Numbers:
This product as purchased does not fall under current U.S. EPA RCRA definitions of hazardous waste. Under RCRA it is the generator's responsibility to determine the status of the waste at the time of its disposal.

General Disposal Considerations:
Dispose of in accordance with local, state and federal regulations. Disposal of this material to the land may be banned by federal law (40 CFR 268).

CERCLA Reportable Quantity: This product does not contain any CERCLA regulated materials.

N. Transport Information

Hazardous Materials Description/Proper Shipping Name:
Not Regulated.
Hazard Class: Same As Above
Identification Number (UN or NA Number): Same As Above
Packing Group: Same As Above
Freight Class:
NMFC 155250, PETROLEUM OILS, GREASES & RELATED PRODUCTS, NOI CLASS 65.

Telephone Number for Transport Instructions: 1-800-621-2661, SHEA Department

O. Regulatory Information

J.S. Federal Regulations:
Hazardous per OSHA 29 CFR 1910.1200: Yes
CERCLA/EPCRA:
Section 302 Extremely Hazardous Substances (EHS):
No listed ingredients are present on the 302 list.

Section 311/312 Hazard Class(es): Immediate: YES Delayed: NO
Fire: NO Reactivity: NO Sudden Release of Pressure: NO

Section 313 Toxic Chemicals:
If none listed here or in Section B, there are no 313 chemicals present above threshold value.

MOR 001344

O. Regulatory Information (Cont.)

Other U.S. Federal Regulations: This product is a mixture and is NOT listed in the TSCA inventory. The individual ingredients in the product ARE listed in the TSCA inventory.

International Regulations: CANADA: All components of this material are listed on the Canadian Domestic Substance List (DSL).

This product is non-controlled under W.H.M.I.S.

P. Other Information

No component known to be present in this product at >0.1% is presently listed as a carcinogen by IARC, NTP or OSHA.

Q. Disclaimer

Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or the use of any product in violation of any patent, or in violation of any law or or regulation. It is the user's responsibility to determine the suitability of any material for a specific purpose, and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, must necessarily disclaim all liability with respect to the use of any material supplied by us.

Castrol Industrial North America Inc
Performance Lubricants Division
4801 W. 147th Street, Hawthorne, CA 90250 • (310) 679-0271 • FAX (310) 679-0862

Molub-Alloy®
Optimol®
Tribol®

Rec 3/8/01 Sep

PREPARED BY DISTRIBUTOR:

Castle Metals®

A. M. Castle & Co.
3400 N. Wolf Road
Franklin Park, IL 60131

MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE
November 25, 1985

REVISED
October 1, 1997

For Information or In An Emergency
Call: (847) 455-7111

Section 1 - Product Identification

Manufacturer's Name
Various

Product Name / Trade Name	Common Name / Grade
Titanium	Titanium CP, Titanium 6-4, etc.

Section 2 - Hazardous Ingredients

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g³) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m³) (2)
Base Metal				
Titanium	7440-32-6	46-90	15	10 (As Titanium Dioxide)
Alloying Elements				
Aluminum (Al)	7429-90-5	0-6	15	10 (Total Dust)
Vanadium (V)	7440-62-2	0-10	0.5	.05 (Respirable Dust)
Iron (Fe)	7439-89-6	0-48	10	5 (As Iron Oxide)
Molybdenum (Mo)	7439-98-7	0-6	15	10 (Insoluble Compound)
Tin (Sn)	7440-31-5	0-5	2	2
Zirconium (Zr)	7440-67-2	0-4	5	5
Manganese (Mn)	7439-96-5	0-5	5	0.2
Tantalum (Ta)	7440-25-7	<1	5	5
Titanium 6-2-2-2 + 5-2-2-4-4 + 3-8-6-4-4				
Chromium (Cr)	7440-47-3	2-6	0.5	.5
Titanium 2.5 + 6-2-1-1				
Copper (Cu)	7440-50-8	2-2.5	1	1 (Dust & Mist)
Titanium .3 - .8				
Nickel (Ni)	7440-02-0	.8	1	0.5

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.
(3) 1993 OSHA Permissable Exposure Limit.

Section 3 - Physical Data

Material Is (At Normal Conditions)	Appearance and Odor
Solid	Gray-Metallic, Odorless
Melting Point (Base Metal)	**Specific Gravity**
1560 - 1840º C	NA

Section 4 - Fire and Explosion

Extinguishing Media
See Special Precautions

Special Firefighting Procedures
See Special Precautions

MOR 001346

Unusual Fire and Explosion Hazards
This product does not burn, however, grinding or polishing this product in the absence of oxygen, such as under water, can result in a finely divided waste which is ignitable.

Section 5 - Reactivity Data

Stability	Incompatability (Materials to Avoid)
Stable	Nitric Acid

Conditions to Avoid
Corrosion caused by red fuming nitric acid will explode on exposure to friction or heat. See Special Precautions.

Hazardous Decomposition Products
Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining. Refer to ANSI Z49.1

Product
Titanium

Section 6 - Health Hazard Data

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

MAJOR EXPOSURE HAZARD

☒ Inhalation ☐ Skin Contact ☐ Skin Absorption ☐ Eye Contact ☐ Ingestion

Effects of Overexposure

The toxicity of titanium dioxide has been found to be relatively inert. Skin contact with titanium dust may cause physical abrasion. Eye contact with pure material has shown particulate irritation.

Aluminum and molybdenum dust/fines and fumes are low health risk by inhalation and should be treated as a nuisance dust.

Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese and copper may cause metal fume fever, characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenzalike symptoms.

Chromium and nickel and their compounds are listed in the 3rd Annual Report on Carcinogens, as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitus, inflammation and/or ulceration of upper respiratory tract and possible cancer of nasal passages and lungs.

Recent epidemiological studies of workers melting and working alloys containing nickel/chromium have found no increased risk of cancer.

Suspected Cancer Agent? _____ NO: This product's ingredients are not found in the lists below.
__X__ YES: ____ Federal OSHA __X__ NTP ____ IARC

Emergency and First Aid Procedures

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

Section 7 - Spill or Leak Procedures

Spill or Leak Procedures

NA

Waste Disposal Methods

According to local, state and federal regulations

Section 8 - Special Protection

Respiratory

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Ventilation

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Eye Protection and Protective Clothing

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section 9 - Special Precautions

MOR 001347

If ignitable waste is generated, special precautions and firefighting procedures should be followed:

1) Keep work areas free of the waste.
2) Store wet and keep away from heat and open flame - maintain humidity above 50% to prevent an electrostatic build-up.
3) No smoking in area.
4) Use non-sparking metal equipment.
5) Extinguishing media: dry chemical powders, salts or inert gas. Do not use water or liquid: explosion hazard could result.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

Data sheets of individual manufacturers may be obtained by contacting A. M. Castle & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.

MATERIAL SAFETY DATA SHEET

REV. 2 NO. 1133

MOORE SOLDERS, INC.
1751 JAY ELL DR., RICHARDSON, TX. 75081 INFORMATION: 214-238-1224

DATE PREPARED: JUNE 13,1993

EMERGENCY:(800-424-9300) ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

N.F.P.A. / HEALTH: 1 FIRE: 3 REACTIVITY: 0 PREPARER: ROBERT L. GILBERT/TECHNICAL MANAGER

TRANSPORTATION REQUIREMENTS D.O.T. PROPER SHIPPING NAME: RESIN SOLUTION D.O.T. HAZARD CLASS: FLAMMABLE LIQUID
UN/NA CODE: UN1866 D.O.T. LABEL REQUIRED: FLAMMABLE PACKING GROUP: II

IDENTITY: (THIS MSDS COVERS ALL OF THE FOLLOWING PRODUCTS): CHEMICAL(S) FLUX THINNER

X732-10m (EA0019) THINNER FOR X32-10m (EA0010) FLUX

SECTION I HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

HAZARDOUS COMPONENTS	CAS. NUMBER	OSHA PEL	ACGIH TLV	SARA 313 PERCENT
ISOPROPANOL	67-63-0	400 ppm	400 ppm	40-50
METHANOL	67-56-1	200 ppm(skin)	200 ppm(skin)	40-50

SECTION II PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 148-177 °F SPECIFIC GRAVITY (WATER=1): @25 °C .79

VAPOR PRESSURE(mm Hg.) @68 °F 64 PERCENT VOLATILE BY VOLUME: 100
VAPOR DENSITY(AIR=1): 1.6 EVAPORATION RATE (BUTYL ACETATE=1) 1.8
APPEARANCE AND ODOR: CLEAR, MOBILE LIQUID WITH ALCOHOLIC ODOR.
SOLUBILITY IN WATER: SOLUBLE

SECTION III FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): 55 °F (ACC) FLAMMABLE LIMITS: LEL: 3 UEL: 24

EXTINGUISHING MEDIA: CARBON DIOXIDE, ALCOHOL RESISTANT FOAM, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: EVACUATE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR PROTECTIVE CLOTHING, INCLUDING NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN

SECTION IV REACTIVITY DATA

STABILITY: UNSTABLE? NO STABLE? YES

CONDITIONS TO AVOID: AVOID HEAT, SPARKS, OPEN FLAMES.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION: MAY OCCUR? NO WILL NOT OCCUR? YES

CONDITIONS TO AVOID: NONE KNOWN

N/A - NOT APPLICABLE

SECTION V (HEALTH HAZARD DATA) REV. 2 No. 1133

ROUTE(S) OF ENTRY: INHALATION? YES SKIN? NO INGESTION? YES OTHER: NONE

HEALTH HAZARDS (ACUTE AND CHRONIC)
ACUTE: LIQUID OR VAPOR CONTACT MAY CAUSE IRRITATION OF THE EYES, SKIN, NOSE, THROAT, AND RESPIRATORY SYSTEM AND MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION. THIS MATERIAL IS TOXIC AND MAY BE HARMFUL IF SWALLOWED. CHRONIC: PROLONGED CONTACT WITH THE SKIN MAY CAUSE REDNESS, DRYING AND CRACKING TO THE SKIN. PROLONGED OVEREXPOSURE TO SOLVENTS MAY CAUSE PERMANENT BRAIN AND NERVOUS DAMAGE.

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO OTHER: NONE
NO INGREDIENTS LISTED AS CARCINOGENS.

SIGNS AND SYMPTOMS OF EXPOSURE:
IRRITATION, HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, DROWSINESS AND LOSS OF CONSCIOUSNESS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
NONE PRESENTLY KNOWN.

EMERGENCY AND FIRST AID PROCEDURES:
EYES: FLUSH WITH COPIOUS QUANTITIES OF WATER. GET MEDICAL ATTENTION.
SKIN: WASH WITH SOAP AND WATER. INHALATION: REMOVE FROM EXPOSURE.
GET MEDICAL ATTENTION IF EXPERIENCING EFFECT OF OVEREXPOSURE. INGESTION:
GET IMMEDIATE MEDICAL ATTENTION. INDUCE VOMITING BY TOUCHING FINGER TO BACK OF THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING.

SECTION VI (PRECAUTIONS FOR SAFE HANDLING AND USE)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. ABSORB SPILLED MATERIAL WITH ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINER.

WASTE DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, FEDERAL REGULATIONS. RECOMMENDED METHOD IS INCINERATION.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES. KEEP CONTAINERS TIGHTLY CLOSED. GROUND ALL HANDLING EQUIPMENT. STORE IN A COOL, DRY PLACE.

OTHER PRECAUTIONS: MINIMIZE SKIN CONTACT.

SECTION VII (CONTROL MEASURES)

RESPIRATORY PROTECTION (SPECIFY TYPE):
IF EXPOSURE EXCEEDS LIMITS, USE A NIOSH-APPROVED RESPIRATOR.

MOR 001349

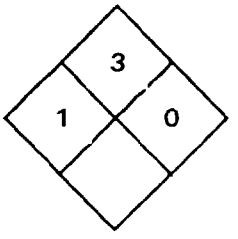
VENTILATION: LOCAL EXHAUST: PREFERABLE SPECIAL: NONE NEEDED
MECHANICAL (GENERAL): ADEQUATE OTHER: NONE NEEDED
PROTECTIVE GLOVES: NEOPRENE, VITON, BUTYL, NITRILE EYE PROTECTION: CHEMICAL GOGGLES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
WEAR PROTECTIVE CLOTHING TO PREVENT SKIN CONTACT. SAFETY SHOWER AND EYE WASH STATION.

TMC# 1224267
9-26-01

MATERIAL SAFETY DATA SHEET

ALPHA METALS
600 Route 440
Jersey City, NJ 07304
Telephone: 201-434-6778



NUMBER: **199**

REVISION: 10/31/94

SECTION I - GENERAL INFORMATION

PRODUCT NAME (NUMBER)	**425 Thinner**
CHEMICAL FAMILY	Alcohol.
D.O.T HAZARD CLASS	Flammable liquid.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	*CAS NUMBER*	*WEIGHT PERCENT*	*OSHA PEL*	*ACGIH TLV*
Isopropyl Alcohol	67-63-0	100	400 ppm Stel 500 ppm	400 ppm Stel 500 ppm

This product is hazardous as defined in 29 CFR1910.1200. OSHA HAZARD-Eye irritant.

SECTION III - PHYSICAL DATA

(PUBLISHED or ESTIMATED VALUES)

BOILING POINT Deg. F. (760 mm Hg)	180	*SPECIFIC GRAVITY ($H_2O = 1$)* (@ 77 deg F)	0.783
VAPOR PRESSURE (mm Hg AT 20 Deg. C.)	33	*% VOLATILE by WEIGHT*	100
VAPOR DENSITY (AIR = 1)	2.0	*EVAPORATION RATE*(BUAC = 1)	2.3
SOLUBILITY IN WATER	Complete	*pH*	NA
APPEARANCE AND ODOR	Clear, colorless liquid, non-residual odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) *LEL*:2.0 *UEL*:12.0

FLASH POINT Deg. F. T.C.C. 54

EXTINGUISHING MEDIA	Carbon dioxide or dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES	Use NIOSH approved self-contained breathing apparatus in enclosed area.
UNUSUAL FIRE AND EXPLOSION HAZARD	Vapors are heavier than air and may travel along ground. Never use welding torch on or near metal containers (even empty).

SECTION V(a) - HEALTH HAZARD DATA
(Symptoms/Effects of Overexposure)

INHALATION: Can cause nasal irritation, dizziness, nausea, headache.

INGESTION: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SKIN: Prolonged or repeated contact can cause defatting and dermatitis.

EYES: Can cause severe irritation, tearing, blurred vision. Will injure eye tissue if not removed promptly.

LISTED CARCINOGENS: None.

SECTION V(b) - HEALTH HAZARD DATA
(Emergency & First Aid Procedures)

INHALATION If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. Get medical attention.

INGESTION Call physician or Poison Control Center immediately. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

SKIN CONTACT Wash exposed area with soap and water. Remove contaminated clothing.

EYE CONTACT Flush eyes with large amount of water lifting upper and lower lids occasionally. Get prompt medical attention.

SECTION VI - REACTIVITY DATA

STABILITY
STABLE: X *UNSTABLE:*

CONDITIONS TO AVOID Heat, sparks and open flames.

INCOMPATIBILITY (Materials to Avoid) Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Carbon dioxide and carbon monoxide.

HAZARDOUS POLYMERIZATION
WILL OCCUR: *WILL NOT OCCUR:*X

CONDITIONS TO AVOID NA

SECTION VII - SPILL or LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SMALL SPILL: Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to hood. Ventilate area.

LARGE SPILL: See section X.

WASTE DISPOSAL Destroy by approved incineration or deposit in approved landfill.

Must be in accordance with Federal, State, and Local Laws and Regulation

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY	If threshold limit value is exceeded, use NIOSH approved respirator for organic vapors.
EYEWEAR	Chemical splash goggles in compliance with OSHA regulations are advised. Provide eye bath near work site. Always protect eyes.
CLOTHING/GLOVES	Wear resistant gloves such as rubber, neoprene or plastic.
VENTILATION	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Observe precautions for a flammable liquid. Keep container closed when not in use. Store away from ignition sources in cool dry area. Use adequate ventilation. Read all container labeling. Use eye protection.

OTHER PRECAUTIONS:

CONTAINERS: Since empty containers may retain product residues (vapor, liquid, or solid) all labeled hazard precautions must be observed. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

SECTION X - ADDITIONAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (continued)

LARGE SPILL:

Ventilate area. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill. Dike area of spill to prevent spreading. Pump liquid to salvage tank. Remaining liquid may be taken up clay or other absorbent material and shoveled into containers.

---------- REGULATORY INFORMATION ----------

Toxic Substance Control Act (TSCA) Status:

All ingredients of this product are listed on the TSCA inventory.

SARA TITLE III (Section 313):

Components present in this product at a level which could require reporting under the statute are:

None

CALIFORNIA SCAQMD RULE 443.1 VOCS:

Contains 782 grams/liter of Isopropyl Alcohol.

CERCLA:

If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). We recommend you contact local authorities to determine if there may be other local reporting requirements.

SARA TITLE III (Sections 311/312):

This product is classified into the following hazard categories;

Immediate health. Delayed health. Fire.

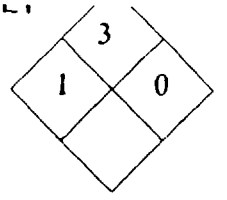
EMERGENCY TELEPHONE NUMBER

CHEMTREC 1-800-424-9300 DAY or NIGHT

The information contained herein is based on data considered accurate and is offered at no charge. No warranty is expressed or implied regarding the accuracy of this data. Liability is expressly disclaimed for loss or injury arising out of use of this information of the use of any materials designated.

MATERIAL SAFETY DATA SHEET

alphametals
600 Route 440
Jersey City, New Jersey 07304
Telephone 201-434-6778



NUMBER 199
REVISION 10/31/94

SECTION I - GENERAL INFORMATION

TMC# 1224267
RT# 113272
8-21-97. KW

PRODUCT NAME (NUMBER)	425 Thinner
CHEMICAL FAMILY	Alcohol.
D.O.T. HAZARD CLASS	Flammable liquid.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	CAS NUMBER	WEIGHT PERCENT	OSHA PEL	ACGIH TLV
Isopropyl Alcohol	67-63-0	100	400 ppm Stel 500 ppm	400 ppm Stel 500 ppm

This product is hazardous as defined in 29 CFR1910.1200. OSHA HAZARD-Eye irritant.

SECTION III - PHYSICAL DATA

(PUBLISHED OR ESTIMATED VALUES)

BOILING POINT Deg F. (760 mm Hg)	180	SPECIFIC GRAVITY (H2O=1) (@ 77 deg F)	0.783
VAPOR PRESSURE (mm Hg at 20 Deg. C.)	33	% VOLATILE BY WEIGHT	100
VAPOR DENSITY (AIR=1)	2.0	EVAPORATION RATE (BUAC = 1)	2.3
SOLUBILITY IN WATER	Complete	pH	NA
APPEARANCE AND ODOR	Clear, colorless liquid, non-residual odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

ESTIMATED FLAMMABLE LIMITS (% By Volume in Air) LEL: 2.0 UEL: 12.0

FLASH POINT Deg F.	T.C.C. 54
EXTINGUISHING MEDIA	Carbon dioxide or dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES	Use NIOSH approved self-contained breathing apparatus in enclosed area.
UNUSUAL FIRE AND EXPLOSION HAZARD	Vapors are heavier than air and may travel along ground. Never use welding torch on or near metal containers (even empty).

MOR 001355

NA - NOT APPLICABLE NE - NOT ESTABLISHED NL - NOT LISTED UN - UNKNOWN

THREADLOCKER

(SEE **LOCTITE 242 OR 620**)

PC 101 THINNER

95 —SECTION I— PRODUCT IDENTIFICATION

MATERIAL SAFETY DATA SHEET

SHERWIN WILLIAMS®
AUTOMOTIVE FINISHES

THE SHERWIN - WILLIAMS CO.
101 PROSPECT AVE. N.W.
CLEVELAND, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917
INFORMATION TELEPHONE NO.
(216) 566-2902

DATE OF PREPARATION
1 - Dec - 95

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KEM TRANSPORT® Synthetic Enamel

ENL/2

—SECTION II— CAS No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	V6V252 FAST-CAT® Hardener	V6V253 HS Enamel Hardener	R4K183 Fast	R4K179 SUPER-FLO® Medium	R7K6220 Fast	R4K6183 FLO-GLO® Fast	R4K6179 SUPER-FLO® Medium
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent.	100	100	PPM	53.0			45		46	31	
64742-89-8	V. M. & P. Naphtha.	300	300 <400>	PPM	12.0				27		7	38
64742-88-7	Mineral Spirits.	100	100	PPM	2.0							7
108-88-3 §	Toluene.	50	100 <150>	PPM (Skin)	22.0			54		19	15	8
100-41-4 §	Ethylbenzene	100 <125>	100 <125>	PPM	7.1	9	2		10			
1330-20-7 §	Xylene.	100 <150>	100 <150>	PPM	5.9	49	13		54		3	1
64742-95-6	Light Aromatic Hydrocarbons.	Not Established			3.8	2	4		2			
108-67-8	1,3,5-Trimethylbenzene	25	25	PPM	10.0	2	5		3			1
95-63-6 §	1,2,4-Trimethylbenzene	25	25	PPM	2.0	3	7		4			2
67-56-1 §	Methanol	200 <250>	200 <250>	PPM (Skin)	92.0					3	3	3
111-76-2 §	2-Butoxyethanol	25	25	PPM (Skin)	0.8							6
67-64-1	Acetone.	750 <1000>	750 <1000>	PPM	180.0					4	36	31
78-93-3 §	Methyl Ethyl Ketone.	200 <300>	200 <300>	PPM	70.0					27		
108-10-1 §	Methyl Isobutyl Ketone.	50 <75>	50 <75>	PPM	16.0						3	
123-86-4	n-Butyl Acetate.	150 <200>	150 <200>	PPM	10.0	4	9					
108-65-6	1-Methoxy-2-Propanol Acetate	Not Established			1.8							2
Proprietary	Isophorone Diisocyanate Polymer.	Not Established				30	60					
4098-71-9	Isophorone Diisocyanate (Max.)	0.005		PPM (Skin)		0.3	0.6					
	Weight per Gallon (lbs.)					7.80	8.54	6.59	6.89	6.42	6.47	6.56
	VOC - Total Volatile Organic Compounds (lbs./gal.)					5.45	3.42	6.59	6.89	6.42	6.47	6.56
	VOC - Less Water and exempt Solvents (lbs./gal.)					5.45	3.42	6.59	6.89	6.42	6.47	6.56
	Photochemically Reactive					Yes	Yes	Yes	Yes	No	No	No
	Flash Point (°F)					80	80	25	70	11	4	3
	DOL Storage Category					1C	1C	1B	1B	1B	1B	1B
	HMIS (NFPA) Rating (health - flammability - reactivity)					3*3 0	3*3 0	2 3 0	3 3 0	3 3 0	3 3 0	3 3 0
	PAINT-SAFE® Personal Protection					J3	J3	J3	J3	J3	J3	J3

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

MOR 001357

KEM TRANSPORT® Synthetic Enamel ENL/2

Section III — PHYSICAL DATA

PRODUCT WEIGHT –	See TABLE	*EVAPORATION RATE* –	Slower than Ether
SPECIFIC GRAVITY –	0.77-1.0	*VAPOR DENSITY* –	Heavier than Air
BOILING RANGE –	132-395 °F	*MELTING POINT* –	N.A.
VOLATILE VOLUME –	48-100 %	*SOLUBILITY IN WATER* –	N.A.

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION *FLASH POINT* See TABLE *LEL* 0.7 *UEL* 36.5

RED LABEL - Flammable, Flash below 100 °F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

ACUTE Health Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Enamel Hardeners may cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.

If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Get medical attention.

CHRONIC Health Hazards

No ingredient in these products is an IARC, NTP, or OSHA listed carcinogen.

Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver, urinary, blood forming, cardio-vascular, and reproductive systems.

Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure to isocyanates in Enamel Hardeners.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY - Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

Contamination of Hardeners with Water, Alcohols, Amines, and other compounds which react with isocyanates, may result in dangerous pressure in, and possible bursting of, closed containers.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION - Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

If Enamel Hardeners are spilled, all personnel in the area should be protected as in Section VIII. Cover spill with absorbent material. Deactivate spilled material with a 10% ammonium hydroxide solution (household ammonia). After 10 minutes, collect in open containers and add more ammoni- Cover loosely. Wash spill area with soap and water.

WASTE DISPOSAL METHOD

Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Methyl Ethyl Ketone may also require extractability testing.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII — PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

NO PERSON SHOULD USE THE ENAMEL HARDENERS, OR BE IN THE AREA WHERE THE HARDENERS ARE BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

Use all products only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

ENAMEL HARDENERS -- Where overspray is present, a positive pressure air supplied respirator (T1C19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fillted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THIS PRODUCT IS BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.

ALL OTHER PRODUCTS -- If personal exposure cannot be controlled below applicable limits by ventilation wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

When sanding or abrading the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section II.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin when using ENAMEL HARDENERS.

Section IX — PRECAUTIONS

DOL STORAGE CATEGORY - See TABLE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors may accumulate readily and may ignite spontaneously. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

These products may be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section X — OTHER REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65

WARNING: These products contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

MOR 001358

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the products. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

T-10

TAC-PAC 382

(SEE **LOCTITE TAC-PAC**)

)ate: 02-09-99 09:46:29 AM

LAPRAIRIE: CONTRÔLE QUALITÉ / QUALITY CONTROL
LAPRAIRIE: DOSSIER INGÉNIEUR / ENGINEERING FILE

# ECR	DATE
61455	16-07-92
62256	LP 19-04-93

Rec. 6/4/01

TITLE : TRIBOL 930

SCOPE : Oven chain lubricant. See attached sheets.

USED ON: Rail convevor IR 300/500/500C LV

Ref. BOM 6-0568-003-01-1 for 500 ml
6-0568-003-02-1 for 4 liter
6-0568-003-03-1 for 5 gal.

NO. / NO.	2-4020-036-01-1	NO. FEUILLE / SHEET NO.	1 of 10
PAR / ISSUED BY	J.-P. Gauthier	DATE / DATE: June 1st, 1992	REV. / REV.
APPROUVÉ PAR / APPROVED BY	[signature]	DATE / DATE: May 5-1993	REV. / REV.

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Title: Z:\2\4020\m0360101.gp4

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MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: Tribol 930 High Temperature Chain Oil

PRODUCT ID NO.: See SECTION 9

CHEMICAL NAME: Synthetic esters plus performance additives.
SYNONYMS: Not Applicable. Product is a mixture.
CHEMICAL FORMULA: Not Applicable. No single formula.
CHEMICAL FAMILY: Synthetic esters plus performance additives.
PRODUCT USE: Lubricant.
PRODUCT CAS NO.: Not Applicable. No single CAS number.

NFPA CLASSIFICATION: HEALTH: 1 FIRE: 1 REACTIVITY: 0
SPECIAL HAZARDS: None

MANUFACTURER:
Tribol
4801 W. 147th St.
Hawthorne, CA 90250-6795
U.S.A.
Emergency Phone: (213) 679-0271

SUPPLIER (CANADA):
Tribol Inc.
409 King Street West, Suite 404
Toronto, Ontario
Canada M5V 1K1
Emergency Phone: (213) 679-0271

TRANSPORTATION EMERGENCY:

In U.S.A.: CHEMTREC - (800)424-9300
In District of Columbia - (202)483-7616
In Canada-ICI Canada Inc.-1-800-561-3636

Tribol is a unit of ICI Specialty Chemicals, ICI Americas Inc.

Molub-Alloy
Total Quality Commitment

Title: Z:\2\4020\m0360102.gp4

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SECTION 2 - HAZARDOUS INGREDIENTS

	%	CAS NO	LD_{50}	LC_{50}	Exposure Limits (TWA*)
Synthetic Trimellitic anhydride ester	92-96	70225-05-7	Not found	Not found	None established (OSHA or ACGIH)
Para-dioctyl diphenylamine	1-3	68411-46-1	8g/kg Acute dermal (Rats)	Not found	None established (OSHA or ACGIH)

*TWA = 8-hour time-weighted average. Tribol's recommendation for the mixture: $5mg/m^3$.

Note: Exposure limits may vary between jurisdictions. Employers are advised to contact regulatory agencies for the limits in effect in their areas.

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE:	Liquid.
APPEARANCE AND ODOR:	Clear yellowish liquid. Faint characteristic odor.
ODOR THRESHOLD (ppm):	Not determined.
VAPOR PRESSURE (mm Hg):	Not determined.
VAPOR DENSITY (Air=1):	Not determined.
EVAPORATION RATE (Water = 1):	Not determined.
POUR POINT (C°/F°:	Not determined.
BOILING POINT (°C/°F):	Not determined.
MELTING POINT (°C/°F):	Not determined.
pH:	Not applicable.
SPECIFIC GRAVITY:	0.99 (typical)
PERCENT VOLATILE (By weight):	Not determined.
SOLUBILITY IN WATER:	Negligible (less than 0.1%).

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SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY:	This product is not classified as flammable or combustible; however, it will burn if its temperature reaches or exceeds its flash point.
EXTINGUISHING MEDIA:	Dry Chemical, water-fog, chemical foam, or CO_2. Direct water-stream may cause frothing.
SPECIAL FIREFIGHTING PROCEDURE:	Use water to cool fire-exposed containers. Wear full emergency equipment with supplied-air respirator (SA), or self-contained breathing apparatus (SCBA).
UNUSUAL FIRE & EXPLOSION HAZARDS:	None known.
FLASH POINT (°C/°F) AND METHOD:	285/545, ASTM D 92 (C.O.C.)
FIRE POINT (°C°/F) AND METHOD:	Not determined.
FLAMMABLE LIMITS (% by volume):	Upper: Not determined. Lower: Not determined.
AUTOIGNITION TEMPERATURE (°C/°F):	Not determined.
HAZARDOUS COMBUSTION PRODUCTS:	Smoke and toxic gases including oxides of carbon and nitrogen.
EXPLOSION SENSITIVITY: **Impact:** **Static Discharge:**	 ___ Sensitive _X_ Not Sensitive ___ Sensitive _X_ Not Sensitive
EMPTY/PARTIAL CONTAINER WARNING:	As with most synthetic lubricants, empty or partial containers may contain explosive vapors. Do not expose to direct flame or high temperature.

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY: **Conditions to Avoid:**	_X_ Stable ___ Unstable Prolonged exposure to elevated temperature.
INCOMPATIBILITY: **Materials to Avoid:**	_X_ Yes ___ No Strong oxidizers, acids, and alkalies.
HAZARDOUS POLYMERIZATION: **Conditions to Avoid:**	___ Will Occur _X_ Will Not Occur None.
HAZARDOUS DECOMPOSITION PRODUCTS:	Smoke and toxic gases including oxides of carbon and nitrogen.

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SECTION 6 - TOXICOLOGICAL PROPERTIES & HEALTH HAZARD DATA

ROUTES OF ENTRY: _X_ Skin Contact ___ Skin Absorption
_X_ Eye Contact _X_ Inhalation
_X_ Ingestion

SYMPTOMS AND EFFECTS OF ACUTE EXPOSURE:

Skin: May cause skin irritation.

Eyes: Product, vapors, and mist may cause eye irritation and burning.

Inhalation: Vapors may irritate the mucosal membranes of mouth, nose, and throat. Intense and/or prolonged exposure to vapor concentrations exceeding the TLV/PEL may cause headache, nausea, and vomiting. Oil vapors may accumulate in the lungs, and may cause chemical pneumonitis.

Ingestion: Ingestion via minor contamination of fingers or food is not likely to cause significant discomfort or adverse effect. However, aspiration (with vomitus) into the lungs may cause mild to severe pulmonary injury, and may be fatal.

SYMPTOMS AND EFFECTS OF CHRONIC EXPOSURE:

Skin: Prolonged or repeated contact tends to remove natural skin oil, and may cause irritation, rash, and possibly dermatitis.

Eyes: Product, vapors, and mist may cause eye irritation and burning.

Inhalation: Chronic inhalation may produce the same symptoms and effects discussed under Inhalation - ACUTE EXPOSURE, above.

Ingestion: In the normal course of industrial use, ingestion of large quantities of this product is unlikely. Nevertheless, ingestion may irritate the gastrointestinal tract and may cause nausea and vomiting. Aspiration (with vomitus) into the lungs may cause pulmonary injury and may be fatal.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Existing chronic dermal, respiratory, and possibly gastrointestinal diseases.

EXPOSURE LIMITS: Not determined for this product. See Section 2 - HAZARDOUS INGREDIENTS, in this MSDS, for ingredient(s) limits.

IRRITANCY: Possible irritancy of skin, eyes, mucosal membranes, and respiratory tract.

SENSITIZATION: None known.

CARCINOGENICITY: NTP Listed: ___ Yes _X_ No
IARC Listed: ___ Yes _X_ No
OSHA Listed: ___ Yes _X_ No

TERATOGENICITY AND EMBRYOTOXICITY: This product is not known to contain, at 0.1% or higher, any ingredients known to cause teratogenic or embryonic toxicity.

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REPRODUCTIVE TOXICITY:	This product is not known to contain, at 0.1% or higher, any ingredients known to cause reproductive toxicity.
MUTAGENICITY:	This product is not known to contain, at 0.1% or higher, any ingredients known to cause mutation in the living cell.
SYNERGISTIC PRODUCTS:	None known.

SECTION 7 - PREVENTIVE MEASURES AND PERSONAL PROTECTION

It is unlikely that serious overexposure to this product will occur during normal industrial use. Nevertheless, the user must exercise adequate precautions to protect against accidental spills, and to avoid undue exposure to sprays, mists, or vapors that may be inadvertently generated, especially at elevated temperatures. The following protective measures are recommended whenever undue exposure is unavoidable.

GLOVES:	Oil-impervious and solvent-resistant (e.g. neoprene) type.
RESPIRATOR:	OSHA/NIOSH-approved supplied-air respirator (SA), or self-contained breathing apparatus (SCBA).
EYE PROTECTION:	Chemical goggles or, preferably, full face-shield. Do not wear contact lenses in the work area.
FOOTWEAR:	Oil-impervious (e.g. neoprene) cover and anti-slip sole construction.
CLOTHING:	Oil-impervious (e.g., neoprene) apron or, preferably, coveralls.
OTHER PROTECTION:	As deemed necessary.

PERSONAL HYGIENE: Wash hands before eating or smoking. Do not smoke in the work area. Promptly remove contaminated clothing. Immediately clean up any spills, to prevent accidental slipping.

ENGINEERING CONTROLS: General ventilation, normally adequate, should be augmented with local exhaust whenever the TLV/PEL is exceeded, or worker discomfort is reported or observed.

LEAK AND SPILL PROCEDURE: Wear adequate protection and eliminate all sources of ignition. Stop the leak, if it can be safely done. Ventilate the area and dike the spill to prevent entry into sewer or watercourses. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover the spill area with oil-absorbent. Label all waste containers appropriately, including all applicable hazard symbols. If spill enters U.S. navigable waters, the contiguous zone, or adjoining shorelines, notify the Coast Guard National Response Center (Tel. No. 800-424-8802).

WASTE DISPOSAL: Dispose of waste in accordance with applicable Federal, State (or Province), and local laws and regulations. (The services of licensed hazardous waste-disposal facilities may be utilized.) It is the user's responsibility to comply with the U.S. Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act. Refer to Section 10 - REGULATORY INFORMATION, in this MSDS.

HANDLING PROCEDURES & EQUIPMENT: Exercise prudent precautions to avoid accidental spillage, food contamination, vapor or mist inhalation, eye or skin contact, and ignition of this product.

STORAGE REQUIREMENTS: Store in a clean, dry area below 49°C/120°F, away from all ignition sources and incompatible materials listed in SECTION 5 - REACTIVITY DATA, in this MSDS.

SPECIAL SHIPPING INFORMATION: See Sections 9 & 10, in this MSDS.

Title: Z:\2\4020\m0360106.gp4

SECTION 8 - FIRST AID AND EMERGENCY MEASURES

SKIN: Wipe off, then wash thoroughly with soap and water.

EYES: Flush immediately with water for at least 15 minutes, occasionally lifting the eyelid. Get prompt medical attention.

INHALATION: Immediately remove the individual to fresh air. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Keep the individual warm and quiet, and get prompt medical attention.

INGESTION: If the individual is conscious, give 1-2 glasses of milk or water to dilute stomach content. Do not physically induce vomiting. Never give anything by mouth to an unconscious person. As with all accidental chemical ingestions, use all available precautions to prevent aspiration of vomitus into the lungs, which may be fatal. Position the patient's head so as to facilitate expulsion of vomitus. Get prompt medical attention.

NOTE TO PHYSICIAN: Intubate the stomach. Aspirate the pharynx as regularly as possible to remove gagged or vomited stomach content.

SECTION 9 - TRANSPORTATION INFORMATION

PRODUCT IDENTIFICATION:	Not applicable.
DOT PROPER SHIPPING NAME:	Not applicable.
DOT HAZARD CLASS:	Not applicable.
DOT LABEL REQUIRED:	None.
IMO CLASS:	Not applicable.
CANADIAN (WHMIS) CLASSIFICATION:	Class: D Division: 2 Subdivision: B
CANADIAN (TDG ACT) CLASSIFICATION:	Primary: Not applicable Subsidiary: Not applicable
PACKAGING (PACKING) GROUP:	Not applicable.
FREIGHT CLASSIFICATION:	Lubricating Oil other than Petroleum.

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SECTION 10 - REGULATORY INFORMATION

TOXIC SUBSTANCE CONTROL ACT (TSCA): To our best knowledge, all the ingredients in this product have been included, by their manufactures/suppliers, on the TSCA inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA)

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES: This product contains the following ingredient(s) on this list: None.

SECTION 313 - TOXIC CHEMICALS: This product contains the following ingredient(s) at or above the de minimis concentrations: None.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA): Reporting of releases of this product is ____ required _X_ not required.

RESOURCE, CONSERVATION, AND RECOVERY ACT (RCRA): This product contains the following ingredient(s) on the Hazardous Wastes List: None.

CALIFORNIA HAZARDOUS SUBSTANCES LIST: This product contains the following ingredients at or above the de minimis concentrations: Oil at 98% (max.).

CALIFORNIA PROPOSITION 65: This product contains the following ingredient(s) listed in the Safe Drinking Water and Toxic Enforcement Act of 1986: None.

MICHIGAN CRITICAL MATERIALS: This product contains the following ingredient(s) at or above the de minimis concentrations: None.

CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): This product contains the following substance(s) at or above the de minimis concentrations: None.

SECTION 11 - PREPARATION OF THE MSDS

PREPARED BY:	Nabil N. Sasty, *Toxicologist*
TELEPHONE NO.:	(213) 679-0271
DATE:	January 14, 1991
SUPERSEDES:	October 8, 1990

The information presented herein has been compiled from sources considered to be dependable, and is, to the best knowledge of Tribol, accurate at the time of this writing. The data in this MSDS relates only to the product(s) designated herein. Tribol makes no warranty whatsoever, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Tribol assumes no responsibility for injury to buyer or to third persons, or for any damage to property. Buyer assumes all risks.

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HIGH TEMPERATURE CHAIN OIL

Product Data Sheet

Tribol 930 is a high temperature synthetic oven chain lubricant and is particularly suitable for use in tunnel ovens used in the lithograph and metal decorating industries. The engineered volatility of this blend of synthetic base fluids allows for extended application cycles and the control of product consumption and cleanliness. Tribol 930 has been approved by USDA as an H2 lubricant suitable for use in federally inspected meat and poultry packaging plants.

This highly stable synthetic blend is additionally compounded to protect against a corrosive atmosphere and resist oxidation at high temperatures. Its natural lubricating ability is fortified with antiwear agents for thin film protection during boundary lubrication.

DESCRIPTION

Tribol 930 is manufactured from a blend of complex ester fluids selected for their favorable volatility characteristics, as well as their physical and chemical stability at high temperatures.

The viscosity of Tribol 930 can support fluid film lubrication on chain pins even with temperatures in excess of 350°F/177°C. Tribol 930 contains antiwear additives for additional protection in boundary lubrication from surging loads and very high temperatures.

Tribol 930 contains inhibitors against corrosion and oxidation, further extending the life of the chain and the lubricant in service.

APPLICATIONS

Tribol 930 is recommended for use at temperatures above 350°F/177°C.

Tribol 930 is designed for the lubrication of roller chains, slides, cams, and general lubrication where a high temperature synthetic lubricant is needed and the viscosity of Tribol 930 meets the operating viscosity-temperature requirements.

Tribol 930 especially meets the needs of litho/coater oven chains in the metal decorating and coating industry, and various other oven conveyors used in baking, drying, and curing.

Application may be achieved by drip, spray, splash, bump, or automatic dispensing equipment that can handle an oil of SAE 40 viscosity classification.

ADVANTAGES

Application amount and frequency can be minimized due to the lubricant's volatility characteristics.

Soilage due to drip or "blow-off" is minimized by reduced application.

Chain wear is controlled by excellent fluid film and antiwear properties.

Built-in cleansing action virtually eliminates shutdowns for periodic cleaning of equipment and tends to dissolve and facilitate removal of gums, varnish, and carbonaceous residues from previous lubricants.

Fire and explosion possibilities are greatly reduced as Tribol 930 has extremely low carbon forming tendency, and an autoignition temperature far exceeding petroleum products.

Seal leakage is minimized when Tribol 930 is used in conjunction with Buna A, Viton, silicone rubber, and EPDM elastomer sealing materials.

Please see Reverse Side for Notes and Typical Properties.

Tribol
A member of the ICI Group
World Headquarters
21031 Ventura Boulevard, Woodland Hills, California 91364-2297
Telephone (818) 858-0808 Telex 4720069 Fax (818) 884-1885
Tribol, A unit of ICI Specialty Chemicals, ICI Americas Inc

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ADVANTAGES (Continued)

Cost reduction is accomplished by extended lubrication cycles, reduced soilage, decreased downtime for repairs and maintenance, and longer parts life.

NOTES

Tribol 930 High Temp Chain Oil is compatible with petroleum base lubricants. However, lubricating devices should be cleaned before beginning service with Tribol 930 so as not to introduce impurities from the former lubricant.

Tribol 930 should not be used around parts containing polycarbonates as it can have a softening effect. Under no circumstances should it be used where neoprene seals are present.

For specific terms, conditions, warranty, and availability, refer to Tribol Price List in effect at time of purchase.

TYPICAL PROPERTIES

	Tribol 930 High Temp Chain Oil
SAE Viscosity Classification	40
Specific Gravity, ASTM D1298 @ 15.6°C/60°F	0.9650
Viscosity, D445, D2161:	
@ 20°C, cSt	804
@ 40°C, cSt	190
@ 100°C, cSt	15
@ 100°F, cSt/SUS	218/1010
@ 210°F, cSt/SUS	15.5/80
@ 350°F, cSt/SUS	3.5/38.2
Flash Point, ASTM D92, °C/°F	293/560
Fire Point, ASTM D92, COC, °C/°F	321/610
Pour Point, ASTM D97, °C/°F	-29/-20
Rust Test, ASTM D665	
Procedure A (Distilled Water)	Pass
Conradson Carbon Residue, ASTM D189, wt %	0.06
Four Ball Wear Test (40 kg, 75°C/167°F, 1800 rpm, 1 hr)	
Scar Diameter, mm	0.75
Evaporation Loss @ 218°C/425°F, wt %	
After 8 hours	17.1
After 24 hours	30.8
After 36 hours	62.0
USDA/MID Code	H2

Subject to usual manufacturing tolerances.

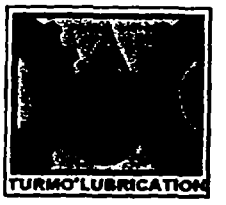
MOR 001369

Title: Z:\2\4020\m0360110.gp4

Rec. 3/23/01

TURMO® LUBRICATION, INC.

760 36TH STREET, S.E. • GRAND RAPIDS, MI 49548 • USA
PHONE 616-247-0129 • 877-887-6658 (US+CAN)
FAX 616-247-0801 • EMAIL TURMOLUBE@AOL.COM



Safety data sheet according to directive 91/155 EEC
Released: 02/1995
Last update: 06/25/99

Name: **Turmofluid 40 B**

Printed: 12.03.01 11:18

1. Commercial product name and company identification:

Trade name:	**Turmofluid 40 B**	
Company:	LUBRICANT CONSULT GMBH Gutenbergstrasse 13 D-63477 Maintal 2 (Germany)	
Additional information:		
Europe	Phone (+49) 06109 76 500	Fax (+49) 06109 76 50 51
North America	Phone 616-247-0129	Fax 616-247-0801

2. Composition / information on ingredients:
Combination of synthetic hydrocarbons, synthetic esters and additives.
CAS Numbers: 9003-27-4, 90218-76-1

3. Hazards identification:
When properly handle this product is not dangerous to human health. Harmful effects are expected only in case of misuse, especially in case of thermal decomposition.

4. First aid measures:
Skin contact: Wash with water and soap. Remove contaminated clothing.
Eye contact: Flush with plenty of water for at least 15 minutes. See a physician* if the eye irritation remains.
Ingestion: See a physician* if necessary. Do not induce vomiting.
Inhalation: After inhaling of decomposition vapours: Remove the patient to fresh air.
*Show the physician this safety data sheet.

5. Fire fighting measures:
Suitable extinguishing media: dry chemicals, powder, foams, carbon dioxide. In the case of fire, try to take the containers out of the danger zone. Otherwise keep them cool by spraying with water. Use a respirator to protect from vapours.

6. Accidental release measures:
Absorb small amounts with inert material. Collect the released product and the used absorbent materials in suitable containers for disposal (s. sect. 13). Hold back large amounts of the liquid by embankment (mound of soil, sand or other inert material). Use pumps or call the fire department, if necessary. Avoid uncontrolled discharge in sewage systems, surface and underground water. Do not smoke when handling released product. Avoid the contact with fire and sparks. Take measures against electrical charge.

7. Handling and store measures:
Store in cool and dry areas. Ventilation in the store and in working areas is commendable. Do not eat, drink and smoke in working areas.

8. Exposure control / Personal protection:
Hand protection: Not necessary in normal use. When often handling the product wear rubber gloves.
Respiratory protection: Not necessary in normal use. Avoid breathing the aerosol or other vapours.
Eye protection: Not necessary in normal use. Wear safety glasses, if necessary.

9. Physical and chemical properties:

Physical state:	liquid		
Colour:	yellow - brownish		
Odour:	typical		
Pour point:	—		
Boiling point:	> +200°C (+392°F)		
Density:	0.915 g/cm³	@ +20°C (+68°F)	DIN 51757
Viscosity:	270 mm²/s	@ +40°C (+104°F)	DIN 51562
Solubility in water:	insoluble		
pH-value:	—		
Flash point:	> +260°C (+500°F)		
Ignition temperature:	+290°C (+554°F)		
Explosion limits:	not determined		

10. Stability and reactivity:
Thermal decomposition: > +250°C (+482°F)
Hazardous decomposition products: No decomposition under normal storage and handling conditions. In the case of misuse at temperatures above the decomposition temperature harmful vapours may arise from the product. Materials to avoid contact: strong oxidising agents (compressed or liquid oxygen), strong acids and alkalis.

11. Toxicological information:
Experimental toxicological data: oral: LD_{50} > 2000 mg/kg (rat)
epidermal: weak eye irritation
Turmofluid 40 B when properly handled is not dangerous for human health and has no known effects of chronic or carcinogenesis (based on data of components).

12. Ecotoxicological information:
Use the product according to the good working practices avoiding polluting the environment. Avoid the contamination of soil and water. WGK 1 (self classification)

13. Disposal considerations:
Destroy the waste product by incineration according to local laws and regulations. *Turmofluid 40 B* contains no halogens and no toxic metals.
Waste code number for filled containers: 598 01

14. Transport information:
The product is not dangerous for transportation

Road transportation:	(ADR)	not classified
Rail transportation:	(RID)	not classified
Sea transportation:	IMDG / IMO	not classified
Air transportation:	ICAO / IATA	not classified
U.N.-number:		not assigned
Packaging group:		not assigned

15. Regulatory information:
No regulation and classification according to EEC directives necessary, no labelling with hazard symbols required. Aquatic toxicity: 1 (= German water hazard classification)

16. Further information:
The information given in this safety data sheet is for safety purpose only. It is given in good faith and based on the best knowledge and experience of the company at the date of issuing. The company is not responsible for damages caused by the use of the product in applications for which it was not intended or for conditions of use outside its control. Previous versions of this material safety data sheet are no longer valid.

TURMO® LUBRICATION, INC.

760 36TH STREET, S.E. • GRAND RAPIDS, MI 49548 • USA
PHONE 616-247-0129 • 877-887-6658 (US+CAN)
FAX 616-247-0801 • EMAIL TURMOLUBE@AOL.COM

3/12/01

TURMOFLUID 40 B

High Temperature Chain Oil

TURMOFLUID 40 B is a highly stable and extremely adherent chain oil for high as well low temperatures. Due to its low surface tension ***TURMOFLUID 40 B*** penetrates all parts of the chain providing optimum wear protection and reducing chain stretching. It forms an extremely adherent, transparent and odorless lubricating film even at high speeds and with all types of chains. ***TURMOFLUID 40 B*** is especially designed for the chains of the wood processing industry.
TURMOFLUID 40 B may be applied manually and by drip-feed lubricators as well as by central lubrication systems.

QUALITY FEATURES

- Temperature range up to +250°C(+482°F)
- Silicone free
- Excellent adhesion
- Reduced lubricant consumption
- Optimum wear protection
- Extremely low evaporation
- Low in formation of residues and smoke at high temperatures
- Fully mixable with mineral oil
- Excellent corrosion protection
- Aging resistance
- Resistant to hot water
- Good viscosity/temperature behavior

PACKAGING SIZES

5-gallon-pail
55-gallon-drum (200 liter)

Specifications	**TURMOFLUID 40 B**
Color, appearance	yellow, transparent
Density [g/cm³] DIN 51757 @ +20°C (+68°F)	0.915
Kinematic Viscosity [mm²/s] DIN 51562	
@ +40°C (+104°F)	270
@ +100°C (+212°F)	32
Viscosity index (VI_E) ISO 2909	160
Flash point [°C (°F)] DIN 51758	+280 (+536)
Pour point [°C (°F)] DIN 51597	-35 (-31)
Service Temperature range [°C (°F)]	-40 to +250 (-40 to +482)
Evaporation loss [weight-%] DIN 51581 @ +250°C (+482°F)	2
SHELL Four-Ball-Test [N]	2,800/3,200

TMC# 1137125 Rec. 10/11/00 SP

MATERIAL SAFETY DATA SHEET

DATE OF LAST CHANGE: 04/05/00 DATE PRINTED.....: 09/28/00

MANUFACTURER'S NAME:

NAZDAR CHICAGO
1087 N. NORTH BRANCH ST.
CHICAGO
IL 60622 4292 USA

EMERGENCY TELEPHONE #: (800)424-9300
(U.S. and Canada)
EMERGENCY TELEPHONE #: (703)527-3887
(Outside U.S. and Canada, collect calls are accepted)
INFORMATION TELEPHONE #: (800)736-7636

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE.: RE180

TRADE NAME...: SCREEN INK THINNER

PRODUCT CLASS: THINNER

INK SERIES...:

- HMIS CODES -
HEALTH - 2*
FLAMMABILITY - 2
REACTIVITY - 0
PPE - X

SECTION 2 -- COMPOSITION, INFORMATION ON INGREDIENTS

CHEMICAL NAME; COMMON NAME; CAS NUMBER	PERCENT BY WEIGHT	OCCUPATIONAL EXPOSURE LIMITS ACGIH TLV	OCCUPATIONAL EXPOSURE LIMITS OSHA PEL	VAPOR PRESSURE IN mmHg	NOTES
* 2-BUTOXYETHANOL; ETHYLENE GLYCOL MONOBUTYL ETHER; CAS #: 111-76-2	> 95	20 ppm Skin	25 ppm Skin	0.6 @ 20C	(1)

* SUBJECT TO REPORTING REQUIREMENT OF SECTION 313 OF TITLE III OF SARA (40 CFR PART 372).

1) This chemical is included on the list of Hazardous Air Pollutants (HAPs) from Title III of the Clean Air Act Amendments of 1990 (Glycol Ethers Category).

The recommended permissible exposure limits (PEL) indicated above reflect the levels adopted by OSHA in 1989. Although, some of the 1989 levels have since been vacated, the Nazdar Company recommends that the lower exposure levels be observed as reasonable worker protection.

SECTION 3 -- HAZARDS IDENTIFICATION

GENERAL HEALTH EFFECTS
THE FOLLOWING INFORMATION HAS BEEN DEVELOPED BASED UPON USING THE PRODUCT AS INTENDED BY THE MANUFACTURER. The potential health effects of this product are based on the hazards of its components. The use of this product in combination with other products may produce synergistic (additive) health effects. Cautionary labeling and material safety data sheets of all materials used with this product should be reviewed before use.

EYES
Eye contact with liquid, vapors or mists may cause moderate to severe irritation, including burning, tearing, redness or swelling.

SKIN
Skin contact may cause irritation. Symptoms may include dryness, chapping and redness. Penetrates the skin readily. Toxic and may be harmful if absorbed through the skin.

INHALATION
Repeated and prolonged overexposure by inhalation may cause respiratory tract irritation. Symptoms may include central nervous system disorders such as headaches, dizziness, weakness and fatigue.

INGESTION
Ingestion may cause gastrointestinal tract irritation. Symptoms may include headaches, nausea and vomiting. Contains material that may be moderately toxic if ingested.

CHRONIC EFFECTS/TARGET ORGANS
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

ANIMAL STUDIES
2-Butoxyethanol has caused reproductive and blood disorders resulting in kidney, liver and lung damage in lab animals. For animal studies, reference TSCA Section 4 Test Rule Results or contact the manufacturer for further details.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Pregnant women and persons with pre-existing health disorders should consult their physician before using this product. Repeated and prolonged overexposure and/or individual sensitivity may increase the potential for and degree of adverse health

effects. See Section 3 "Hazards Identification" for effects of certain hazardous ingredients.

ROUTES OF EXPOSURE
Primary exposure routes: Inhalation-Dermal (Contact/Absorption)-Ingestion

SECTION 4 -- FIRST AID MEASURES

EYES
After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If irritation persists have eyes examined and tested by medical personnel.

SKIN
In case of contact, immediately wash skin with a mild soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Cool water is initially suggested to prevent the pores of the skin from opening. This will minimize both the area and time of skin contact. Lukewarm water may then be used to ensure all contaminants are removed. Skin should be monitored for reddening or chemical burns. Mild soap is suggested to help prevent abrading the skin or rubbing the chemicals into pores during cleansing. Get medical attention if irritation persists or significant contact has occurred. Thoroughly wash (or discard) clothing and shoes before reuse.

INHALATION
Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if breathing difficulty is experienced.

INGESTION
If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

OTHER COMMENTS
No Data Available

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT
150 Degrees Fahrenheit (TCC)

OSHA FLAMMABILITY CLASSIFICATION (NFPA)
Class IIIA Combustible Liquid

FLAMMABLE LIMITS (LEL-LOWER EXPLOSIVE LIMIT)
1.1% volume in air

EXTINGUISHING MEDIA
Foam-CO2-Dry Chemical-Water Spray

FIRE AND EXPLOSION HAZARDS
Isolate from heat, electrical equipment, sparks, and open flame. Keep containers tightly closed. Vapors may be heavier than air and can travel to a source of ignition then flash back. Closed containers may explode when exposed to extreme heat.

FIRE FIGHTING EQUIPMENT
Full protective equipment including self-contained breathing apparatus (SCBA) is recommended to protect firefighters.

SPECIAL FIRE FIGHTING PROCEDURES
Water may be ineffective but may be used to cool containers. Fumes released on burning may be toxic and dangerous.

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RELEASE MANAGEMENT MEASURES
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid contact or breathing vapors. Ventilate area. Contain release and remove with inert absorbent. Use non-sparking tools to place material in appropriate container for disposal. The National Response Center (800-424-8802) and local authorities should be contacted for any reportable spill/release.

SECTION 7 -- HANDLING AND STORAGE

HANDLING AND STORAGE METHODS
Use in a well ventilated area. Follow all MSDS/label precautions even after container is emptied: container may retain product residues. Store in closed containers in cool, dry, well ventilated area away from sources of ignition. Keep containers closed when not in use. Smoke in designated areas only. Avoid prolonged or repeated overexposure to this product. Keep out of reach of children. Follow label directions carefully. Do not take internally. Harmful or fatal if swallowed.

SECTION 8 -- EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION
If concentrations of hazardous ingredients exceed exposure limits listed in Section 2 an appropriate NIOSH (National Institute for Occupational Safety and Health) approved respirator with an organic vapor cartridge should be used. If material is handled under mist, spray or dust forming conditions, a P100 (99.97% efficiency) filter should be used in addition to the organic vapor cartridge. If no exposure limits are listed in Section 2, follow general safety guidelines in 29 CFR 1910.134 Respiratory Protection or other applicable respiratory standard.

SKIN PROTECTION
Use neoprene, nitrile or other gloves resistant to chemicals listed in Section 2. Contact a reputable safety supply company for appropriate gloves. Solvent resistant aprons are recommended. Prevent prolonged skin contact with contaminated clothing.

EYE PROTECTION
Use ANSI (American National Standards Institute) approved safety glasses, faceshield or splash proof goggles to prevent eye contact. Contact a reputable safety supply company for appropriate eye protection. The availability of an eye wash is highly recommended.

EXPOSURE GUIDELINES
See Section 2 "Composition, Information on Ingredients" for occupational exposure limits.

HYGIENIC PRACTICES
Wash with soap and water before eating, smoking or using toilet facilities. Separately wash or discard clothing and footwear before reuse. NEVER try to remove ink from the skin by using solvent or thinner. Such action is likely to increase the possibility of undesirable effects. Remove contaminated clothing to prevent prolonged skin contact.

ENGINEERING CONTROLS
Use applicable engineering controls, work practices and personal protective equipment to ensure all concentrations are kept below the exposure limits listed in Section 2. Adequate controls should be implemented to ensure employee safety from fine mists which may be produced under some printing conditions.

OTHER PROTECTION
No Data Available

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

**

APPEARANCE:
Thin liquid

ODOR:
Characteristic

PHYSICAL STATE:
Liquid

pH
Not applicable

VAPOR PRESSURE
See Section 2 for individual ingredients.

VAPOR DENSITY
Heavier than air

BOILING POINT
Greater than 300 degrees Fahrenheit

FREEZING POINT
Not available

SOLUBILITY IN WATER
Not tested

EVAPORATION RATE
Slower than ether

PERCENT VOLATILE BY VOLUME: 100.00 %

WEIGHT PER GALLON: 7.52 lbs/gal

VOC: 902.54 g/L
7.52 lb/gal

PHOTOCHEMICALLY REACTIVE

No

Percent volatile = Percent VOC

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Avoid excessive heat, ignition sources, sparks and open flame.

INCOMPATIBILITY WITH OTHER MATERIALS
Strong acids/bases, oxidizing/reducing agents and reactive chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS
May produce hazardous fumes when heated to decomposition e.g. carbon monoxide, carbon dioxide and other noxious gases.

HAZARDOUS POLYMERIZATION
Not anticipated during normal printing and storage conditions.

SECTION 11 -- TOXICOLOGICAL INFORMATION

EXPERIMENTAL TOXICITY DATA
Refer to Section 3 Hazards Identification for additional toxicological data. Experimental toxicity data on 2-butoxyethanol has given the following results: Oral LD50 Rabbit: 320 mg/kg: Intraperitoneal LD50 Rat: 550 mg/kg.

SECTION 12 -- ECOLOGICAL INFORMATION

ECOTOXICITY
Because this product may be a mixture of chemicals, some of which may be ecologically toxic, it is strongly suggested that it not be disposed of into the environment, i.e. soil, water courses, lakes, landfills, sewers, etc.

ENVIRONMENTAL FATE
No Data Available

SECTION 13 -- DISPOSAL CONSIDERATIONS

DISPOSAL METHODS
Dispose of in accordance with applicable local, county, state, provincial and federal regulations. Emptied containers may retain hazardous properties. Empty containers should be disposed of in an environmentally safe manner in accordance with applicable regulations.

SECTION 14 -- TRANSPORT INFORMATION

TRANSPORT INFORMATION
Not regulated. The product(s) described by this Material Safety Data Sheet do not meet the definition of nor are they classified as a hazardous material/dangerous good as defined by the United States Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) or the Canadian Transportation of Dangerous Goods Act (TDG).

SECTION 15 -- REGULATORY INFORMATION

SARA TITLE III 313 INFORMATION
See Section 2 "Composition, Information on Ingredients" for applicable chemicals.

TOXIC SUBSTANCES CONTROL ACT STATUS
All ingredients in Section 2 are listed on the U.S. Environmental Protection Agency's Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substance List.

OTHER REGULATORY INFORMATION
OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION (OSHA) - MSDS is compliant with Occupational Safety and Health Administration Hazard Communication Standard - 29 CFR 1910.1200. AMERICAN NATIONAL STANDARDS INSTITUTE - This MSDS follows the ANSI Z400.1-1993 format. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS) - This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION (CANADA):
No Data Available

SECTION 16 -- OTHER INFORMATION

DISCLOSURE

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind express or implied is made with respect to the information contained herein. The data in this MSDS relates only to the specific material designated herein and does not apply to use in combination with any other material or process.

DEFINITIONS

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CEILING: (TLV-Ceiling and PEL Ceiling Limit) The ceiling exposure limit or concentration not to be exceeded for even brief times.

DOT: Department of Transportation

HMIS: The Hazardous Materials Identification System (HMIS) developed by the National Paint and Coatings Association (NPCA) to provide information on the acute health hazards, reactivity and flammability of products encountered in the workplace at room temperatures.

HMIS codes assigned for this product are only suggested ratings based on anticipated normal screen printing applications. The employer has the ultimate responsibility for assigning these ratings and should fully evaluate the MSDS, work practices and environmental conditions prior to assigning the appropriate ratings.

HMIS Personal Protection Index of "X-Ask your supervisor" is given on this MSDS due to varying work conditions which may dictate different levels of protection. Please review this MSDS before determining appropriate protective equipment and beginning work.

IARC: International Agency for Research on Cancer

NFPA: National Fire Protection Association

NTP: National Toxicology Program

STEL: Short-Term Exposure Limit: ACGIH terminology for the short-term exposure limit or maximum concentration for a continuous exposure period of 15 minutes.

TLV: Threshold Limit Value. A term ACGIH uses to express the airborne concentration of a material to which most workers can be exposed during a normal daily and weekly work schedule without adverse effects.

TWA: Time-Weighted Average

VOC: Volatile Organic Compound

CAT. NO. 14381

MATERIAL SAFETY DATA SHEET

POS: SUE DELADI
HACH ORDER#: 761351

MSDS DATE: 11/06/96
CHANGE NO.: 12068

For Assistance, Contact:
Regulatory Affairs Dept.
PO Box 907 Ames, IA 50010
(800) 227-4224

HACH COMPANY
PO BOX 907
AMES, IA 50010

Emergency Telephone #
Rocky Mountain Poison Ctr.
(303) 623-5716

I. PRODUCT IDENTIFICATION

PRODUCT NAME: Sodium Hydroxide 8.00 ± 0.04N
CAS NO.: NA CHEMICAL NAME: Not applicable
FORMULA: Not applicable CHEMICAL FAMILY: Not applicable
MSDS NUMBER: M00646

II. INGREDIENTS

Sodium Hydroxide
PCT: <35 CAS NO.: 1310-73-2 SARA: NOT LISTED
TLV: 2 mg/M3 PEL: 2 mg/M3
HAZARD: Corrosive, very toxic

Demineralized Water
PCT: to 100 CAS NO.: 7732-18-5 SARA: NOT LISTED
TLV: Not applicable PEL: Not applicable
HAZARD: None

III. PHYSICAL DATA

STATE: liquid APPEARANCE: Clear, colorless ODOR: None
SOLUBILITY IN: WATER: Miscible ACID: Miscible OTHER: Not determined
BOILING POINT: ~100°C MELTING PT.: NA SPEC GRAVITY: 1.28 pH: 14.0
VAPOR PRESSURE: ND VAPOR DENSITY (air=1): ND EVAPORATION RATE: 0.19
METAL CORROSIVITY - ALUMINUM: >20 in/yr STEEL: 0.00 in/yr
STABILITY: See Conditions to Avoid
STORAGE PRECAUTIONS: Store tightly closed in a cool, dry place.

IV. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT.: Not applicable METHOD: NA
FLAMMABILITY LIMITS - LOWER: NA UPPER: NA
SUSCEPTIBILITY TO SPONTANEOUS HEATING: None
SHOCK SENSITIVITY: None AUTOIGNITION PT.: NA
EXTINGUISHING MEDIA: Not applicable
FIRE/EXPLOSION HAZARDS: Contact with metals gives off hydrogen gas which is flammable
HAZARDOUS DECOMP. PRODUCTS: None reported
OXIDIZER: No NFPA Codes: Health: 3 Flammability: 0 Reactivity: 1
CONDITIONS TO AVOID: Extreme temperatures, evaporation; Contact with acids, halogenated organic compounds, metals, nitro compounds

V. HEALTH HAZARD DATA

THIS PRODUCT MAY BE: corrosive to eyes, skin and respiratory tract.
ACUTE TOXICITY: Not determined
ROUTES OF EXPOSURE: Ingestion
TARGET ORGANS: Not determined
CHRONIC TOXICITY: Not determined
ROUTES OF EXPOSURE: Not determined
TARGET ORGANS: Not determined
CANCER INFORMATION: Not applicable
ROUTES OF EXPOSURE: Not applicable
TARGET ORGANS: Not applicable
OVEREXPOSURE: Causes burns to all body tissues contacted.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing eye, skin, or respiratory conditions

VI. PRECAUTIONARY MEASURES

Avoid contact with eyes, skin and clothing
Do not breathe mist or vapor.
Wash thoroughly after handling.
PROTECTIVE EQUIPMENT: adequate ventilation, lab grade goggles, disposable latex gloves, lab coat

VII. FIRST AID

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes. Remove contaminated clothing. Call physician.
INGESTION: Do NOT induce vomiting. Give 1 - 2 glasses of water. Call a physician immediately. Never give anything by mouth to an unconscious person.
INHALATION: Remove to fresh air. Give artificial respiration if necessary. Call physician.

VIII. SPILL AND DISPOSAL PROCEDURES

IN CASE OF SPILL OR RELEASE: Cover spill with citric acid or another solid acidic material. Scoop slurry to beaker. Add water and neutralize liquid to a pH between 6 and 9. Flush neutralized waste to the drain with excess water.
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

IX. TRANSPORTATION DATA

D.O.T. PROPER SHIPPING NAME: Sodium Hydroxide Solution
HAZARD CLASS: 8 ID: UN1824 GROUP: II

I.C.A.O. PROPER SHIPPING NAME: Sodium Hydroxide Solution
HAZARD CLASS: 8 ID: UN1824 GROUP: II

I.M.O. PROPER SHIPPING NAME: Sodium Hydroxide, Solution
HAZARD CLASS: 8 ID: UN1824 GROUP: II

X. REFERENCES

1) TLV's Threshold Limit Values and Biological Exposure Indices for 1988-1989. American Conference of Governmental Industrial Hygienists, 1988.
2) Air Contaminants, Federal Register, Vol. 54, No. 12, Thursday, January 19, 1989. pp. 2332-2983.
3) Technical judgment
4) In-house information
5) Fire Protection Guide to Hazardous Materials, 10th Ed., Quincy, MA; National Fire Protection Association, 1991.
6) Sax, N. Irving. Dangerous Properties of Industrial Materials, 6th Ed. New York: Van Nostrand Reinhold Co. 1984.

TMC 1225910

MOR 001377

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

(C) HACH CO. 1997

HACH ORDER#: 819667

MSDS DATE: 2/16/94
CHANGE NO.: 13646

For Assistance, Contact:
Regulatory Affairs Dept.
PO Box 907 Ames, IA 50010
(800) 227-4224

HACH COMPANY
PO BOX 907
AMES, IA 50010

Emergency Telephone #
Rocky Mountain Poison Ctr.
(303) 623-5716

I. PRODUCT IDENTIFICATION

PRODUCT NAME: Phenolphthalein Indicator Solution 5 g/l
CAS NO.: NA CHEMICAL NAME: Not applicable
FORMULA: Not applicable CHEMICAL FAMILY: Not applicable

II. INGREDIENTS

2-(2-Ethoxyethoxy)ethanol
PCT: >99 CAS NO.: 111-90-0 SARA: LISTED
TLV: Not established PEL: Not established
HAZARD: Slightly toxic; may cause irritation

Phenolphthalein
PCT: <1 CAS NO.: 77-09-8 SARA: NOT LISTED
TLV: Not established PEL: Not established
HAZARD: May cause irritation

III. PHYSICAL DATA

STATE: liquid APPEARANCE: Faint pink, clear ODOR: Mild
SOLUBILITY IN: WATER: Miscible ACID: Not determined
OTHER: Most organic solvents BOILING POINT: 196C MELTING PT.: NA
SPEC GRAVITY: 0.986 pH: 4.5 VAPOR PRESSURE: 0.08 mm Hg
VAPOR DENSITY (air=1): 4.65 EVAPORATION RATE: 0.03
METAL CORROSIVITY - ALUMINUM: ND STEEL: ND STABILITY: Stable
STORAGE PRECAUTIONS: Store tightly closed in a cool, dry place.

IV. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT.: 99C; 210F METHOD: closed cup
FLAMMABILITY LIMITS - LOWER: ND UPPER: ND
SUSCEPTIBILITY TO SPONTANEOUS HEATING: None
SHOCK SENSITIVITY: None AUTOIGNITION PT.: Not available
EXTINGUISHING MEDIA: dry chemical, alcohol foam or carbon dioxide
FIRE/EXPLOSION HAZARDS: May emit toxic fumes in fire
HAZARDOUS DECOMP. PRODUCTS: May emit toxic fumes of carbon monoxide and carbon dioxide in fire
OXIDIZER: No NFPA Codes: Health: 1 Flammability: 1 Reactivity: 0
CONDITIONS TO AVOID: Heat, flames, contact with oxidizers

V. HEALTH HAZARD DATA

THIS PRODUCT MAY BE: irritating to eyes, skin and respiratory tract.
ACUTE TOXICITY: Slightly toxic
ROUTES OF EXPOSURE: ingestion, skin absorption
TARGET ORGANS: central nervous system
CHRONIC TOXICITY: Not determined
ROUTES OF EXPOSURE: Not determined
TARGET ORGANS: Not determined
CANCER INFORMATION: Not applicable
ROUTES OF EXPOSURE: Not applicable
TARGET ORGANS: Not applicable
OVEREXPOSURE: Causes moderate eye irritation, nausea, vomiting, headache, central nervous system depression
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None reported

VI. PRECAUTIONARY MEASURES

Avoid contact with eyes and skin.
Do not breathe mist or vapor.
Wash thoroughly after handling.
PROTECTIVE EQUIPMENT: lab grade goggles, lab coat, rubber gloves, fume hood

VII. FIRST AID

EYE AND SKIN CONTACT: Immediately flush eyes with water for 15 minutes. C. physician. Wash skin with soap and plenty of water.
INGESTION: Give large quantities of water. Call physician immediately.
INHALATION: Remove to fresh air.

VIII. SPILL AND DISPOSAL PROCEDURES

IN CASE OF SPILL OR RELEASE: Remove all sources of ignition. Absorb spill with non-reactive absorbent. Do not breathe fumes. Incinerate material in an EPA-approved facility.
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

IX. TRANSPORTATION DATA

D.O.T. PROPER SHIPPING NAME: Not Currently Regulated
HAZARD CLASS: NA ID: NA GROUP: NA

I.C.A.O. PROPER SHIPPING NAME: Not Currently Regulated
HAZARD CLASS: NA ID: NA GROUP: NA

I.M.O. PROPER SHIPPING NAME: Not Currently Regulated
HAZARD CLASS: NA ID: NA GROUP: NA

X. REFERENCES

1) TLV's Threshold Limit Values and Biological Exposure Indices for 1988-1989. American Conference of Governmental Industrial Hygienists, 1988.
2) Air Contaminants, Federal Register, Vol. 54, No. 12, Thursday, January 19, 1989. pp. 2332-2983.
3) In-house information
4) Technical judgment

SARA: This product contains a chemical or chemicals subject to the reportir requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

TMC 1225921

MOR 001378

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

(C) HACH CO. 1994

THE MOREY CORPORATION

U

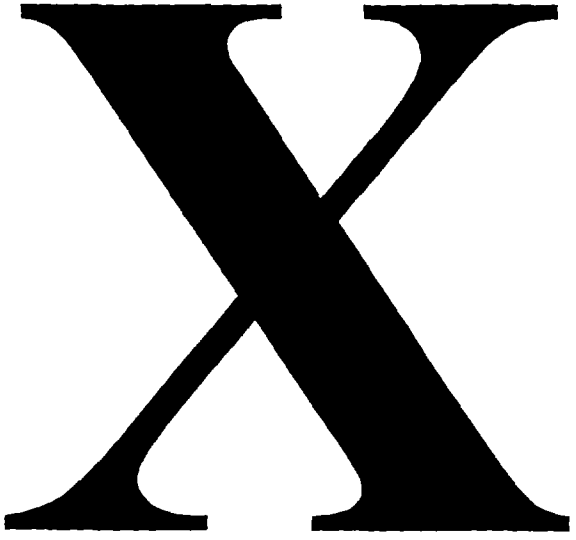
MOR 001379

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

UV ADHESIVE

(SEE **LOCTITE TAC-PAC 382**)

THE MOREY CORPORATION



MOR 001381

100 Morey Drive | Woodridge | Illinois 60517 | Tel: 630 754 2300 | Fax: 630 754 2001 | www.moreycorp.com

THE MOREY CORPORATION

Z

MOR 001386

100 Morey Drive Woodridge Illinois 60517 Tel: 630.754.2300 | Fax: 630.754.2001 | www.moreycorp.com

FAP

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

Rec. 12/13/99

ISSUE DATE: 12/16/91
SUPERSEDES: 11/13/91
Date printed: 12/04/99
ZEP Z-GREEN
Prod No: 1848 General Purpose Cleaner

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

SOLD TO:

(330)
RECELLULAR INC C/O
MOREY CORPORATION
DOWNERS GROVE IL 60515

A86723

SECTION I -EMERGENCY CONTACTS

TELEPHONE:	
(404) 352-1680	*BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:	
(770) 439-4200	*NON OFFICE HOURS, WEEKENDS*
(770) 432-2873	*AND HOLIDAYS, PLEASE CALL*
(770) 424-4789	**LOCAL POISON CONTROL**
(770) 424-2048	
(770) 455-8160	
(770) 552-8836	
TRANSPORTATION EMERGENCY:	
(770) 922-0923	
CHEMTREC:	
(800) 424-9300	**TOLL FREE-CALLS RECORDED**
DISTRICT OF COLUMBIA:	
(202) 483-7616	**ALL CALLS RECORDED**

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.

OSHA'S HAZARD COMMUNICATION STANDARD (29 CFR 1910 1200) DOES NOT REQUIRE THE LISTING OF ANY INGREDIENTS FOR THIS PRODUCT.

SECTION III - HEALTH HAZARD DATA

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

ACUTE EFFECTS OF OVEREXPOSURE

Product is considered non-toxic orally according to 16 CFR 1500.3 (Code of Federal Regulations 16, Federal Hazardous Substances Act Regulations, Part 1500.3). However, no product should be intentionally ingested. Ingestion of an excessive amount of the product may cause complications. There are no known effects from acute overexposure to this product. However, in light of good industrial hygiene, exposure to any chemical should be kept to a minimum.

CHRONIC EFFECTS OF OVEREXPOSURE:

There are no known effects from chronic exposure to this product.
None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA
EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: N/A

HMIS CODES: HEALTH 0; FLAM. 0; REACT. 0; PERS. PROTECT. A , CHRONIC HAZ. NO

FIRST AID PROCEDURES:

SKIN: Flush contaminated skin with plenty of water. Consult a physician if irritation develops.
EYES: Flush eyes thoroughly with plenty of water. If irritation persists, consult a physician.
INHALE: Move exposed person to fresh air. If irritation persists, get medical attention promptly.
INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wearing neoprene or nitrile gloves is recommended when prolonged excessive contact occurs (eg immersing hands)
EYE PROTECTION: Use of tight-fitting safety glasses or goggles is strongly recommended, especially when wearing contact lenses.
RESPIRATORY PROTECTION: No special measures are required.
VENTILATION: No special measures are required.

SECTION V - PHYSICAL DATA

BOILING POINT (F):	212	SPECIFIC GRAVITY:	1.00
VAPOR PRESSURE(mmHg):	N/D	EVAPORATION RATE (WATER=1):	1.0
VAPOR DENSITY(AIR=1):	N/D	pH(CONCENTRATE):	9.0-9.5
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF N/D):	N/D

VOC CONTENT (CONCENTRATE):
APPEARANCE AND ODOR: A CLEAR, GREEN LIQUID WITH A SASSAFRAS FRAGRANCE

SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(C) (METHOD USED): N/A ( )
FLAMMABLE LIMITS: LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: Noncombustible.
SPECIAL FIRE FIGHTING: Wear self-contained positive pres. breathing apparatus.
UNUSUAL FIRE HAZARDS: None

SECTION VII - REACTIVITY DATA

STABILITY: Stable
INCOMPATIBLILITY(AVOID): Strong oxidizing agents.
POLYMERIZATION: Will not occur.
HAZARDOUS DECOMPOSITION: Carbon dioxide, carbon monoxide, and other unidentified organic compounds.

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Observe safety procedures in section 4 & 9 during clean-up. Absorb spill on inert absorbent material (eg Zep-O-Zorb). Pick up and place residue in a suitable waste container or, if permitted, flush to sewer. Thoroughly rinse spill area with water.
WASTE DISPOSAL METHOD:
Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be absorbed on an inert absorbent material (eg. Zep-O-Zorb), drummed, and taken to a chemical or industrial landfill. In some areas disposal by flushing into a sanitary sewer with plenty of water may be permissible. Consult local, state, and federal agencies for proper disposal method in your area.
RCRA HAZ. WASTE NOS.: N/A

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
Store tightly closed container in a dry area at temps. between 40-120 degrees F.
Keep product out of eyes.
Avoid prolonged contact with skin
Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned.
Keep out of the reach of children

MOR 001387

SECTION X - REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: INDUSTRIAL CLEANERS N.O.I., LIQUID KEEP FROM FREEZING
NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in accordance with packaging group requirements.

Product No: 1848 **SECTION X - REGULATORY INFORMATION (continued)**

DOT HAZARD CLASS: DOT PACKING GROUP:
DOT I.D. NUMBER: DOT LABEL/PLACARD:
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): SODIUM DODECYL BENZENE SULFONATE - 1000#

NOTICE

Thank you for your interest in, and use of Zep products. Zep Manufacturing Co. is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Zep Manufacturing is concerned for your health and safety. Zep products can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any Zep product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Zep wishes to advise that *serious accidents have resulted from the misuse of "emptied"* containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS LISTED ALPHABETICALLY BY SECTION

SECTION II: HAZARDOUS INGREDIENTS

CAR: Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.
CAS #: Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.
CBL: Combustible - At temperatures between 100F and 200F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
CNS: Central Nervous System depressant which reduces the activity of the brain and spinal cord.
COR: Corrosive - Causes irreversible injury to living tissue (e.g. burns).
DESIGNATIONS: Chemical and common names of hazardous ingredients.
EIR: Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.
EXPOSURE LIMITS: The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs and OSHA PELs (TWA, STEL and ceiling limits).
ACGIH: American Conference of Governmental Industrial Hygienists.
CEILING: The concentration that should not be exceeded in the workplace during any part of the working exposure.
OSHA: Occupational Safety and Health Administration.
PEL: Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week.
PPM: Parts per million - unit of measure for exposure limits.
(S) SKIN: Skin contact with substance can contribute to overall exposure.
STEL: Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period.
TLV: Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work week.
enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
HAZARDOUS INGREDIENTS: Chemical substances determined to be potential health or physical hazards based on the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200.
HTX: Highly toxic - the probable lethal dose for a 70kg (150 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons).
IRR: Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.
N/A: Not Applicable - Category is not appropriate for this product.
N.D.: Not Determined - Insufficient information to make a determination for this item.
RTECS#: Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.
SARA: Superfund Amendment and Reauthorization Act - Section 313 designates chemicals for possible reporting for the Toxics Release Inventory.
SEN: Sensitizer - Causes allergic reaction after repeated exposure.
TOX: Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more.

(rev. 1/98)

SECTION III: HEALTH HAZARD DATA

ACUTE EFFECT: An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.
CHRONIC EFFECT: Adverse effects that are most likely to occur from repeated exposure over a long period of time.
EST. D PEL/TLV: This estimated, time-weighted average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers.
HMIS CODES: Hazardous Material Identification System - a rating system developed by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/Flammability/Reactivity) ranging from a low of zero to a high of 4. The presence of a chronic hazard is indicated with a yes. Consult HMIS training guides for Personal Protection letter codes which indicate necessary protective equipment.
PRIMARY ROUTE OF ENTRY: The way one or more hazardous ingredients may enter the body and cause a generalized-systemic or specific-organ toxic effect.
ING: Ingestion - A primary route of exposure through swallowing of material.
INH: Inhalation - A primary route of exposure through breathing of vapors.
SKIN: A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.
MSHA: Mine Safety and Health Administration
NIOSH: National Institute for Occupational Safety and Health

SECTION V: PHYSICAL DATA

EVAPORATION RATE: Refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).
pH: A value representing the acidity or alkalinity of an aqueous solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14).
VOC CONTENT: The percentage or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and various state jurisdictions.
SOLUBILITY IN WATER: A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION: Breakdown products expected to be produced upon product decomposition by extreme heat or fire.
INCOMPATIBILITY: Material contact by extreme heat and the conditions to avoid to prevent hazardous reactions.
POLYMERIZATION: Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction, releasing excess pressure and heat.
STABILITY: Indicates the susceptibility of the product to spontaneously and dangerously decompose.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOS: RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA: Clean Water Act- Federal Law which regulates chemical releases to bodies of water.
RQ: Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.
TSCA: Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information and recommendations contained herein are based on available scientific tests or data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with out products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the products label and Material Safety Data Sheet.

(rev. 1/98)

Rec Zep 7/22/94

3098

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

RECELLULAR INC (343)
5500 S STATE STREET
ANN ARBOR, MI 48108

03/22/97
ISSUE DATE: 06/20/94
SUPERSEDES: 07/12/89

ZEP BIG ORANGE
PRODUCT NO.: 0415 — **Industrial Solvent Degreaser**

SECTION I - EMERGENCY CONTACTS

TELEPHONE:
(404) 352-1680 — *BETWEEN 8:00 AM - 5:00 PM (EST)*

MEDICAL EMERGENCY:
(770) 439-4200
(770) 432-2873
(770) 424-4789
(770) 392-1480
(770) 455-8160
(770) 552-8836
NON-OFFICE HOURS, WEEKENDS AND HOLIDAYS, PLEASE CALL YOUR **LOCAL POISON CONTROL**

TRANSPORTATION EMERGENCY:
(770) 922-0923

CHEMTREC:
1-800-424-9300 — TOLL-FREE - ALL CALLS RECORDED

DISTRICT OF COLUMBIA:
(202) 483-7616 — ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
" D-LIMONENE " orange distillate; citrus terpene; cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-; CAS# 5989-27-5; RTECS# GW6360000; OSHA PEL N/D	N/D	CBL SEN	> 90
" NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL " npe; poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-N/D	N/D	EIR	< 5

SECTION III - HEALTH HAZARD DATA

Special Note: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

Acute Effects of Overexposure:
This product can be an eye irritant. Inflammation of eye tissue is characterized by redness, watering, and/or itching. One of the ingredients in this product has caused sensitization reactions in a small percentage of the general population.

Chronic Effects of Overexposure:
Contact, especially if prolonged of repeated, may cause redness, itching, or blistering of the skin. None of the hazardous ingredients are listed as carcinogens by IARC, NTP, & OSHA

:t'd PEL/TLV: Not established — **Primary Routes of Entry:** N/A

1IS Codes: HEALTH 1;FLAM. 2;REACT. 0;PERS. PROTECT. B ;CHRONIC HAZ. NO

.IST AID PROCEDURES:
Skin: Wash contaminated skin thoroughly with soap or a mild detergent. Apply a skin cream with lanolin. Get medical attention if irritation persists.
Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
Inhale: Move exposed person to fresh air. If irritation persists, get medical attention promptly.
Ingest: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

Protective Clothing: Wear nitrile gloves or use gloves with demonstrated resistance to the ingredients in this product.
Eye Protection: Wear tight-fitting splash-proof safety glasses especially if contact lenses are worn.
Respiratory Protection: No special measures are required.
Ventilation: No special measures are required.

SECTION V - PHYSICAL DATA

Boiling Point (°F):	338-375	**Specific Gravity:**	0.853	**Vapor Pressure (mmHg):**	N/A
Percent Volatile by Volume (%):	93.8	**Vapor Density (air = 1):**	N/A	**Evaporation Rate (CCL4 = 1):**	~33
Solubility in Water:	EMULSIFIES	**pH (concentrate):**	N/A	**pH (use dilution of 1:20):**	7.6

Appearance and Odor: ORANGE LIQUID WITH A CITRUS ODOR

SECTION VI - FIRE AND EXPLOSION DATA

Flash Point (°F) (method used): 121 (TCC)
Flammable Limits: LEL N/A UEL N/A
tinguishing Media: Carbon dioxide, dry chemical and foam.
ecial Fire Fighting: Fire exposed drums should be cooled with stream of water.
Unusual Fire Hazards: None

MOR 001389

SECTION VII - REACTIVITY DATA

Stability:	Stable
Incompatibility (avoid):	Strong oxidizing agents.
Polymerization:	Will not occur.
Hazardous Decomposition:	Carbon dioxide, carbon monoxide, and other unidentified organic compounds.

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

Steps to be Taken In Case Material is Released or Spilled:
›serve safety procedures in section 4 & 9 during clean-up. Absorb spill on inert absorbent material (eg Zep-O-Zorb). Pick up and place residue in a suitable waste ntainer or, if permitted, flush to sewer. Thoroughly rinse spill area with water.

Waste Disposal Method:
Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be absorbed on an inert absorbent material (eg. Zep-O-Zorb), drummed, and taken to a chemical or industrial landfill. In some areas disposal by flushing into a sanitary sewer with plenty of water may be permissible. Consult local, state, and federal agencies for proper disposal method in your area.

RCRA Hazardous Waste Numbers: N/A

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken When Handling and Storing:
Store tightly closed container in a dry area at temps. between 40-120 degrees F. Keep product out of eyes. Avoid prolonged contact with skin. Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned. Keep out of the reach of children.

SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME Small sizes one gallon or less may be shipped as ORM-D: NONE
DOT Hazard Class: N/A
DOT I.D. Number: N/A **DOT Label/Placard:** NONE
EPA TSCA Chemical Inventory: ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR Part 117 substance (RQ In a single container) : SODIUM DODECYL BENZENE SULFONATE - 1000 #

NOTICE

Thank you for your interest in, and use of, Zep products. Zep Manufacturing Co. is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Zep Manufacturing is concerned for your health and safety. Zep products can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any Zep product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Zep wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS USED IN THE MSDS:
BY SECTION ALPHABETICALLY:

TION II: HAZARDOUS INGREDIENTS

CAR; Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.
CAS #; Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.
CBL; Combustible - At temperatures between 100°F and 200°F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
CNS; Central Nervous System depressant reduces the activity of the brain and spinal cord.
COR; Corrosive - Causes irreversible alterations in living tissue (e.g. burns).
DESIGNATIONS; Chemical and common names of hazardous ingredients.
EIR; Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.
EXPOSURE LIMITS; The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLV's, and OSHA PEL's (TWA, STEL and ceiling limits).
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CEILING; The concentration that should not be exceeded in the workplace during any part of the working exposure.
OSHA; Occupational Safety and Health Administration
PEL; Permissible Exposure Limit- A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week.
PPM; Parts per million - unit of measure for exposure limits.
(S) SKIN; Skin contact with substance can contribute to overall exposure.
STEL; Short Term Exposure Limit- Maximum concentration for a continuous 15-minute exposure period.
TLV; Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work week.
FBL; Flammable - At temperatures under 100°F, chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
HAZARDOUS INGREDIENTS; Chemical substances determined to be potential health or physical hazards by the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200
HTX; Highly toxic - the probable lethal dose for 70 kg (150 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons).
IRR; Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.
N/A; Not Applicable - Category is not appropriate for this product.
NID; Not Determined - Insufficient information for a determination for this item.
RTECS #; Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.
SARA; Superfund Amendments and Reauthorization Act - Section 313 designates chemicals for possibla reporting for the Toxics Release Inventory.
SEN; Sensitizer - Causes allergic reaction after repeated exposure.
TOX; Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more.

SECTION III: HEALTH HAZARD DATA

ACUTE EFFECT; An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.
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PRIMARY ROUTE OF ENTRY; The way one or more hazardous ingredients may enter the body and cause a generalized-systemic or specific-organ toxic effect.
ING; Ingestion - A primary route of exposure through swallowing of material.
INH; Inhalation - A primary route of exposure through breathing of vapors.
SKIN; A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.
MSHA; Mine Safety and Health Administration
NIOSH; National Institute for Occupational Safety and Health.

SECTION V: PHYSICAL DATA

EVAPORATION RATE; It refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).
pH; A value representing the acidity or alkalinity of an aqueous solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14)
PERCENT VOLATILE; The percentage of the product (liquid or solid) that will evaporate at 212°F and ambient pressure.
SOLUBILITY IN WATER; A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION; Breakdown products expected to be produced upon product decomposition or fire.
INCOMPATIBILITY; Material contact and conditions to avoid to prevent hazardous reactions.
POLYMERIZATION; Indicates the tendency of the product's molecules to combine in a chemical reaction releasing excess pressure and heat.
STABILITY; Indicates the susceptibility of the product to spontaneously and dangerously decompose.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOS; RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA; Clean Water Act
RQ; Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.
TSCA; Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information and recommendation contained herein are based on available scientific tests & data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the product's label and Material Safety Data Sheet.

(Notice Revised 8/91)

822

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Date of Prep: 1/20/98

SECTION 1

Rec BP 8/17/98

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090
EMERGENCY TELEPHONE (847) 541-5700 - SUNNYSIDE CORPORATION
(800) 424-9300 - CHEM TREC

FOR INFORMATION: (847) 541-5700

Product Class: Petroleum Solvent
Trade Name: XYLENE (XYLOL)

Manufacturer's Code: 822
NPCA HMIS: Health: 2, Flammability: 3, Reactivity: 0
NPCA: 704 Health: 2, Flammability: 3, Reactivity: 0

Product Appearance and Odor: Clear, water-white liquid; aromatic hydrocarbon odor.

SECTION 2 -- HAZARDOUS INGREDIENTS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT	CAS #	PERCENT	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)	VAPOR PRESSURE
Xylenes	1330-20-7		100 PPM	150 PPM	100 PPM	150 PPM	7 MM Hg @ 20°C
Ethyl Benzene	100-41-4		100 PPM	125 PPM	100 PPM	125 PPM	10 MM Hg @ 68°F

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Move victim away from exposure and into fresh air. Flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact: Remove contaminated clothing/shoes. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get immediate medical attention.

Note to Physicians: Exposure to high concentrations of this material (for example, use in enclosed spaces or in cases of deliberate abuse) may be associated with cardiac arrhythmias. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

Boiling Range: 276-289° (F)
Evaporation Rate: Slower than ether
Weight Per Gallon: 7.25 Lbs.
Solubility in Water: Negligible; less than 0.08%

Vapor Density: Heavier than air
% Volatile By Volume: 100%

SECTION 5 -- FIRE AND EXPLOSION DATA

Flammability Classification:	Flammable Liquid - Class IB
Flash Point:	79° (F) (Tag. Closed Cup).
Autoignition Temperature:	930°F (Approximate)
Lower Explosive Limit:	1.0% @ 68°F
Extinguishing Media:	Carbon Dioxide, foam, dry chemical, water spray. Do not use direct water stream; it will spread fire.
Unusual Fire and Explosion Hazards:	Flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.
Special Fire Fighting Procedures:	Use air-supplied rescue equipment for enclosed areas. Cool exposed containers with water.

SECTION 6 -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE:	100 PPM (ACGIH - Time weighted average)
EFFECTS OF OVEREXPOSURE	
Eye Contact:	Liquid is minimally irritating to the eyes. High vapor concentrations may also be irritating.
Skin Contact:	Liquid is mildly irritating to the skin. Prolonged or repeated liquid contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis.
Inhalation:	Vapors are irritating to the nose, throat and respiratory tract. High vapor concentrations may cause central nervous system depression.
Ingestion:	Liquid is moderately toxic and may be harmful if swallowed; may produce central nervous system depression. Ingestion of product may result in vomiting; aspiration (breathing) of vomitus into the lungs must be avoided as even small quantities may result in aspiration pneumonitis.
Carcinogenicity:	Xylene is not known to be mutagenic, carcinogenic or a skin sensitizer. However, the available experimental data are limited and insufficient to assess carcinogenic potential. Xylene is not listed as a carcinogen by NTP, IARC or OSHA.
Target Organs:	A six week inhalation study with Xylene produced hearing loss in rats. Laboratory animals exposed by various routes to high doses of Xylene have exhibited effects in liver, kidneys, lungs, spleen, heart, blood and adrenals.
Developmental:	Xylene produced limited evidence of developmental toxicity in laboratory animals. Inhalation and oral administration of Xylene resulted in decreased fetal weight, increased incidences of delayed ossification, skeletal variations and resorptions.

Medical Conditions Aggravated by Exposure: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product. Exposure to high concentrations of this material may cause irregular heartbeats (arrhythmias). Persons with pre-existing heart disorders may be more susceptible to this effect.

Chronic Effects: **This product contains Ethyl Benzene. A draft report on a study conducted by the National Toxicology program states that lifetime inhalation exposure of rats and mice to concentrations of Ethyl Benzene (750 ppm) resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentration of Ethyl Benzene (75 ppm or 250 ppm). The draft report does not address the relevance of these results to humans.**

SECTION 7 -- REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Heat, sparks and flame.
Incompatibility (Materials to Avoid):	Strong oxidizing agents like liquid chlorine or concentrated oxygen, concentrated nitric and sulfuric acids, halogen and molten sulphur.
Hazardous Decomposition Products:	Thermal decomposition may yield carbon dioxide and carbon monoxide.
Hazardous Polymerization:	Will not occur.

822

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Date of Prep: 1/20/98

SECTION 1

Rec 8/17/98

SUNNYSIDE CORPORATION
225 CARPENTER AVENUE
WHEELING, ILLINOIS 60090
EMERGENCY TELEPHONE (847) 541-5700 - SUNNYSIDE CORPORATION
(800) 424-9300 - CHEM TREC

FOR INFORMATION: (847) 541-5700

Product Class:	Petroleum Solvent	Manufacturer's Code:	822
Trade Name:	XYLENE (XYLOL)	NPCA HMIS:	Health: 2 Flammability: 3 Reactivity: 0
		NPCA: 704	Health: 2 Flammability: 3 Reactivity: 0

Product Appearance and Odor: Clear, water-white liquid; aromatic hydrocarbon odor.

SECTION 2 -- HAZARDOUS INGREDIENTS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT	CAS #	PERCENT	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)	VAPOR PRESSURE
Xylenes	1330-20-7		100 PPM	150 PPM	100 PPM	150 PPM	7 MM Hg @ 20°C
Ethyl Benzene	100-41-4		100 PPM	125 PPM	100 PPM	125 PPM	10 MM Hg @ 68°F

SECTION 3 -- EMERGENCY AND FIRST AID PROCEDURES

Eye Contact: Move victim away from exposure and into fresh air. Flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention.

Skin Contact: Remove contaminated clothing/shoes. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get immediate medical attention.

Note to Physicians: Exposure to high concentrations of this material (for example, use in enclosed spaces or in cases of deliberate abuse) may be associated with cardiac arrhythmias. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

SECTION 4 -- PHYSICAL DATA

The following data represent approximate or typical values. They do not constitute product specifications.

Boiling Range:	276-289° (F)	Vapor Density:	Heavier than air
Evaporation Rate:	Slower than ether	% Volatile By Volume:	100%
Weight Per Gallon:	7.25 Lbs.		
Solubility in Water:	Negligible; less than 0.08%		

SECTION 11 – ADDITIONAL INFORMATION

This product contains the following toxic chemical(s) which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

TOXIC CHEMICAL	CAS #	APPROXIMATE % BY WEIGHT
Xylenes (Mixed Isomers)	1330-20-7	75 - 90%
Ethyl Benzene	100-41-4	10 - 25%

SARA Title III Hazard Categories:	Immediate (Acute) Health, Delayed (Chronic) Health, Fire.
Common Names:	Xylol, Dimethyl Benzene
California Proposition 65:	This product contains trace amounts of Toluene, a chemical known to the State of California to cause birth defects or other reproductive harm, and trace amounts of Benzene, a chemical known to the State of California to cause cancer.

TRANSPORTATION (U.S. D.O.T. land transportation in packages of 119 gallons or less)

U.S. D.O.T. Proper Shipping Name:	Flammable Liquid, N.O.S. (Contains Xylene, Ethyl Benzene)
U.S. D.O.T. Hazard Class & Packing Group:	3, III
U.S. D.O.T. I.D. Number:	UN 1993
U.S. D.O.T. Hazardous Substance:	Xylenes (mixed) RQ 100 lbs. Ethyl Benzene RQ 1000 lbs.

Refer to 49 CFR for additional information. Exceptions or exemptions may exist for smaller quantities.

THE MOREY CORPORATION

Z

MOR 001386

100 Morey Drive · Woodridge, Illinois 60517 · Tel: 630.754.2200 · Fax: 630.754.2001 · www.moreycorp.com

FAP

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

SOLD TO:

(330)
RECELLULAR INC C/O
MOREY CORPORATION
DOWNERS GROVE IL 60515

Rec. 12/13/99

ISSUE DATE: 12/16/91
SUPERSEDES: 11/13/91
Date printed: 12/04/99
ZEP Z-GREEN
Prod No: 1848 **General Purpose Cleaner**

A86723

SECTION I -EMERGENCY CONTACTS

TELEPHONE:	
(404) 352-1680	*BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:	
(770) 439-4200	*NON OFFICE HOURS, WEEKENDS*
(770) 432-2873	*AND HOLIDAYS, PLEASE CALL*
(770) 424-4789	**LOCAL POISON CONTROL**
(770) 424-2048	
(770) 455-8160	
(770) 552-8836	
TRANSPORTATION EMERGENCY:	
(770) 922-0923	
CHEMTREC:	
(800) 424-9300	**TOLL FREE-CALLS RECORDED**
DISTRICT OF COLUMBIA:	
(202) 483-7616	**ALL CALLS RECORDED**

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.

OSHA'S HAZARD COMMUNICATION STANDARD (29 CFR 1910. 1200) DOES NOT REQUIRE THE LISTING OF ANY INGREDIENTS FOR THIS PRODUCT.

SECTION III - HEALTH HAZARD DATA

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.
ACUTE EFFECTS OF OVEREXPOSURE:
Product is considered non-toxic orally according to 16 CFR 1500.3 (Code of Federal Regulations 16, Federal Hazardous Substances Act Regulations, Part 1500.3). However, no product should be intentionally ingested. Ingestion of an excessive amount of the product may cause complications
There are no known effects from acute overexposure to this product However, in light of good industrial hygiene, exposure to any chemical should be kept to a minimum.
CHRONIC EFFECTS OF OVEREXPOSURE:
There are no known effects from chronic exposure to this product.
None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA.
EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: N/A

HMIS CODES: HEALTH 0, FLAM. 0; REACT. 0; PERS. PROTECT. A , CHRONIC HAZ. NO

FIRST AID PROCEDURES:
SKIN: Flush contaminated skin with plenty of water. Consult a physician if irritation develops.
EYES: Flush eyes thoroughly with plenty of water. If irritation persists, consult a physician.
INHALE: Move exposed person to fresh air. If irritation persists, get medical attention promptly.
INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wearing neoprene or nitrile gloves is recommended when prolonged excessive contact occurs (eg immersing hands)
EYE PROTECTION: Use of tight-fitting safety glasses or goggles is strongly recommended, especially when wearing contact lenses.
RESPIRATORY PROTECTION: No special measures are required
VENTILATION: No special measures are required.

SECTION V - PHYSICAL DATA

BOILING POINT (F):	212	SPECIFIC GRAVITY:	1.00
VAPOR PRESSURE(mmHg):	N/D	EVAPORATION RATE (WATER=1):	1.0
VAPOR DENSITY(AIR=1):	N/D	pH(CONCENTRATE):	9.0-9.5
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF N/D):	N/D
VOC CONTENT (CONCENTRATE):			

APPEARANCE AND ODOR: A CLEAR, GREEN LIQUID WITH A SASSAFRAS FRAGRANCE

SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(C) (METHOD USED): N/A ( )
FLAMMABLE LIMITS: LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: Noncombustible.
SPECIAL FIRE FIGHTING: Wear self-contained positive pres. breathing apparatus.
UNUSUAL FIRE HAZARDS: None

SECTION VII - REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY(AVOID): Strong oxidizing agents.
POLYMERIZATION: Will not occur.
HAZARDOUS DECOMPOSITION: Carbon dioxide, carbon monoxide, and other unidentified organic compounds.

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Observe safety procedures in section 4 & 9 during clean-up. Absorb spill on inert absorbent material (eg Zep-O-Zorb). Pick up and place residue in a suitable waste container or, if permitted, flush to sewer. Thoroughly rinse spill area with water.
WASTE DISPOSAL METHOD:
Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be absorbed on an inert absorbent material (eg. Zep-O-Zorb), drummed, and taken to a chemical or industrial landfill. In some areas disposal by flushing into a sanitary sewer with plenty of water may be permissible. Consult local, state, and federal agencies for proper disposal method in your area.
RCRA HAZ. WASTE NOS.: N/A

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
Store tightly closed container in a dry area at temps. between 40-120 degrees F.
Keep product out of eyes.
Avoid prolonged contact with skin.
Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned.
Keep out of the reach of children.

MOR 001387

SECTION X - REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: INDUSTRIAL CLEANERS N.O.I.,LIQUID KEEP FROM FREEZING
NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in

Product No: 1848 **SECTION X - REGULATORY INFORMATION (continued)**

DOT HAZARD CLASS: DOT PACKING GROUP.
DOT I.D. NUMBER: DOT LABEL/PLACARD:
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): SODIUM DODECYL BENZENE SULFONATE - 1000#

NOTICE

Thank you for your interest in, and use of Zep products. Zep Manufacturing Co. is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Zep Manufacturing is concerned for your health and safety. Zep products can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any Zep product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Zep wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS LISTED ALPHABETICALLY BY SECTION

SECTION II: HAZARDOUS INGREDIENTS

CAR: Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.
CAS #: Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.
CBL: Combustible - At temperatures between 100F and 200F, chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
CNS: Central Nervous System depressant which reduces the activity of the brain and spinal cord.
COR: Corrosive - Causes irreversible injury to living tissue (e.g. burns).
DESIGNATIONS: Chemical and common names of hazardous ingredients.
EIR: Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.
EXPOSURE LIMITS: The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs and OSHA PELs (TWA, STEL and ceiling limits).
ACGIH: American Conference of Governmental Industrial Hygienists.
CEILING: The concentration that should not be exceeded in the workplace during any part of the working exposure.
OSHA: Occupational Safety and Health Administration.
PEL: Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week.
PPM: Parts per million - unit of measure for exposure limits.
(S) SKIN: Skin contact with substance can contribute to overall exposure.
STEL: Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period.
TLV: Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work week.
enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
HAZARDOUS INGREDIENTS: Chemical substances determined to be potential health or physical hazards based on the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200.
HTX: Highly toxic - the probable lethal dose for a 70kg (150 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons).
IRR: Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.
N/A: Not Applicable - Category is not appropriate for this product.
N.D.: Not Determined - Insufficient information to make a determination for this item.
RTECS#: Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.
SARA: Superfund Amendment and Reauthorization Act - Section 313 designates chemicals for possible reporting for the Toxics Release Inventory.
SEN: Sensitizer - Causes allergic reaction after repeated exposure.
TOX: Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more.

(rev. 1/98)

SECTION III: HEALTH HAZARD DATA

ACUTE EFFECT: An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.
CHRONIC EFFECT: Adverse effects that are most likely to occur from repeated exposure over a long period of time.
EST. D.PEL/TLV: This estimated time-weighted average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers.
HMIS CODES: Hazardous Material Identification System - a rating system developed by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/Flammability/Reactivity) ranging from a low of zero to a high of 4. The presence of a chronic hazard is indicated with a yes. Consult HMIS training guides for Personal Protection letter codes which indicate necessary protective equipment.
PRIMARY ROUTE OF ENTRY: The way one or more hazardous ingredients may enter the body and cause a generalized-systemic or specific-organ toxic effect.
ING: Ingestion - A primary route of exposure through swallowing of material.
INH: Inhalation - A primary route of exposure through breathing of vapors.
SKIN: A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.
MSHA: Mine Safety and Health Administration.

SECTION V: PHYSICAL DATA

EVAPORATION RATE: Refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).
pH: A value representing the acidity or alkalinity of an aqueous solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14).
VOC CONTENT: The percentage or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and various state jurisdictions.
SOLUBILITY IN WATER: A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION: Breakdown products expected to be produced upon product decomposition by extreme heat or fire.
INCOMPATIBILITY: Material contact by extreme heat and the conditions to avoid to prevent hazardous reactions.
POLYMERIZATION: Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction, releasing excess pressure and heat.
STABILITY: Indicates the susceptibility of the product to spontaneously and dangerously decompose.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOS: RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA: Clean Water Act- Federal Law which regulates chemical releases to bodies of water.
RQ: Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.
TSCA: Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information and recommendations contained herein are based on available scientific tests or data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the products label and Material Safety Data Sheet.

(rev. 1/98)

Rec 7/22/94

3098

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

RECELLULAR INC (343)
5500 S STATE STREET
ANN ARBOR, MI 48108

03/22/97
ISSUE DATE: 06/20/94
SUPERSEDES: 07/12/89
ZEP BIG ORANGE
PRODUCT NO.: 0415 **Industrial Solvent Degreaser**

SECTION I - EMERGENCY CONTACTS

TELEPHONE:
(404) 352-1680 *BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:
(770) 439-4200 *NON-OFFICE HOURS, WEEKENDS*
(770) 432-2873 *AND HOLIDAYS, PLEASE CALL YOUR*
(770) 424-4789 **LOCAL POISON CONTROL**
(770) 392-1480
(770) 455-8160
(770) 552-8836
TRANSPORTATION EMERGENCY:
(770) 922-0923
CHEMTREC:
1-800-424-9300 TOLL-FREE - ALL CALLS RECORDED
DISTRICT OF COLUMBIA:
(202) 483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
** D-LIMONENE ** orange distillate; citrus terpene; cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-; CAS# 5989-27-5; RTECS# GW6360000; OSHA PEL N/D	N/D	CBL SEN	> 90
** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL ** npe; poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-N/D	N/D	EIR	< 5

SECTION III - HEALTH HAZARD DATA

Special Note: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

Acute Effects of Overexposure:
This product can be an eye irritant. Inflammation of eye tissue is characterized by redness, watering, and/or itching. One of the ingredients in this product has caused sensitization reactions in a small percentage of the general population.

Chronic Effects of Overexposure:
Contact, especially if prolonged of repeated, may cause redness, itching, or blistering of the skin. None of the hazardous ingredients are listed as carcinogens by IARC, NTP, & OSHA

:t'd PEL/TLV: Not established **Primary Routes of Entry:** N/A

HMIS Codes: HEALTH 1;FLAM. 2;REACT. 0;PERS. PROTECT. B ;CHRONIC HAZ. NO

FIRST AID PROCEDURES:
Skin: Wash contaminated skin thoroughly with soap or a mild detergent. Apply a skin cream with lanolin. Get medical attention if irritation persists.
Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
Inhale: Move exposed person to fresh air. If irritation persists, get medical attention promptly.
Ingest: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

Protective Clothing: Wear nitrile gloves or use gloves with demonstrated resistance to the ingredients in this product.
Eye Protection: Wear tight-fitting splash-proof safety glasses especially if contact lenses are worn.
Respiratory Protection: No special measures are required.
Ventilation: No special measures are required.

SECTION V - PHYSICAL DATA

Boiling Point (°F):	338-375	**Specific Gravity:**	0.853	**Vapor Pressure (mmHg):**	N/A
Percent Volatile by Volume (%):	93.8	**Vapor Density (air = 1):**	N/A	**Evaporation Rate (CCL4 = 1):**	~33
Solubility in Water:	EMULSIFIES	**pH (concentrate):**	N/A	**pH (use dilution of 1:20):**	7.6

Appearance and Odor: ORANGE LIQUID WITH A CITRUS ODOR

SECTION VI - FIRE AND EXPLOSION DATA

Flash Point (°F) (method used): 121 (TCC)
Flammable Limits: LEL N/A UEL N/A
-tinguishing Media: Carbon dioxide, dry chemical and foam.
.ecial Fire Fighting: Fire exposed drums should be cooled with stream of water.
Unusual Fire Hazards: None

SECTION VII - REACTIVITY DATA

Stability: Stable
Incompatibility (avoid): Strong oxidizing agents.
Polymerization: Will not occur.
Hazardous Decomposition: Carbon dioxide, carbon monoxide, and other unidentified organic compounds.

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

Steps to be Taken In Case Material is Released or Spilled:
›serve safety procedures in section 4 & 9 during clean-up. Absorb spill on inert absorbent material (eg Zep-O-Zorb). Pick up and place residue in a suitable waste ntainer or, if permitted, flush to sewer. Thoroughly rinse spill area with water.

Waste Disposal Method:
Liquid wastes are not permitted in landfills. This product is not considered a hazardous waste under RCRA. Unusable liquid may be absorbed on an inert absorbent material (eg. Zep-O-Zorb), drummed, and taken to a chemical or industrial landfill. In some areas disposal by flushing into a sanitary sewer with plenty of water may be permissible. Consult local, state, and federal agencies for proper disposal method in your area.

RCRA Hazardous Waste Numbers: N/A

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken When Handling and Storing:
Store tightly closed container in a dry area at temps. between 40-120 degrees F. Keep product out of eyes. Avoid prolonged contact with skin. Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned. Keep out of the reach of children.

SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME Small sizes one gallon or less may be shipped as ORM-D: NONE
DOT Hazard Class: N/A
DOT I.D. Number: N/A **DOT Label/Placard:** NONE
EPA TSCA Chemical Inventory: ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR Part 117 substance (RQ in a single container) : SODIUM DODECYL BENZENE SULFONATE - 1000 #

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As a further word of caution, Zep wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS USED IN THE MSDS: BY SECTION ALPHABETICALLY:

TION II: HAZARDOUS INGREDIENTS

CAR; Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.
CAS #; Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.
CBL; Combustible - At temperatures between 100°F and 200°F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
CNS; Central Nervous System depressant reduces the activity of the brain and spinal cord.
COR; Corrosive - Causes irreversible alterations in living tissue (e.g. burns).
DESIGNATIONS; Chemical and common names of hazardous ingredients.
EIR; Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.
EXPOSURE LIMITS; The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLV's, and OSHA PEL's (TWA, STEL and ceiling limits).
ACGIH; American Conference of Governmental Industrial Hygienists.
CEILING; The concentration that should not be exceeded in the workplace during any part of the working exposure.
OSHA; Occupational Safety and Health Administration
PEL; Permissible Exposure Limit- A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week.
PPM; Parts per million - unit of measure for exposure limits.
(S) SKIN; Skin contact with substance can contribute to overall exposure.
STEL; Short Term Exposure Limit- Maximum concentration for a continuous 15-minute exposure period.
TLV; Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work week.
FBL; Flammable - At temperatures under 100°F, chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
HAZARDOUS INGREDIENTS; Chemical substances determined to be potential health or physical hazards by the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200
HTX; Highly toxic - the probable lethal dose for 70 kg (150 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons).
IRR; Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.
N/A; Not Applicable - Category is not appropriate for this product.
N/D; Not Determined - Insufficient information for a determination for this item.
RTECS #; Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.
SARA; Superfund Amendments and Reauthorization Act - Section 313 designates chemicals for possible reporting for the Toxics Release Inventory.
SEN; Sensitizer - Causes allergic reaction after repeated exposure.
TOX; Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more.

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ING; Ingestion - A primary route of exposure through swallowing of material.
INH; Inhalation - A primary route of exposure through breathing of vapors.
SKIN; A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.
MSHA; Mine Safety and Health Administration
NIOSH; National Institute for Occupational Safety and Health.

SECTION V: PHYSICAL DATA

EVAPORATION RATE; it refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).
pH; A value representing the acidity or alkalinity of an aqueous solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14)
PERCENT VOLATILE; The percentage of the product (liquid or solid) that will evaporate at 212°F and ambient pressure.
SOLUBILITY IN WATER; A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION; Breakdown products expected to be produced upon product decomposition or fire.
INCOMPATIBILITY; Material contact and conditions to avoid to prevent hazardous reactions.
POLYMERIZATION; Indicates the tendency of the product's molecules to combine in a chemical reaction releasing excess pressure and heat.
STABILITY; Indicates the susceptibility of the product to spontaneously and dangerously decompose.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOS; RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA; Clean Water Act
RQ; Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.
TSCA; Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information and recommendation contained herein are based on available scientific tests & data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the product's label and Material Safety Data Sheet.

(Notice Revised 8/91)

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	66053	8167	10	82792	500.000	.000	SR
2928	STOCK	66053	9246	20	92292	500.000	.000	SR
2928	STOCK	66053	9350	30	92492	500.000	.000	SR
2928	STOCK	66053	10598	40	102392	500.000	.000	SR
2928	STOCK	66053	11729	50	112592	500.000	.000	SR
2928	STOCK	66053	12681	60	122892	500.000	.000	SR
2928	STOCK	66053	13582	70	12593	500.000	.000	SR
2928	STOCK	66053	14781	80	22293	500.000	.000	SR
2928	STOCK	66053	17989	90	43093	500.000	500.000	SR
2928	STOCK	66053	18949	100	52093	500.000	500.000	SR
2928	STOCK	66053	20255	110	62393	500.000	500.000	SR
2928	STOCK	66053	21217	120	72193	500.000	500.000	SR
2928	STOCK	71120	22344	10	82593	500.000	500.000	SR
2928	STOCK	71120	23335	20	92793	500.000	500.000	SR +

F3=Exit F7=Fold F12=Previous

Earlier receipts dom

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	71120	24208	30	102293	500.000	500.000	SR
2928	STOCK	71120	25364	40	112493	500.000	500.000	SR
2928	STOCK	71120	26146	50	122293	500.000	500.000	SR
2928	STOCK	71120	27320	60	12594	500.000	500.000	SR
2928	STOCK	71120	28896	70	22894	50.000	50.000	SR
2928	STOCK	71120	28930	70	22894	450.000	450.000	SR
2928	STOCK	71120	29778	80	32494	500.000	500.000	SR
2928	STOCK	71120	31060	90	42594	500.000	500.000	SR
2928	STOCK	71120	32610	100	52494	500.000	500.000	SR
2928	STOCK	71120	33999	999	62294	500.000	500.000	SR
2928	STOCK	71120	35151	999	71894	500.000	500.000	SR
2928	STOCK	77919	37099	10	81894	500.000	500.000	SR
2928	STOCK	77919	38328	10	90794	400.000	500.000	SR
7622	STOCK	81194	39310	10	92694	1005.000	1000.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	77919	40020	10	100694	529.000	500.000	SR
2928	STOCK	77919	41798	10	110894	532.000	500.000	SR
2928	STOCK	77919	44105	10	121594	500.000	500.000	SR
2928	STOCK	77919	45033	10	10495	500.000	500.000	SR
2928	STOCK	82414	46176	10	12095	1500.000	1500.000	SR
2928	STOCK	82414	49159	20	30395	500.000	500.000	SR
2928	STOCK	82414	51754	30	33195	500.000	500.000	SR
1625	STOCK	85234	52106	10	40595	500.000	500.000	SR
2928	STOCK	82414	53816	40	42695	500.000	500.000	SR
1625	STOCK	85985	54556	10	50595	1500.000	1500.000	SR
2928	STOCK	82414	55225	50	51695	500.000	500.000	SR
2928	STOCK	82414	56695	60	60795	500.000	500.000	SR
1625	MRA	86219	58110	10	62795	63.000	.000	MA
1625	STOCK	86219	58669	10	70395	417.000	417.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	86219	58670	20	70395	91.000	91.000	SR
1625	STOCK	86219	60086	30	72095	480.000	480.000	SR
1625	STOCK	86219	60087	20	72095	28.000	28.000	SR
1625	STOCK	86219	62539	20	81895	520.000	520.000	SR
1625	STOCK	90089	65890	20	92995	510.000	501.000	SR
1625	STOCK	90089	66100	10	100495	497.000	497.000	SR
1625	STOCK	90089	69375	20	112295	490.000	490.000	SR
1625	STOCK	90089	72531	20	11296	970.000	970.000	SR
1625	STOCK	90089	74425	20	20696	500.000	500.000	SR
1625	STOCK	91844	82738	10	62096	544.000	544.000	SR
1625	STOCK	91844	86693	10	82196	500.000	500.000	SR
1625	STOCK	91844	89501	10	92496	500.000	500.000	SR
1625	STOCK	91844	91712	10	102296	500.000	500.000	SR
1625	STOCK	91844	93580	10	111596	500.000	500.000	SR

F3=Exit F7=Fold F12=Previous

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	91844	96008	10	121796	500.000	500.000	SR
1625	STOCK	91844	99365	10	20397	500.000	500.000	SR
1625	STOCK	91844	100453	10	21497	540.000	500.000	SR
1625	STOCK	91844	102387	10	31497	480.000	480.000	SR
1625	STOCK	91844	102857	10	32197	540.000	540.000	SR
1625	STOCK	91844	104875	10	41697	480.000	480.000	SR
1625	STOCK	91844	107939	10	60397	480.000	480.000	SR
1625	STOCK	101351	108694	10	61697	480.000	480.000	SR
1625	STOCK	101351	109856	10	70297	240.000	240.000	SR
1625	STOCK	101351	111626	10	72897	240.000	240.000	SR
1625	STOCK	101351	112275	10	80597	480.000	480.000	SR
1625	STOCK	101351	114272	10	90497	420.000	420.000	SR
1625	STOCK	101351	116366	10	100197	600.000	600.000	SR
1625	STOCK	101351	119786	30	120197	72.000	72.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	101351	121866	30	10998	66.000	66.000	SR
1625	STOCK	101351	125415	30	30598	72.000	72.000	SR
1625	STOCK	101351	128422	30	41698	60.000	60.000	SR
1625	STOCK	101351	130403	30	51998	84.000	84.000	SR
1625	STOCK	101351	132325	40	62698	60.000	60.000	SR
1625	STOCK	101351	136127	40	82498	60.000	60.000	SR
1625	STOCK	101351	138262	40	100298	60.000	60.000	SR
1625	STOCK	101351	140027	40	110498	54.000	54.000	SR
1625	STOCK	101351	142160	40	121598	60.000	60.000	SR
1625	STOCK	101351	143815	40	11899	60.000	60.000	SR
1625	STOCK	101351	145143	40	21599	10.000	10.000	SR
1625	STOCK	101351	145149	40	21599	50.000	50.000	SR

F3=Exit F7=Fold F12=Previous

P00153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	146638	10	31199	24.000	24.000	SR
1625	STOCK	109500	148763	10	41499	60.000	60.000	SR
1625	STOCK	109500	149581	10	42799	18.000	18.000	SR
1625	STOCK	109500	150101	10	50599	12.000	12.000	SR
1625	STOCK	109500	150936	10	51999	18.000	18.000	SR
1625	STOCK	109500	151365	10	52699	18.000	18.000	SR
1625	STOCK	109500	151683	10	60399	12.000	12.000	SR
1625	STOCK	109500	152229	10	61599	18.000	18.000	SR
1625	STOCK	109500	152945	10	62999	24.000	24.000	SR
1625	STOCK	109500	156130	10	81699	54.000	54.000	SR
1625	STOCK	109500	156966	10	82699	18.000	18.000	SR
1625	STOCK	109500	158247	10	91099	36.000	36.000	SR
1625	STOCK	109500	158484	10	91599	24.000	24.000	SR
1625	STOCK	109500	159928	10	100799	18.000	18.000	SR +

F3=Exit F7=Fold F12=Previous

10 LB Solder Bars

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	160476	10	101599	12.000	12.000	SR
1625	STOCK	109500	160822	10	102199	4.000	4.000	SR
1625	STOCK	109500	161183	10	102799	11.000	10.000	SR
1625	STOCK	109500	161700	10	110499	8.000	8.000	SR
1625	STOCK	109500	162112	10	111299	1.000	.000	SR
1625	STOCK	109500	162310	10	111699	24.000	24.000	SR
1625	STOCK	109500	163082	10	112999	10.000	10.000	SR
1625	STOCK	109500	163271	10	120199	30.000	30.000	SR
1625	STOCK	109500	164132	10	121699	6.000	6.000	SR
1625	STOCK	109500	164601	10	122399	6.000	6.000	SR
1625	STOCK	109500	164895	10	122999	12.000	12.000	SR
1625	STOCK	109500	165652	10	11100	12.000	12.000	SR
1625	STOCK	109500	165831	10	11300	18.000	18.000	SR
1625	STOCK	109500	166736	10	12700	24.000	24.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	167709	10	21000	18.000	18.000	SR
1625	STOCK	109500	168866	10	22500	18.000	18.000	SR
1625	STOCK	109500	169142	10	30100	18.000	18.000	SR
1625	STOCK	109500	170380	10	31600	18.000	18.000	SR
1625	STOCK	109500	171456	10	33000	36.000	36.000	SR
1625	STOCK	109500	174524	10	50200	24.000	24.000	SR
1625	STOCK	109500	174705	10	50400	6.000	6.000	SR
1625	STOCK	109500	174724	10	50400	12.000	12.000	SR
1625	STOCK	109500	175242	10	51000	36.000	36.000	SR
1625	STOCK	109500	175861	10	51600	6.000	6.000	SR
1625	STOCK	109500	176495	10	52300	12.000	12.000	SR
1625	STOCK	109500	177031	10	60100	10.000	10.000	SR
5626	STOCK	114182	177793	30	61900	12.000	12.000	SR
5626	STOCK	114182	178071	30	62100	24.000	23.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	178150	10	62200	12.000	12.000	SR
1625	STOCK	109500	178156	20	62200	18.000	18.000	SR
5626	STOCK	114182	180310	30	71800	30.000	.000	SR
5626	STOCK	114182	181464	30	80100	12.000	12.000	SR
1625	STOCK	109500	182264	20	81000	7.000	7.000	SR
5626	STOCK	114182	182262	30	81000	12.000	12.000	SR
5626	STOCK	114182	182615	30	81500	18.000	18.000	SR
5626	STOCK	114182	183907	30	82800	18.000	18.000	SR
5626	STOCK	114182	184137	30	83000	12.000	12.000	SR
5626	STOCK	114182	184755	30	90700	12.000	12.000	SR
5626	STOCK	114182	184998	30	91100	18.000	18.000	SR
5626	STOCK	114182	185589	30	91800	18.000	18.000	SR
5626	STOCK	114182	186195	30	92500	12.000	12.000	SR
5626	STOCK	114182	186840	30	100200	18.000	18.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 *GEN SOLDER BAR SN63*

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	187659	30	101000	18.000	18.000	SR
5626	STOCK	114182	188131	30	101600	12.000	12.000	SR
5626	STOCK	114182	188242	30	101700	12.000	12.000	SR
5626	STOCK	114182	188572	30	102400	12.000	12.000	SR
5626	STOCK	114182	188913	30	103100	12.000	12.000	SR
5626	STOCK	114182	190044	30	110800	12.000	12.000	SR
5626	STOCK	114182	190445	30	111500	6.000	6.000	SR
5626	STOCK	114182	190995	30	112200	12.000	12.000	SR
5626	STOCK	114182	191310	30	112800	12.000	12.000	SR
5626	STOCK	114182	192193	30	120500	12.000	6.000	SR
5626	STOCK	114182	192578	30	121200	18.000	18.000	SR
5626	STOCK	114182	193084	30	121900	6.000	6.000	SR
5626	STOCK	114182	193486	30	122600	12.000	12.000	SR
5626	STOCK	114182	194044	30	10201	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	194729	30	10801	6.000	6.000	SR
5626	STOCK	114182	194954	30	10901	6.000	6.000	SR
5626	STOCK	114182	195681	30	11601	12.000	12.000	SR
5626	STOCK	114182	196554	30	12301	12.000	120.000	SR
5626	STOCK	114182	197891	30	20701	180.000	180.000	SR
5626	STOCK	114182	201688	30	31401	42.000	42.000	SR
5626	STOCK	114182	201822	30	31401	12.000	12.000	SR
5626	STOCK	114182	203269	30	32801	18.000	18.000	SR
5626	STOCK	114182	203984	30	40301	12.000	12.000	SR
5626	STOCK	114182	204889	30	41101	12.000	12.000	SR
5626	STOCK	114182	205576	30	41701	12.000	12.000	SR
5626	STOCK	114182	206274	30	42401	12.000	12.000	SR
5626	STOCK	114182	207192	30	50101	6.000	6.000	SR
5626	STOCK	114182	209021	30	51601	30.000	30.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	209842	40	52301	120.000	.000	SR
5626	STOCK	114182	213884	40	70301	24.000	24.000	SR
5626	STOCK	114182	213967	40	70301	180.000	.000	SR
5626	STOCK	114182	214010	40	70501	12.000	.000	SR
5626	STOCK	114182	215572	40	71801	84.000	84.000	SR
5626	STOCK	114182	217465	40	80301	60.000	60.000	SR
5626	STOCK	114182	218197	40	81001	84.000	84.000	SR
5626	STOCK	114182	218424	40	81401	96.000	96.000	SR
5626	STOCK	114182	219150	40	82101	48.000	48.000	SR
5626	STOCK	114182	219880	40	82801	48.000	48.000	SR
5626	STOCK	114182	220696	40	90501	36.000	36.000	SR
5626	STOCK	114182	221308	40	91101	36.000	36.000	SR
5626	STOCK	114182	221962	40	91801	24.000	24.000	SR
5626	STOCK	114182	222645	40	92501	24.000	24.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	223360	40	100201	48.000	48.000	SR
5626	STOCK	114182	224261	40	100901	48.000	48.000	SR
5626	STOCK	114182	225096	40	101601	36.000	36.000	SR
5626	STOCK	114182	225711	40	102301	12.000	12.000	SR
5626	STOCK	114182	226554	40	103001	48.000	48.000	SR
5626	STOCK	114182	228330	40	111501	24.000	.000	SR

F3=Exit F7=Fold F12=Previous

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	95279	105348	11	42197	6.000	6.000	SR
7622	STOCK	100444	107114	10	51597	10.000	10.000	SR
7622	STOCK	100444	107717	10	53097	20.000	20.000	SR
7622	STOCK	100473	107917	10	60397	1.000	1.000	SR
7622	STOCK	100473	108087	30	60597	4.000	4.000	SR
7622	STOCK	101367	109586	10	63097	10.000	10.000	SR
7622	STOCK	101411	113271	10	82097	10.000	10.000	SR
7622	STOCK	103026	115513	10	92297	10.000	10.000	SR
7622	STOCK	103026	116940	10	100797	10.000	10.000	SR
7622	STOCK	104630	120808	10	121997	5.000	5.000	SR
7622	STOCK	104751	123508	10	20398	11.000	11.000	SR
7622	STOCK	105206	124108	10	21398	4.000	4.000	SR
7622	STOCK	105335	125001	10	22698	5.000	5.000	SR
7622	STOCK	106004	127357	10	40298	7.000	7.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:42:42 12/03/01
* HISTORY * Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	106294	128632	10	41798	3.000	3.000	SR
7622	STOCK	106436	130223	10	51598	7.000	7.000	SR
7622	STOCK	90201	131950	10	61998	10.000	10.000	SR
7622	STOCK	107364	135235	10	81298	10.000	10.000	SR
7622	STOCK	108090	138709	10	100998	10.000	10.000	SR
7622	STOCK	108416	140203	10	110698	10.000	10.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 14:29:08 12/03/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	108937	143758	10	11899	7.000	7.000	SR
7622	STOCK	108937	145148	10	21599	28.000	25.000	SR
7622	STOCK	109499	145212	10	21799	7.000	7.000	SR
7622	STOCK	109499	145716	10	22599	1.000	1.000	SR
7622	STOCK	109499	146626	10	31099	2.000	2.000	SR
7622	STOCK	109499	147364	10	32399	3.000	3.000	SR
7622	STOCK	109499	147847	10	33099	2.000	2.000	SR
7622	STOCK	109499	148276	10	40699	1.000	1.000	SR
7622	STOCK	109499	149116	10	42199	3.000	3.000	SR
7622	STOCK	109499	149483	10	42799	1.000	1.000	SR
7622	STOCK	109499	150443	10	51099	2.000	2.000	SR
7622	STOCK	109499	150521	10	51199	1.000	1.000	SR
7622	STOCK	109499	151177	10	52599	1.000	1.000	SR
7622	STOCK	109499	151273	10	52699	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	151434	10	52799	1.000	1.000	SR
7622	STOCK	109499	151932	10	60899	2.000	2.000	SR
7622	STOCK	109499	152571	10	62299	3.000	3.000	SR
7622	STOCK	109499	153090	10	63099	1.000	1.000	SR
7622	STOCK	109499	154387	10	72299	4.000	4.000	SR
7622	STOCK	109499	154814	10	72799	1.000	1.000	SR
7622	STOCK	109499	154823	10	72899	1.000	1.000	SR
7622	STOCK	109499	154824	10	72899	1.000	1.000	SR
7622	STOCK	109499	155334	10	80499	1.000	1.000	SR
7622	STOCK	109499	156452	10	81899	3.000	3.000	SR
7622	STOCK	109499	157207	10	82799	1.000	1.000	SR
7622	STOCK	109499	157524	10	90199	3.000	3.000	SR
7622	STOCK	109499	158404	10	91499	1.000	1.000	SR
7622	STOCK	109499	158915	10	92299	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon Pails of Flux

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	159315	10	92999	1.000	1.000	SR
7622	STOCK	109499	160237	10	101299	3.000	3.000	SR
7622	STOCK	109499	160634	10	101999	1.000	1.000	SR
7622	STOCK	109499	161083	10	102699	2.000	2.000	SR
7622	STOCK	109499	161951	10	111099	3.000	3.000	SR
7622	STOCK	109499	162495	10	111899	1.000	1.000	SR
7622	STOCK	109499	163270	10	120199	2.000	2.000	SR
7622	STOCK	109499	164071	10	121599	4.000	4.000	SR
7622	STOCK	109499	164507	10	122299	1.000	1.000	SR
7622	STOCK	109499	165673	10	11100	2.000	2.000	SR
7622	STOCK	109499	166567	10	12500	3.000	3.000	SR
7622	STOCK	109499	166571	10	12600	1.000	1.000	SR
7622	STOCK	109499	167625	10	20900	4.000	4.000	SR
7622	STOCK	109499	168015	10	21500	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	168625	10	22400	2.000	2.000	SR
7622	STOCK	109499	169054	10	22900	1.000	1.000	SR
7622	STOCK	109499	171336	10	32900	6.000	6.000	SR
7622	STOCK	109499	173087	10	41800	2.000	2.000	SR
7622	STOCK	109499	173115	10	41800	4.000	4.000	SR
7622	STOCK	109499	173784	10	42600	1.000	1.000	SR
7622	STOCK	109499	175323	10	51100	3.000	3.000	SR
7622	STOCK	109499	176729	10	52500	4.000	4.000	SR
7622	STOCK	109499	177242	10	60500	3.000	3.000	SR
7622	STOCK	109499	177585	10	61400	2.000	2.000	SR
7622	STOCK	109499	179051	10	63000	1.000	1.000	SR
7622	STOCK	109499	180319	10	71800	4.000	4.000	SR
7622	STOCK	109499	180973	10	72600	2.000	2.000	SR
7622	STOCK	109499	182744	10	81600	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	183220	10	82200	2.000	2.000	SR
7622	STOCK	109499	185050	10	91200	3.000	3.000	SR
7622	STOCK	109499	185699	10	91900	3.000	3.000	SR
7622	STOCK	109499	186346	10	92700	1.000	1.000	SR
7622	STOCK	109499	187669	10	101000	3.000	3.000	SR
7622	STOCK	109499	188245	10	101700	2.000	2.000	SR
7622	STOCK	109499	188880	10	103100	3.000	3.000	SR
7622	STOCK	109499	190379	10	111500	3.000	3.000	SR
7622	STOCK	109499	190991	10	112200	1.000	1.000	SR
7622	STOCK	109499	191329	10	112800	2.000	2.000	SR
7622	STOCK	109499	192704	10	121400	3.000	3.000	SR
7622	STOCK	109499	195112	10	11001	7.000	7.000	SR
7622	STOCK	109499	195907	10	11701	2.000	2.000	SR
7622	STOCK	109499	197356	10	13101	3.000	3.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	198726	10	21401	15.000	15.000	SR
7622	STOCK	109499	201805	10	31401	5.000	5.000	SR
2664	STOCK	118774	202430	10	32001	1.000	1.000	SR
2664	STOCK	118774	202431	10	32001	1.000	1.000	SR
296	STOCK	118778	202541	10	32101	1.000	1.000	SR
2664	STOCK	118774	202701	10	32201	9.000	9.000	SR
7622	STOCK	109499	202937	10	32301	2.000	2.000	SR
7622	STOCK	109499	203416	10	32901	5.000	5.000	SR
2664	STOCK	119037	206435	20	42501	1.000	1.000	SR
2664	STOCK	119037	208523	20	51401	2.000	2.000	SR
2664	STOCK	118774	209397	10	52101	3.000	3.000	SR
2664	STOCK	119037	209892	20	52401	3.000	3.000	SR
2664	STOCK	119037	210780	20	60401	1.000	1.000	SR
2664	STOCK	119037	211093	20	60601	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	211287	20	60701	5.000	5.000	SR
2664	STOCK	119037	211986	20	61401	1.000	1.000	SR
2664	STOCK	119037	212415	20	61901	2.000	2.000	SR
2664	STOCK	119037	212422	20	61901	3.000	3.000	SR
2664	STOCK	119037	213545	20	62801	2.000	2.000	SR
2664	STOCK	119037	213902	20	70301	2.000	2.000	SR
2664	STOCK	119037	214147	20	70601	1.000	.000	SR
2664	STOCK	119037	215410	20	71701	2.000	2.000	SR
2664	STOCK	119037	216527	20	72601	6.000	6.000	SR
2664	STOCK	119037	218414	20	81401	2.000	2.000	SR
2664	STOCK	119037	219153	20	82101	2.000	2.000	SR
2664	STOCK	119037	219969	20	82901	2.000	2.000	SR
2664	STOCK	119037	221964	20	91801	1.000	1.000	SR
2664	STOCK	119037	223052	20	92801	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	224256	20	100901	2.000	2.000	SR
2664	STOCK	119037	225235	20	101701	1.000	1.000	SR
2664	STOCK	119037	225236	20	101701	2.000	2.000	SR
2664	STOCK	119037	225681	20	102301	2.000	2.000	SR
2664	STOCK	119037	226505	20	103001	2.000	2.000	SR
2664	STOCK	119037	226507	20	103001	1.000	1.000	SR
2664	STOCK	119037	227294	20	110601	1.000	.000	SR
2664	INSP	119037	228214	20	111401	1.000	.000	IN

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
3812	STOCK	112916	168507	20	22300	6.000	6.000	SR
3812	STOCK	112980	168865	20	22500	1.000	1.000	SR
3812	STOCK	112980	178931	20	63000	5.000	5.000	SR
3812	STOCK	112980	181332	20	73100	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:33 11/15/01
Receiver Detail

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	185003	20	91100	1.000	1.000	SR
2626	STOCK	114204	188599	20	102400	1.000	1.000	SR
296	STOCK	116726	188745	10	102600	2.000	.000	SR
2626	STOCK	114204	195888	20	11701	1.000	1.000	SR
2626	STOCK	114204	196106	20	11801	1.000	1.000	SR
2626	STOCK	114204	199292	20	22001	5.000	1.000	SR
2626	STOCK	114204	204803	20	41001	2.000	2.000	SR
2626	STOCK	114204	207814	20	50701	2.000	2.000	SR
2626	STOCK	114204	213067	20	62501	2.000	2.000	SR
2626	STOCK	114204	214693	20	71101	1.000	1.000	SR
2626	STOCK	114204	215479	20	71701	1.000	1.000	SR
2626	STOCK	114204	218470	20	81401	1.000	1.000	SR
2626	STOCK	114204	219926	20	82801	1.000	1.000	SR
2626	STOCK	114204	220651	20	90501	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon Pails of Conformal Coat Mg Thinner.

PO0153.05 1 Purchase Order Inquiry 17:37:33 11/15/01
Receiver Detail

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	224007	20	100501	1.000	1.000	SR
2626	STOCK	114204	225240	20	101701	1.000	1.000	SR
2626	STOCK	114204	225266	20	101701	1.000	1.000	SR
2626	STOCK	114204	227110	20	110201	1.000	1.000	SR
2626	INSP	114204	228250	20	111401	1.000	.000	IN

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	95279	105334	20	42197	20.000	20.000	SR
7622	STOCK	100464	107695	10	52997	10.000	10.000	SR
7622	STOCK	100464	108843	10	61797	10.000	10.000	SR
7622	STOCK	101362	109518	10	62797	1.000	1.000	SR
7622	STOCK	101362	109619	10	63097	9.000	9.000	SR
7622	STOCK	101411	113272	20	82097	10.000	10.000	SR
7622	STOCK	103201	118169	10	102297	5.000	5.000	SR
7622	STOCK	103963	119424	10	111997	5.000	5.000	SR
7622	STOCK	104573	121506	10	10598	5.000	5.000	SR
7622	STOCK	104573	121747	10	10798	6.000	6.000	SR
7622	STOCK	105965	126917	10	32698	4.000	4.000	SR
7622	STOCK	105965	128293	10	41598	7.000	7.000	SR
7622	STOCK	97694	130839	10	52898	11.000	11.000	SR
7622	STOCK	107323	134451	10	73198	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	107804	137216	10	91598	5.000	5.000	SR
7622	STOCK	108109	138926	10	101498	2.000	2.000	SR
7622	STOCK	108109	139340	10	102298	2.000	2.000	SR
7622	STOCK	108109	139903	10	110398	6.000	6.000	SR

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	108817	142581	10	122298	5.000	5.000	SR
7622	STOCK	108817	144344	10	12899	20.000	.000	SR
7622	STOCK	108817	144461	20	12999	4.000	4.000	SR
7622	STOCK	109510	145913	10	30199	1.000	1.000	SR
7622	STOCK	109510	146801	10	31299	5.000	5.000	SR
7622	STOCK	109510	147363	10	32399	1.000	1.000	SR
7622	STOCK	109510	148275	10	40699	2.000	2.000	SR
7622	STOCK	109510	148762	10	41499	1.000	1.000	SR
7622	STOCK	109510	149482	10	42799	2.000	2.000	SR
7622	STOCK	109510	150522	10	51199	1.000	1.000	SR
7622	STOCK	109510	151274	10	52699	2.000	2.000	SR
7622	STOCK	109510	151933	10	60899	2.000	2.000	SR
7622	STOCK	109510	152279	10	61599	1.000	1.000	SR
7622	STOCK	109510	153091	10	63099	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of flux thinner

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	154388	10	72299	2.000	2.000	SR
7622	STOCK	109510	154815	10	72799	1.000	1.000	SR
7622	STOCK	109510	155335	10	80499	1.000	1.000	SR
7622	STOCK	109510	156453	10	81899	2.000	2.000	SR
7622	STOCK	109510	157523	10	90199	2.000	2.000	SR
7622	STOCK	109510	158405	10	91499	2.000	2.000	SR
7622	STOCK	109510	158916	10	92299	1.000	1.000	SR
7622	STOCK	109510	160236	10	101299	2.000	2.000	SR
7622	STOCK	109510	160404	10	101499	1.000	1.000	SR
7622	STOCK	109510	160633	10	101999	1.000	1.000	SR
7622	STOCK	109510	161952	10	111099	1.000	1.000	SR
7622	STOCK	109510	162494	10	111899	2.000	2.000	SR
7622	STOCK	109510	162838	10	112399	2.000	2.000	SR
7622	STOCK	109510	164070	10	121599	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	164508	10	122299	1.000	1.000	SR
7622	STOCK	109510	165674	10	11100	2.000	2.000	SR
7622	STOCK	109510	166122	10	11800	1.000	1.000	SR
7622	STOCK	109510	167626	10	20900	2.000	2.000	SR
7622	STOCK	109510	168016	10	21500	1.000	1.000	SR
7622	STOCK	109510	169055	10	22900	1.000	1.000	SR
7622	STOCK	109510	170163	10	31400	2.000	2.000	SR
7622	STOCK	109510	170669	10	32100	1.000	1.000	SR
7622	STOCK	109510	172447	10	41200	2.000	2.000	SR
7622	STOCK	109510	173783	10	42600	1.000	1.000	SR
7622	STOCK	109510	175324	10	51100	2.000	2.000	SR
7622	STOCK	109510	176728	10	52500	2.000	2.000	SR
7622	STOCK	109510	177584	10	61400	3.000	3.000	SR
7622	STOCK	109510	179050	10	63000	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:55 11/15/01
Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	180972	10	72600	2.000	2.000	SR
7622	STOCK	109510	182745	10	81600	4.000	4.000	SR
7622	STOCK	109510	183219	10	82200	1.000	1.000	SR
7622	STOCK	109510	185051	10	91200	4.000	3.000	SR
7622	STOCK	109510	186345	10	92700	1.000	1.000	SR
7622	STOCK	109510	187668	10	101000	2.000	2.000	SR
7622	STOCK	109510	188244	10	101700	1.000	1.000	SR
7622	STOCK	109510	188879	10	103100	3.000	3.000	SR
7622	STOCK	109510	190990	10	112200	2.000	2.000	SR
7622	STOCK	109510	191328	10	112800	1.000	1.000	SR
7622	STOCK	109510	193615	10	122700	2.000	2.000	SR
7622	STOCK	109510	195908	10	11701	2.000	2.000	SR
7622	STOCK	109510	196612	10	12301	1.000	1.000	SR
7622	STOCK	109510	198727	10	21401	10.000	10.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:55 11/15/01
Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	118939	204501	10	40901	2.000	2.000	SR
2664	STOCK	118939	205307	10	41601	2.000	2.000	SR
2664	STOCK	119037	206828	10	42701	1.000	1.000	SR
2664	STOCK	119037	208295	10	51001	2.000	2.000	SR
2664	STOCK	119037	208522	10	51401	2.000	2.000	SR
2664	STOCK	119037	210187	10	52501	1.000	1.000	SR
2664	STOCK	119037	210617	10	60101	1.000	1.000	SR
2664	STOCK	119037	210622	10	60101	2.000	2.000	SR
2664	STOCK	119037	210939	10	60501	2.000	2.000	SR
2664	STOCK	119037	212315	10	61801	2.000	2.000	SR
2664	STOCK	119037	213901	10	70301	2.000	2.000	SR
2664	STOCK	119037	214014	10	70501	3.000	3.000	SR
2664	STOCK	119037	215409	10	71701	2.000	2.000	SR
2664	STOCK	119037	216321	10	72501	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:55 11/15/01
Receiver Detail

Product 1224267 *GEN THINNER (NO CLEAN)*

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	216974	10	73101	2.000	2.000	SR
2664	STOCK	119037	217719	10	80701	2.000	2.000	SR
2664	STOCK	119037	219334	10	82201	2.000	2.000	SR
2664	STOCK	119037	219430	10	82301	2.000	2.000	SR
2664	STOCK	119037	219968	10	82901	2.000	2.000	SR
2664	STOCK	119037	222740	10	92601	2.000	2.000	SR
2664	STOCK	119037	222741	10	92601	1.000	1.000	SR
2664	STOCK	119037	223528	10	100301	2.000	2.000	SR
2664	STOCK	119037	224257	10	100901	1.000	1.000	SR
2664	STOCK	119037	225237	10	101701	2.000	2.000	SR
2664	STOCK	119037	226506	10	103001	2.000	.000	SR
2664	STOCK	119037	227293	10	110601	1.000	.000	SR

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6626	STOCK	20248	6100	10	70692	4.000	.000	SR
6626	STOCK	20248	7172	10	80492	4.000	.000	SR
6626	STOCK	20248	8439	10	90192	4.000	.000	SR
6626	STOCK	20248	9735	10	100192	4.000	.000	SR
6626	STOCK	69394	14152	10	20593	20.000	.000	SR
6626	STOCK	69394	16112	20	31893	20.000	.000	SR
6626	STOCK	69394	16782	30	40193	20.000	.000	SR
6626	STOCK	69394	19246	40	52793	20.000	.000	SR
6626	STOCK	69394	20480	50	62993	20.000	.000	SR
163	STOCK	72586	22606	10	90193	20.000	.000	SR
163	STOCK	72590	23206	10	92293	20.000	.000	SR
163	STOCK	72590	24216	20	102293	20.000	20.000	SR
163	STOCK	72590	25129	30	111693	20.000	.000	SR
163	STOCK	72590	26074	40	122093	20.000	20.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	72590	28445	50	21794	20.000	.000	SR
163	STOCK	72590	30882	60	41994	20.000	20.000	SR
163	STOCK	72590	33104	70	60194	20.000	.000	SR
163	STOCK	72590	33881	999	62094	20.000	.000	SR
163	STOCK	72590	35260	999	71894	4.000	.000	SR
163	STOCK	72590	36897	999	81594	20.000	.000	SR
163	STOCK	72590	39425	999	92794	4.000	.000	SR
163	STOCK	72590	39448	999	92894	16.000	.000	SR
163	STOCK	72590	39531	999	92994	10.000	.000	SR
163	STOCK	72590	40732	999	102094	20.000	.000	SR
163	STOCK	72590	42698	999	112194	20.000	.000	SR
163	STOCK	72590	49563	140	30895	20.000	20.000	SR
163	STOCK	72590	50884	140	32295	15.000	15.000	SR
163	STOCK	72590	53247	140	41995	20.000	.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	72590	55844	80	52495	30.000	.000	SR
163	STOCK	72590	57967	80	62695	20.000	.000	SR
163	STOCK	72590	59974	80	71995	20.000	.000	SR
163	STOCK	72590	61445	999	80495	20.000	20.000	SR
163	STOCK	72590	62537	150	81895	20.000	20.000	SR
163	STOCK	72590	64115	150	90795	25.000	25.000	SR
163	STOCK	90049	65593	10	92695	20.000	.000	SR
163	STOCK	90101	67054	10	101895	20.000	20.000	SR
163	STOCK	91613	69186	10	112095	20.000	20.000	SR
163	STOCK	91811	70823	10	121895	10.000	10.000	SR
163	STOCK	91831	71988	10	10596	15.000	15.000	SR
163	STOCK	91855	72756	10	11696	20.000	20.000	SR
163	REJ	92445	73460	10	12496	5.000	1.000	RJ
163	STOCK	92445	73460	10	12496	5.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	SNDOUT	92449	73459	10	12496	5.000	1.000	OT
163	STOCK	92451	73928	10	13096	10.000	10.000	SR
163	STOCK	91831	74305	10	20596	25.000	25.000	SR
163	STOCK	93662	76322	10	31296	2.000	2.000	SR
163	STOCK	93662	76324	10	31296	8.000	8.000	SR
163	STOCK	93632	76441	10	31396	5.000	5.000	SR
163	STOCK	93632	76451	10	31496	20.000	20.000	SR
163	STOCK	93715	76931	10	32196	15.000	15.000	SR
163	STOCK	93765	79238	10	42796	15.000	15.000	SR
163	STOCK	94671	80299	10	51496	20.000	20.000	SR
163	STOCK	94722	82171	10	61196	25.000	25.000	SR
163	STOCK	95019	84752	10	72496	10.000	10.000	SR
163	STOCK	95094	86489	10	81696	15.000	15.000	SR
163	STOCK	95131	89498	20	92496	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:43:54 12/03/01
* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	95139	89983	10	100196	4.000	4.000	SR
163	STOCK	95224	91858	10	102396	2.000	2.000	SR
163	STOCK	96747	94098	10	112196	5.000	5.000	SR
163	STOCK	96764	94927	10	120496	5.000	.000	SR
163	STOCK	98842	98566	10	12197	3.000	3.000	SR
163	STOCK	97630	100395	10	21497	2.000	.000	SR
163	STOCK	101359	108884	10	61897	4.000	.000	SR
163	STOCK	101391	112117	10	73197	5.000	.000	SR
163	STOCK	102099	116195	10	92997	5.000	.000	SR
163	STOCK	109026	143822	10	11999	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

Purchase Order Inquiry
Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	103940	119151	10	111297	5.000	.000	SR
163	STOCK	103940	122576	10	12098	5.000	.000	SR
163	STOCK	105207	123985	10	21298	4.000	.000	SR
163	STOCK	105207	124880	10	22698	6.000	.000	SR
163	STOCK	105207	131878	20	61898	4.000	.000	SR
163	STOCK	105207	133443	20	71698	6.000	.000	SR
163	STOCK	105207	137720	20	92598	4.000	4.000	SR
163	STOCK	105207	138226	20	100298	6.000	.000	SR
163	STOCK	109154	144658	10	20399	2.000	2.000	SR
163	STOCK	109154	145582	10	22399	3.000	3.000	SR
163	STOCK	109154	146462	10	30899	2.000	2.000	SR
163	STOCK	109154	148274	10	40699	2.000	2.000	SR
163	STOCK	109154	149011	10	42099	2.000	2.000	SR
163	STOCK	109154	149963	10	50499	3.000	3.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	109154	151797	10	60499	2.000	2.000	SR
163	STOCK	109154	153097	10	70199	2.000	2.000	SR
163	STOCK	109154	153944	10	71499	2.000	2.000	SR
163	STOCK	109154	154389	10	72299	2.000	2.000	SR
163	STOCK	109154	155661	10	80999	4.000	4.000	SR
163	STOCK	109154	158243	10	91099	3.000	3.000	SR
163	STOCK	109154	159633	10	100499	3.000	3.000	SR
163	STOCK	109154	161519	10	110399	3.000	3.000	SR
163	STOCK	109154	164079	10	121599	3.000	3.000	SR
163	STOCK	109154	167316	10	20400	3.000	3.000	SR
163	STOCK	109154	169168	10	30100	3.000	3.000	SR
163	STOCK	109154	171118	10	32700	1.000	1.000	SR
163	STOCK	109154	171781	10	40400	4.000	4.000	SR
163	STOCK	109154	174725	10	50400	4.000	4.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Conformal Coating thinner.

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Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	109154	177244	10	60500	2.000	2.000	SR
163	STOCK	109154	179230	10	70500	2.000	2.000	SR
163	STOCK	109154	181848	10	80400	3.000	3.000	SR
163	STOCK	109154	185503	10	91500	3.000	3.000	SR
163	STOCK	109154	187657	10	101000	3.000	3.000	SR
163	STOCK	109154	192270	10	120600	3.000	3.000	SR
163	STOCK	109154	197600	10	20201	3.000	3.000	SR
163	STOCK	109154	201510	10	31301	3.000	3.000	SR
163	STOCK	109154	204409	10	40601	3.000	3.000	SR
163	STOCK	109154	207567	10	50401	3.000	3.000	SR
163	STOCK	109154	212383	10	61801	3.000	3.000	SR
163	STOCK	109154	220842	10	90601	4.000	4.000	SR

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
3812	STOCK	112916	168507	10	22300	6.000	6.000	SR
3812	STOCK	112980	168865	10	22500	1.000	1.000	SR
3812	STOCK	112980	178930	10	63000	1.000	1.000	SR
3812	STOCK	112980	182756	10	81600	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	185983	10	92200	1.000	1.000	SR
2626	STOCK	114204	187175	10	100400	1.000	1.000	SR
2626	STOCK	114204	188783	10	102700	1.000	1.000	SR
2626	STOCK	114204	190974	10	112200	1.000	1.000	SR
2626	STOCK	114204	195889	10	11701	1.000	1.000	SR
2626	STOCK	114204	199291	10	22001	5.000	1.000	SR
2626	STOCK	114204	202919	10	32301	1.000	1.000	SR
2626	STOCK	114204	204802	10	41001	2.000	2.000	SR
2626	STOCK	114204	207813	10	50701	1.000	1.000	SR
2626	STOCK	114204	211152	10	60601	1.000	1.000	SR
2626	STOCK	114204	211153	10	60601	1.000	1.000	SR
2626	STOCK	114204	214692	10	71101	1.000	1.000	SR
2626	STOCK	114204	217173	10	80101	1.000	1.000	SR
2626	STOCK	114204	218469	10	81401	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Conformal Coating.

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Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	220650	10	90501	1.000	1.000	SR
2626	STOCK	114204	223821	10	100401	1.000	.000	SR
2626	STOCK	114204	225265	10	101701	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	60025	406	10	102591	1.000	.000	SR
2662	STOCK	60025	624	10	111591	1.000	.000	SR
2662	STOCK	60025	1443	10	11392	1.000	.000	SR
2662	STOCK	60554	1896	10	20492	1.000	.000	SR
2662	STOCK	60025	2062	10	21192	1.000	.000	SR
2662	STOCK	60554	2622	10	30692	1.000	.000	SR
2662	STOCK	60025	2718	10	31092	1.000	.000	SR
2662	STOCK	60554	2687	10	31092	1.000	.000	SR
2662	MRA	60554	2951	20	32092	1.000	.000	MA
2662	STOCK	60554	3420	30	40792	1.000	.000	SR
2662	STOCK	60554	3443	40	40792	1.000	.000	SR
2662	STOCK	64678	4002	10	42992	2.000	.000	SR
2662	STOCK	60554	4234	50	50792	1.000	.000	SR
2662	STOCK	60025	4297	10	51292	1.000	.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	60554	5041	60	60592	1.000	.000	SR
2662	STOCK	64678	5788	20	62692	1.000	.000	SR
2662	STOCK	60554	6173	70	70892	1.000	.000	SR
2662	STOCK	64678	6866	30	72992	1.000	.000	SR
2662	STOCK	60554	7365	80	80792	1.000	.000	SR
2662	REJ	60554	8586	90	90492	1.000	.000	RJ
2662	MRA	60554	9057	110	91692	1.000	.000	MA
2662	STOCK	60554	9817	100	100292	1.000	.000	SR
2662	STOCK	60554	10016	10	100792	1.000	.000	SR
2662	STOCK	67061	10472	10	102092	1.000	.000	SR
2662	STOCK	60554	11167	10	110992	2.000	.000	SR
2662	STOCK	67583	11360	10	111392	160.000	.000	SR
2662	STOCK	67591	11359	10	111392	80.000	.000	SR
2662	STOCK	67591	11727	20	112592	40.000	.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	67591	11728	30	112592	40.000	.000	SR
2662	STOCK	67591	11862	40	120192	40.000	.000	SR
2662	STOCK	67591	12388	50	121592	40.000	.000	SR
2662	STOCK	67591	12741	60	122992	40.000	.000	SR
2662	STOCK	67591	13162	70	11393	40.000	.000	SR
2662	STOCK	67591	13773	80	12893	40.000	.000	SR
2662	STOCK	67591	14103	90	20593	40.000	.000	SR
2662	STOCK	67591	14104	100	20593	40.000	.000	SR
2662	STOCK	67591	14641	110	21893	40.000	.000	SR
2662	STOCK	67591	15377	120	30493	40.000	.000	SR
2662	STOCK	69634	15892	10	31293	80.000	.000	SR
2662	STOCK	69634	16074	10	31793	80.000	80.000	SR
2662	STOCK	69634	16416	10	32593	640.000	640.000	SR
2662	STOCK	69634	16417	20	32593	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	69634	16634	30	33193	400.000	.000	SR
2662	STOCK	67591	16783	10	40193	80.000	80.000	SR
2662	STOCK	67591	17413	10	41593	80.000	.000	SR
2662	STOCK	69634	17762	20	42793	320.000	.000	SR
2662	STOCK	69634	17763	40	42793	80.000	.000	SR
2662	STOCK	69634	19413	40	60293	320.000	320.000	SR
2662	STOCK	69634	19414	50	60293	80.000	80.000	SR
2662	STOCK	69634	20559	60	63093	400.000	400.000	SR
2662	STOCK	69634	21383	50	72793	320.000	320.000	SR
2662	STOCK	69634	21384	70	72793	80.000	80.000	SR
2662	STOCK	69634	22636	70	90293	320.000	320.000	SR
2662	STOCK	69634	22637	80	90293	80.000	80.000	SR
2662	STOCK	69634	23516	80	100193	320.000	320.000	SR
2662	STOCK	69634	23517	90	100193	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	83394	45921	10	11795	6.000	6.000	SR
2662	STOCK	84273	48607	20	22495	8.000	8.000	SR
2662	STOCK	90048	63350	10	82995	2.000	2.000	SR
2662	INSP	90048	63397	10	83095	2.000	.000	IN
2662	STOCK	90098	63901	20	90695	6.000	6.000	SR
2662	STOCK	90098	72172	20	10996	6.000	4.000	SR
2662	STOCK	90098	72173	30	10996	2.000	.000	SR
2662	STOCK	90098	77843	30	40496	2.000	2.000	SR
2662	STOCK	93716	77844	10	40496	2.000	2.000	SR
2662	STOCK	94761	83838	10	71096	2.000	2.000	SR
2662	STOCK	95014	85618	10	80596	2.000	2.000	SR
2662	STOCK	95260	90519	10	100796	2.000	2.000	SR
2662	STOCK	95150	90766	10	100996	2.000	2.000	SR
2662	STOCK	95243	93005	10	111196	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	96679	94320	10	112596	2.000	2.000	SR
2662	STOCK	96770	95904	10	121696	4.000	2.000	SR
2662	STOCK	97682	101905	10	30697	4.000	4.000	SR
2662	STOCK	103204	118584	10	103097	10.000	10.000	SR
2662	STOCK	109173	144872	10	20999	4.000	4.000	SR

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	109160	145508	10	22299	4.000	2.000	SR
2626	STOCK	109160	153157	10	70199	1.000	1.000	SR
2626	STOCK	109160	154396	10	72299	1.000	1.000	SR
2626	STOCK	109160	160294	10	101399	1.000	1.000	SR
2626	STOCK	109160	163872	10	121099	1.000	1.000	SR
2626	STOCK	109160	165191	10	10400	1.000	1.000	SR
2626	STOCK	109160	166235	10	12000	1.000	1.000	SR
2626	STOCK	109160	169739	10	30800	1.000	1.000	SR
2626	STOCK	109160	175607	10	51200	1.000	1.000	SR
4280	STOCK	114175	182086	10	80900	2.000	2.000	SR
4280	STOCK	114175	183726	10	82500	2.000	2.000	SR
2626	STOCK	109160	189795	10	110700	1.000	1.000	SR
4280	STOCK	114175	195106	10	11001	1.000	1.000	SR
4280	STOCK	114175	196096	10	11801	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

10 LB pails of potting compound kits. Parts A & B.

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Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
4280	STOCK	114175	201710	10	31401	1.000	1.000	SR
4280	STOCK	114175	202704	10	32201	1.000	1.000	SR
4280	STOCK	114175	207076	10	50101	1.000	1.000	SR
4280	STOCK	114175	211092	10	60601	1.000	1.000	SR
4280	STOCK	114175	221524	10	91201	1.000	1.000	SR
4280	STOCK	114175	222683	10	92501	2.000	2.000	SR
4280	STOCK	114175	223527	10	100301	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7	STOCK	1	134	10	91791	100.000	.000	SR
7	STOCK	1	135	10	91791	1.000	.000	SR
2662	STOCK	20284	5391	10	61892	40.000	.000	SR
2662	STOCK	20284	5977	10	70192	40.000	.000	SR
2662	STOCK	20284	6331	10	71492	40.000	.000	SR
2662	STOCK	20284	6941	10	73092	40.000	.000	SR
2662	STOCK	20284	7369	10	81092	20.000	.000	SR
2662	STOCK	61635	9338	10	92492	40.000	.000	SR
2662	MRA	61635	10077	20	100892	40.000	.000	MA
2662	STOCK	61635	12476	30	121892	30.000	.000	SR
2662	STOCK	61635	12972	40	10693	30.000	.000	SR
2662	STOCK	61635	13225	50	11493	30.000	.000	SR
2662	STOCK	61635	14091	70	20493	30.000	.000	SR
2662	STOCK	61635	14652	60	21893	30.000	.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	61635	15691	80	31093	30.000	.000	SR
2662	STOCK	61635	16426	30	32593	10.000	.000	SR
2662	STOCK	61635	16427	40	32593	10.000	.000	SR
2662	STOCK	61635	16428	50	32593	10.000	.000	SR
2662	STOCK	61635	18614	230	51193	1200.000	.000	SR
2662	STOCK	61635	18947	230	52093	600.000	.000	SR
2662	STOCK	61635	19304	240	52893	600.000	.000	SR
2662	STOCK	61635	19364	250	60193	1200.000	.000	SR
2662	STOCK	61635	19972	250	61693	600.000	.000	SR
2662	STOCK	61635	19973	260	61693	1200.000	.000	SR
2662	STOCK	61635	22694	270	90393	1800.000	1800.000	SR
2662	STOCK	61635	23661	290	100693	1800.000	1800.000	SR
2662	STOCK	72630	24787	10	110893	1800.000	1800.000	SR
2662	STOCK	72630	25779	20	120893	1800.000	1800.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	72630	26550	30	10594	1800.000	1800.000	SR
2662	STOCK	75522	29368	10	31194	1800.000	1800.000	SR
2662	STOCK	76025	37110	20	81894	2100.000	2100.000	SR
2662	STOCK	76025	41327	20	103194	2275.000	2100.000	SR
2662	STOCK	76025	46044	20	11995	1300.000	1200.000	SR
2662	STOCK	76025	49160	10	30395	1800.000	1800.000	SR
2662	STOCK	76025	52262	20	40695	600.000	600.000	SR
2662	STOCK	76025	52561	20	41095	2400.000	2400.000	SR
2662	STOCK	76025	59752	20	71795	2850.000	2850.000	SR
2662	STOCK	76025	64930	20	91895	1200.000	1200.000	SR
2662	STOCK	76025	68746	20	111395	57000.000	.000	SR
2662	STOCK	76025	68839	20	111495	1200.000	1200.000	SR
2662	STOCK	76025	74537	10	20896	120.000	120.000	SR
2662	STOCK	76025	74689	20	21296	180.000	180.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	75058	20	21696	300.000	300.000	SR
2662	STOCK	76025	75126	20	21996	1200.000	1200.000	SR
2662	STOCK	76025	76231	10	31196	180.000	180.000	SR
2662	STOCK	76025	76232	20	31196	120.000	120.000	SR
2662	STOCK	76025	79030	20	42496	300.000	300.000	SR
2662	STOCK	76025	79351	20	43096	300.000	300.000	SR
2662	STOCK	76025	81131	20	52896	60.000	60.000	SR
2662	STOCK	76025	81157	20	52896	300.000	300.000	SR
2662	STOCK	76025	81216	20	52996	60.000	60.000	SR
2662	STOCK	76025	81217	20	52996	300.000	300.000	SR
2662	STOCK	76025	82212	20	61296	300.000	300.000	SR
2662	STOCK	76025	83175	20	62696	325.000	300.000	SR
2662	STOCK	76025	84123	20	71596	300.000	300.000	SR
2662	STOCK	76025	86239	20	81396	300.000	300.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	95124	90296	10	100396	600.000	600.000	SR
2662	STOCK	95124	93098	10	111296	600.000	600.000	SR
2662	STOCK	95124	95054	10	120696	600.000	600.000	SR
2662	STOCK	95124	99001	10	12897	600.000	600.000	SR
2662	STOCK	95124	99075	20	12897	1.000	1.000	SR
2662	STOCK	98869	99930	10	21097	6.000	6.000	SR
2662	STOCK	98869	101546	10	22797	7.000	7.000	SR
2662	STOCK	98869	102061	10	31097	7.000	7.000	SR
2662	STOCK	97706	104386	10	40997	10.000	10.000	SR
2662	STOCK	97706	105935	10	42897	5.000	5.000	SR
2662	STOCK	100469	107944	10	60497	1.000	1.000	SR
2662	STOCK	97706	108232	10	60997	5.000	5.000	SR
2662	STOCK	100469	108231	10	60997	9.000	9.000	SR
2662	STOCK	103209	118682	10	110397	20.000	20.000	SR +

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	103761	119329	10	111897	20.000	20.000	SR
2662	STOCK	103965	119662	10	112697	20.000	20.000	SR
2662	STOCK	103965	119882	10	120397	30.000	30.000	SR
2662	STOCK	103965	120562	10	121797	12.000	12.000	SR
2662	STOCK	103965	120713	10	121897	8.000	8.000	SR
2662	STOCK	103965	120899	10	122297	30.000	30.000	SR

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	101347	109119	10	62097	10.000	10.000	SR
2662	STOCK	101347	112875	10	81497	10.000	10.000	SR
2662	STOCK	101347	115231	10	91897	5.000	5.000	SR
2662	STOCK	101347	116644	10	100397	5.000	5.000	SR
2662	STOCK	101347	116835	10	100697	20.000	20.000	SR
2662	M N	104576	122034	10	11298	30.000	30.000	MN
2662	STOCK	104576	124030	10	21298	40.000	40.000	SR
2662	STOCK	104576	124180	10	21698	100.000	100.000	SR
2662	STOCK	104576	128413	11	41698	32.000	32.000	SR
2662	STOCK	104576	129455	11	50198	32.000	32.000	SR
2662	STOCK	104576	130772	11	52798	32.000	32.000	SR
2662	STOCK	104576	131790	11	61798	12.000	12.000	SR
2662	STOCK	104576	131877	11	61898	36.000	36.000	SR
2662	STOCK	104576	132719	11	70798	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	M N	104576	133134	11	71498	16.000	16.000	MN
2662	STOCK	104576	133730	11	72298	32.000	32.000	SR
2662	STOCK	104576	135746	11	81898	4.000	4.000	SR
2662	STOCK	104576	135755	11	81998	32.000	32.000	SR
2662	STOCK	104576	136649	11	90198	32.000	32.000	SR
2662	STOCK	104576	137506	11	92398	32.000	.000	SR
2662	STOCK	104576	138449	11	100698	32.000	32.000	SR
2662	STOCK	104576	139214	11	102098	32.000	32.000	SR
2662	STOCK	104576	139701	11	103098	32.000	32.000	SR
2662	STOCK	104576	140845	11	111998	32.000	32.000	SR
2662	STOCK	104576	141896	11	120998	32.000	32.000	SR
2662	STOCK	104576	142889	11	123098	32.000	32.000	SR
2662	STOCK	104576	144210	11	12699	32.000	32.000	SR
2662	STOCK	104576	144609	11	20399	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	145717	11	22599	32.000	32.000	SR
2662	STOCK	104576	146572	11	31099	32.000	32.000	SR
2662	STOCK	104576	148048	11	40199	32.000	32.000	SR
2662	STOCK	104576	149042	11	42099	32.000	32.000	SR
2662	STOCK	104576	150147	11	50599	32.000	32.000	SR
2662	STOCK	104576	150949	11	52099	32.000	32.000	SR
2662	STOCK	104576	152015	11	60999	32.000	32.000	SR
2662	STOCK	104576	153333	11	70799	32.000	32.000	SR
2662	STOCK	104576	155474	11	80599	32.000	32.000	SR
2662	STOCK	104576	157407	11	83199	10.000	10.000	SR
2662	STOCK	104576	157621	11	90299	22.000	22.000	SR
2662	STOCK	104576	158589	11	91799	32.000	32.000	SR
2662	STOCK	104576	160134	11	101199	32.000	32.000	SR
2662	STOCK	104576	161625	11	110499	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

Eo LB pails of potting

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	163363	11	120299	8.000	8.000	SR
2662	STOCK	104576	163545	11	120699	24.000	24.000	SR
2662	STOCK	104576	164010	11	121499	32.000	32.000	SR
2662	STOCK	104576	165109	11	10300	7.000	7.000	SR
2662	STOCK	104576	165190	11	10400	25.000	25.000	SR
2662	STOCK	104576	166390	11	12100	32.000	32.000	SR
2662	STOCK	104576	168014	11	21500	32.000	32.000	SR
2662	STOCK	104576	169246	11	30200	32.000	32.000	SR
2662	STOCK	104576	170505	11	31700	32.000	32.000	SR
2662	STOCK	104576	172828	11	41400	32.000	32.000	SR
2662	STOCK	104576	174486	11	50200	32.000	32.000	SR
2662	STOCK	104576	176119	11	51800	32.000	32.000	SR
2662	STOCK	104576	177383	11	60700	32.000	32.000	SR
2662	STOCK	104576	178503	11	62600	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	179064	11	63000	31.000	31.000	SR
2662	STOCK	104576	179142	11	70500	58.000	58.000	SR
2662	STOCK	104576	182056	11	80900	16.000	16.000	SR
2662	STOCK	104576	182254	11	81000	16.000	16.000	SR
2662	STOCK	104576	183248	11	82200	32.000	.000	SR
2662	STOCK	104576	184455	11	90500	5.000	5.000	SR
2662	STOCK	104576	184601	11	90600	27.000	27.000	SR
2662	STOCK	104576	185258	11	91300	8.000	8.000	SR
2662	STOCK	104576	185420	11	91500	24.000	24.000	SR
2662	STOCK	104576	186542	11	92800	32.000	32.000	SR
2662	STOCK	104576	188232	11	101700	32.000	32.000	SR
2662	STOCK	104576	188515	11	102300	32.000	32.000	SR
2662	STOCK	104576	190323	11	111400	32.000	32.000	SR
2662	STOCK	104576	191755	11	120200	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	192273	11	120600	16.000	16.000	SR
2662	STOCK	104576	194285	11	10301	32.000	32.000	SR
2662	STOCK	104576	196562	11	12301	6.000	6.000	SR
2662	STOCK	104576	196694	11	12401	26.000	26.000	SR
2662	STOCK	104576	197720	11	20601	6.000	6.000	SR
2662	STOCK	104576	197884	11	20701	26.000	26.000	SR
2662	STOCK	104576	199927	11	22601	32.000	32.000	SR
2662	STOCK	104576	202073	11	31601	32.000	32.000	SR
2662	STOCK	104576	204963	11	41101	32.000	32.000	SR
2662	STOCK	104576	206537	11	42501	32.000	32.000	SR
2662	STOCK	104576	207522	11	50401	32.000	32.000	SR
2662	STOCK	104576	210393	11	53001	32.000	32.000	SR
2662	STOCK	104576	212253	11	61801	32.000	32.000	SR
2662	STOCK	104576	213172	11	62601	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	215708	11	71901	32.000	32.000	SR
2662	STOCK	104576	217802	11	80701	32.000	32.000	SR
2662	STOCK	104576	219677	10	82401	32.000	32.000	SR
2662	STOCK	104576	221344	10	91101	32.000	32.000	SR
2662	STOCK	104576	222520	10	92401	32.000	32.000	SR
2662	STOCK	104576	224419	10	101001	32.000	32.000	SR
2662	STOCK	104576	226014	10	102501	2.000	2.000	SR
2662	STOCK	104576	226015	11	102501	30.000	30.000	SR
2662	STOCK	104576	227681	11	110801	32.000	32.000	SR

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	66075	7986	10	82492	10.000	.000	SR
2662	MRA	66618	9339	10	92492	10.000	.000	MA
2662	STOCK	67085	10540	10	102292	10.000	.000	SR
2662	STOCK	69391	14651	10	21893	50.000	.000	SR
2662	STOCK	70747	19774	10	61193	240.000	240.000	SR
2662	STOCK	70747	20558	20	63093	240.000	240.000	SR
2662	STOCK	70747	21385	30	72793	240.000	240.000	SR
2662	STOCK	70747	22334	40	82593	240.000	240.000	SR
2662	STOCK	70747	23499	50	93093	240.000	240.000	SR
2662	STOCK	70747	24687	60	110493	240.000	240.000	SR
2662	STOCK	70747	25616	70	120293	240.000	240.000	SR
2662	STOCK	70747	26423	80	123093	240.000	240.000	SR
2662	STOCK	70747	27460	90	12694	240.000	240.000	SR
2662	STOCK	70747	29248	100	30994	240.000	240.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:45:52 12/03/01
* HISTORY * Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	82494	41329	20	103194	28.000	.000	SR
2662	STOCK	82494	43006	30	112994	20.000	20.000	SR
2662	STOCK	82494	43252	30	120194	220.000	.000	SR
2662	STOCK	82494	44851	50	122994	20.000	20.000	SR
2662	STOCK	82494	44871	50	123094	220.000	220.000	SR
2662	STOCK	82494	46365	40	12595	240.000	240.000	SR
2662	STOCK	82494	48714	60	22495	240.000	240.000	SR
2662	STOCK	82494	51851	20	40395	240.000	240.000	SR
2662	STOCK	93457	76690	10	31996	300.000	300.000	SR
2662	STOCK	94759	83098	10	62696	120.000	120.000	SR
2662	STOCK	94759	83376	10	70296	300.000	300.000	SR
2662	STOCK	96681	95010	10	120596	20.000	20.000	SR
2662	STOCK	98870	102475	10	31797	4.000	4.000	SR
2662	STOCK	98870	109206	10	62397	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:45:52 12/03/01
* HISTORY * Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	98870	118524	10	102997	9.000	9.000	SR
2662	STOCK	98870	118571	10	103097	1.000	1.000	SR
2662	STOCK	98870	126997	10	32798	2.000	2.000	SR
2662	STOCK	98870	128717	10	42098	5.000	5.000	SR
2662	STOCK	98870	129989	20	51398	2.000	2.000	SR
2662	STOCK	98870	130148	20	51498	6.000	6.000	SR
2662	STOCK	98870	130991	20	60198	10.000	10.000	SR
2662	STOCK	107602	136950	10	90898	5.000	5.000	SR
2662	STOCK	107908	138773	10	101298	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:30 11/15/01
Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	114122	172717	10	41300	4.000	4.000	SR
2662	STOCK	114122	177606	10	61400	1.000	1.000	SR
2662	STOCK	114122	178465	10	62300	3.000	3.000	SR
2662	STOCK	114122	179280	10	70600	2.000	.000	SR
2662	STOCK	114122	180421	10	72000	1.000	1.000	SR
4280	STOCK	114175	182087	20	80900	2.000	2.000	SR
4280	STOCK	114175	183725	20	82500	2.000	2.000	SR
4280	STOCK	114175	187123	20	100400	2.000	2.000	SR
4280	STOCK	114175	187973	20	101300	2.000	2.000	SR
4280	STOCK	114175	192972	20	121800	3.000	3.000	SR
4280	STOCK	114175	195105	20	11001	1.000	1.000	SR
4280	STOCK	114175	196095	20	11801	2.000	2.000	SR
4280	STOCK	114175	201084	20	30801	2.000	2.000	SR
4280	STOCK	114175	206149	20	42301	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

to LB pails of potting

Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
4280	STOCK	114175	208941	20	51601	1.000	1.000	SR
4280	STOCK	114175	211703	20	61201	1.000	1.000	SR
4280	STOCK	114175	215463	20	71701	1.000	1.000	SR
4280	STOCK	114175	217901	20	80801	1.000	1.000	SR
4280	STOCK	114175	219009	20	82001	1.000	1.000	SR
4280	STOCK	114175	220096	20	83001	1.000	1.000	SR
4280	STOCK	114175	221305	20	91101	1.000	1.000	SR
4280	STOCK	114175	222737	20	92601	1.000	1.000	SR
4280	STOCK	114175	225379	20	101801	1.000	1.000	SR
4280	STOCK	114175	226369	20	102901	1.000	1.000	SR
4280	STOCK	114175	226699	20	103101	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	20284	5391	20	61892	12.000	.000	SR
2662	STOCK	61635	9338	130	92492	24.000	.000	SR
2662	MRA	61635	10077	130	100892	16.000	.000	MA
2662	MRA	61635	10078	140	100892	8.000	.000	MA
2662	STOCK	61635	12476	140	121892	17.000	.000	SR
2662	STOCK	61635	12972	150	10693	17.000	.000	SR
2662	STOCK	61635	13225	160	11493	17.000	.000	SR
2662	STOCK	61635	14091	180	20493	17.000	.000	SR
2662	STOCK	61635	14652	170	21893	17.000	.000	SR
2662	STOCK	61635	15691	190	31093	17.000	.000	SR
2662	STOCK	61635	16426	140	32593	15.000	.000	SR
2662	STOCK	61635	16427	200	32593	2.000	.000	SR
2662	STOCK	61635	18081	221	43093	17.000	17.000	SR
2662	STOCK	61635	18614	221	51193	17.000	.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	61635	18947	221	52093	102.000	.000	SR
2662	STOCK	61635	18948	310	52093	34.000	.000	SR
2662	STOCK	61635	19306	320	52893	34.000	.000	SR
2662	STOCK	61635	19364	310	60193	102.000	.000	SR
2662	STOCK	61635	19972	320	61693	102.000	.000	SR
2662	STOCK	61635	19973	330	61693	34.000	.000	SR
2662	STOCK	61635	22694	350	90393	136.000	136.000	SR
2662	STOCK	72577	22952	10	91393	80.000	80.000	SR
2662	STOCK	61635	23661	370	100693	136.000	136.000	SR
2662	STOCK	72630	24787	130	110893	136.000	136.000	SR
2662	STOCK	72630	25779	140	120893	136.000	136.000	SR
2662	STOCK	72630	26550	150	10594	136.000	136.000	SR
2662	STOCK	75522	29368	20	31194	200.000	200.000	SR
2662	REJ	75522	29368	20	31194	480.000	480.000	RJ +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	36800	30	81294	7.000	7.000	SR
2662	STOCK	76025	37111	30	81894	120.000	120.000	SR
2662	STOCK	80200	40199	20	101194	11.000	11.000	SR
2662	STOCK	80200	40591	20	101794	2.000	2.000	SR
2662	STOCK	76025	41327	40	103194	142.000	120.000	SR
2662	STOCK	76025	46044	40	11995	80.000	80.000	SR
2662	STOCK	76025	46759	40	13195	168.000	168.000	SR
2662	STOCK	76025	49161	40	30395	160.000	160.000	SR
2662	QUEST.	85279	51642	10	33095	60.000	20.000	Q
2662	STOCK	76025	52529	40	41095	400.000	400.000	SR
2662	STOCK	85279	52812	10	41295	20.000	.000	SR
2662	STOCK	76025	59752	40	71795	20.000	20.000	SR
2662	STOCK	76025	64930	40	91895	80.000	80.000	SR
2662	STOCK	76025	68746	40	111395	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:46:13 12/03/01
* HISTORY * Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	75609	30	22896	20.000	20.000	SR
2662	STOCK	76025	75610	40	22896	140.000	140.000	SR
2662	STOCK	76025	76525	30	31596	29.000	29.000	SR
2662	STOCK	76025	76526	40	31596	91.000	91.000	SR
2662	STOCK	76025	82402	40	61496	304.000	304.000	SR
2662	STOCK	76025	83176	40	62696	350.000	304.000	SR
2662	STOCK	98040	104087	10	40497	10.000	10.000	SR
2662	STOCK	98040	104180	10	40797	70.000	.000	SR
2662	STOCK	98040	108555	10	61297	80.000	80.000	SR
2662	STOCK	98040	109205	10	62397	30.000	30.000	SR
2662	STOCK	101401	112813	10	81397	25.000	25.000	SR
2662	STOCK	101401	119777	20	120197	2.000	2.000	SR
2662	STOCK	101401	119982	20	120597	15.000	15.000	SR
2662	STOCK	101401	120412	20	121297	15.000	15.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:53:30 12/03/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	122034	20	11298	15.000	15.000	SR
2662	STOCK	104576	122041	20	11398	7.000	7.000	SR
2662	STOCK	104576	124030	20	21298	21.000	21.000	SR
2662	STOCK	104576	124180	20	21698	60.000	60.000	SR
2662	STOCK	104576	128496	21	41698	32.000	32.000	SR
2662	STOCK	104576	130772	21	52798	7.000	7.000	SR
2662	STOCK	104576	130775	21	52898	21.000	21.000	SR
2662	STOCK	104576	131790	21	61798	24.000	24.000	SR
2662	STOCK	104576	132719	21	70798	16.000	16.000	SR
2662	STOCK	104576	133134	21	71498	8.000	8.000	SR
2662	STOCK	104576	133730	21	72298	32.000	32.000	SR
2662	STOCK	104576	135755	21	81998	16.000	16.000	SR
2662	STOCK	104576	136659	21	90198	16.000	16.000	SR
2662	STOCK	104576	137493	21	92298	8.000	8.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:53:30 12/03/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	137506	21	92398	8.000	8.000	SR
2662	STOCK	104576	138449	21	100698	16.000	16.000	SR
2662	STOCK	104576	138866	21	101498	16.000	.000	SR
2662	STOCK	104576	139214	21	102098	16.000	16.000	SR
2662	STOCK	104576	139701	21	103098	16.000	16.000	SR
2662	STOCK	104576	140845	21	111998	16.000	.000	SR
2662	STOCK	104576	141896	21	120998	32.000	32.000	SR
2662	STOCK	104576	142889	21	123098	16.000	16.000	SR
2662	STOCK	104576	144210	21	12699	16.000	16.000	SR
2662	STOCK	104576	144609	21	20399	16.000	16.000	SR
2662	STOCK	104576	145717	21	22599	16.000	16.000	SR
2662	STOCK	104576	146572	21	31099	16.000	16.000	SR
2662	STOCK	104576	148048	21	40199	16.000	16.000	SR
2662	STOCK	104576	149042	21	42099	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	150147	21	50599	16.000	16.000	SR
2662	STOCK	104576	150949	21	52099	16.000	16.000	SR
2662	STOCK	104576	152015	21	60999	16.000	16.000	SR
2662	STOCK	104576	153333	21	70799	16.000	16.000	SR
2662	STOCK	104576	155474	21	80599	16.000	16.000	SR
2662	STOCK	104576	157621	21	90299	16.000	16.000	SR
2662	STOCK	104576	158589	21	91799	16.000	16.000	SR
2662	STOCK	104576	160134	21	101199	16.000	16.000	SR
2662	STOCK	104576	161625	21	110499	16.000	16.000	SR
2662	STOCK	104576	163363	21	120299	4.000	4.000	SR
2662	STOCK	104576	163545	21	120699	12.000	12.000	SR
2662	STOCK	104576	164010	21	121499	16.000	16.000	SR
2662	STOCK	104576	165109	21	10300	4.000	4.000	SR
2662	STOCK	104576	165190	21	10400	12.000	12.000	SR +

F3=Exit F7=Fold F12=Previous

9 LB Containers of
Poly hardener.

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	166390	21	12100	16.000	16.000	SR
2662	STOCK	104576	168014	21	21500	16.000	16.000	SR
2662	STOCK	104576	169246	21	30200	16.000	16.000	SR
2662	STOCK	104576	170505	21	31700	16.000	16.000	SR
2662	STOCK	104576	172828	21	41400	16.000	16.000	SR
2662	STOCK	104576	174486	21	50200	16.000	16.000	SR
2662	STOCK	104576	174688	21	50300	16.000	16.000	SR
2662	STOCK	104576	176119	21	51800	16.000	16.000	SR
2662	STOCK	104576	177383	21	60700	16.000	16.000	SR
2662	STOCK	104576	179065	21	63000	32.000	32.000	SR
2662	STOCK	104576	179141	21	70500	16.000	16.000	SR
2662	STOCK	104576	182057	21	80900	16.000	.000	SR
2662	STOCK	104576	182255	21	81000	16.000	.000	SR
2662	STOCK	104576	183249	21	82200	16.000	.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	184454	21	90500	4.000	4.000	SR
2662	STOCK	104576	184602	21	90600	12.000	12.000	SR
2662	STOCK	104576	185260	21	91400	4.000	4.000	SR
2662	STOCK	104576	185421	21	91500	12.000	12.000	SR
2662	STOCK	104576	186541	21	92800	16.000	16.000	SR
2662	*STOCK*	*104576*	*188231*	*21*	*101700*	*16.000*	*16.000*	*SR*
2662	STOCK	104576	188514	21	102300	16.000	16.000	SR
2662	STOCK	104576	190322	21	111400	16.000	16.000	SR
2662	STOCK	104576	192272	21	120600	16.000	16.000	SR
2662	STOCK	104576	194284	21	10301	16.000	16.000	SR
2662	STOCK	104576	196693	21	12401	16.000	16.000	SR
2662	STOCK	104576	197883	21	20701	16.000	16.000	SR
2662	STOCK	104576	199928	21	22601	16.000	16.000	SR
2662	STOCK	104576	202074	21	31601	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	204962	21	41101	16.000	16.000	SR
2662	STOCK	104576	206536	21	42501	16.000	16.000	SR
2662	STOCK	104576	207523	21	50401	16.000	16.000	SR
2662	STOCK	104576	210394	21	53001	16.000	16.000	SR
2662	STOCK	104576	212254	21	61801	16.000	16.000	SR
2662	STOCK	104576	213173	20	62601	16.000	16.000	SR
2662	STOCK	104576	215737	20	71901	16.000	16.000	SR
2662	STOCK	104576	217803	20	80701	1.000	1.000	SR
2662	STOCK	104576	217804	21	80701	15.000	15.000	SR
2662	STOCK	104576	219678	21	82401	16.000	16.000	SR
2662	STOCK	104576	221345	21	91101	16.000	16.000	SR
2662	STOCK	104576	222521	21	92401	16.000	16.000	SR
2662	STOCK	104576	224420	21	101001	16.000	16.000	SR
2662	STOCK	104576	226016	21	102501	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	227682	21	110801	16.000	16.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:07 11/15/01
Receiver Detail

Product 1296389 GEN SEALANT (LOCTITE 5900) 5GA

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6888	STOCK	119628	211985	10	61401	1.000	1.000	SR
6888	STOCK	119628	222503	10	92401	1.000	1.000	SR
6888	STOCK	119628	223724	10	100401	1.000	1.000	SR
6888	STOCK	119628	226025	10	102501	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

5 gallon pail of Loctite 5900

PO0153.05 1 Purchase Order Inquiry 17:40:40 11/15/01
* HISTORY * Receiver Detail

Product 1090314 GEN DIBASIC ESTER

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1376	STOCK	69281	14646	10	21893	55.000	.000	SR
1376	STOCK	74785	28180	10	21094	1.000	1.000	SR
1376	STOCK	83892	46583	10	12795	2.000	2.000	SR
1376	STOCK	93727	78289	10	41296	1.000	1.000	SR
1376	STOCK	106416	129772	10	50898	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

02/17/93 received as 55 Gallons. All receipts after are Drums (55 gallon)

PO0153.05 1 Purchase Order Inquiry 17:40:27 11/15/01
Receiver Detail

Product 1090314 GEN DIBASIC ESTER

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1376	STOCK	120560	226491	10	103001	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

55 gallon drum of
Dibasic Ester

PO0153.05 1 Purchase Order Inquiry 13:47:16 12/03/01
* HISTORY * Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6577	STOCK	67640	11403	10	111692	20.000	.000	SR
6577	STOCK	69449	13002	10	10793	20.000	.000	SR
6577	STOCK	69284	14541	10	21693	20.000	.000	SR
6577	STOCK	69648	15570	10	30893	20.000	20.000	SR
6577	STOCK	69647	16775	10	40193	20.000	20.000	SR
6577	STOCK	69647	17985	20	43093	20.000	20.000	SR
6577	STOCK	69647	19432	30	60293	20.000	20.000	SR
6577	STOCK	69647	20590	40	70193	20.000	20.000	SR
6577	STOCK	69647	21598	50	80293	20.000	20.000	SR
6577	STOCK	69647	22604	60	90193	20.000	20.000	SR
6577	STOCK	69647	23537	70	100193	20.000	20.000	SR
6577	STOCK	69647	24563	80	110193	20.000	20.000	SR
6577	STOCK	69647	25547	90	120193	20.000	20.000	SR
6577	STOCK	77424	34407	10	63094	20.000	20.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:47:16 12/03/01
* HISTORY * Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6577	STOCK	82410	40872	10	102494	20.000	20.000	SR
6577	STOCK	83391	45532	10	11195	20.000	20.000	SR
6577	STOCK	84335	47951	10	21795	6.000	6.000	SR
6577	STOCK	84610	49179	10	30395	50.000	50.000	SR
6577	STOCK	88224	58373	20	62895	40.000	40.000	SR
6577	STOCK	88224	58374	10	62895	10.000	10.000	SR
6577	STOCK	90297	64177	10	90895	50.000	50.000	SR
6577	STOCK	91805	70685	10	121595	5.000	5.000	SR
6577	STOCK	91829	72010	10	10596	50.000	50.000	SR
6577	STOCK	93458	75861	10	30496	50.000	50.000	SR
6577	STOCK	94715	81950	10	60796	40.000	40.000	SR
6577	STOCK	95102	87810	10	90596	10.000	10.000	SR
6577	STOCK	95102	87852	10	90596	40.000	40.000	SR
6577	STOCK	96685	93751	10	111996	50.000	50.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:47:16 12/03/01
* HISTORY * Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	103964	119425	10	112097	15.000	15.000	SR
9855	STOCK	104763	123628	30	20498	20.000	20.000	SR
9855	STOCK	103964	124856	10	22598	65.000	65.000	SR
9855	STOCK	106285	128420	10	41698	5.000	5.000	SR
9855	STOCK	103964	140747	20	111898	2.000	2.000	SR
9855	STOCK	103964	142580	20	122298	2.000	2.000	SR
9855	STOCK	103964	143811	20	11899	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	97505	102266	10	31397	25.000	25.000	SR
9855	STOCK	97505	105353	10	42197	5.000	5.000	SR
9855	STOCK	97505	106608	10	50897	50.000	50.000	SR
9855	STOCK	109176	144812	10	20899	2.000	2.000	SR
9855	STOCK	109176	147359	10	32399	2.000	2.000	SR
9855	STOCK	109176	148277	10	40699	2.000	2.000	SR
9855	STOCK	109176	149962	10	50499	2.000	2.000	SR
9855	STOCK	109176	150841	10	51899	1.000	1.000	SR
9855	STOCK	109176	152902	10	62899	1.000	1.000	SR
9855	STOCK	109176	154308	10	72099	1.000	1.000	SR
9855	STOCK	109176	155416	10	80599	1.000	1.000	SR
9855	STOCK	109176	156342	10	81799	2.000	2.000	SR
9855	STOCK	109176	157308	10	83099	1.000	1.000	SR
9855	STOCK	109176	157859	10	90799	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Alcohol

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	158837	10	92199	1.000	1.000	SR
9855	STOCK	109176	160238	10	101299	1.000	1.000	SR
9855	STOCK	109176	161520	10	110399	2.000	2.000	SR
9855	STOCK	109176	162236	10	111599	1.000	1.000	SR
9855	STOCK	109176	162237	10	111599	1.000	1.000	SR
9855	STOCK	109176	164333	10	122199	1.000	1.000	SR
9855	STOCK	109176	165204	10	10400	1.000	1.000	SR
9855	STOCK	109176	166059	10	11800	1.000	1.000	SR
9855	STOCK	109176	166556	10	12500	1.000	1.000	SR
9855	STOCK	109176	167527	10	20800	1.000	1.000	SR
9855	STOCK	109176	167907	10	21400	1.000	1.000	SR
9855	STOCK	109176	170172	10	31500	2.000	2.000	SR
9855	STOCK	109176	170598	30	32100	1.000	1.000	SR
9855	STOCK	109176	173276	30	41900	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	174089	30	42800	1.000	1.000	SR
9855	STOCK	109176	176038	30	51700	1.000	1.000	SR
9855	STOCK	109176	177337	30	60700	2.000	2.000	SR
9855	STOCK	109176	178140	30	62200	1.000	1.000	SR
9855	STOCK	109176	180091	30	71400	1.000	1.000	SR
9855	STOCK	109176	181550	30	80200	1.000	1.000	SR
9855	STOCK	109176	182646	30	81600	1.000	1.000	SR
9855	STOCK	109176	184133	30	83000	2.000	2.000	SR
9855	STOCK	109176	184661	30	90700	1.000	1.000	SR
9855	STOCK	109176	185583	30	91800	1.000	1.000	SR
9855	STOCK	109176	188264	30	101700	1.000	1.000	SR
9855	STOCK	109176	188265	30	101700	1.000	1.000	SR
9855	STOCK	109176	189924	30	110700	1.000	1.000	SR
9855	STOCK	109176	190288	30	111300	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	190634	30	111700	1.000	1.000	SR
9855	STOCK	109176	190635	30	111700	1.000	1.000	SR
9855	STOCK	109176	191007	30	112400	2.000	2.000	SR
9855	STOCK	109176	194094	30	10201	1.000	1.000	SR
9855	STOCK	109176	194811	30	10801	2.000	2.000	SR
9855	STOCK	109176	197430	30	20101	1.000	1.000	SR
9855	STOCK	109176	198836	30	21501	2.000	2.000	SR
9855	STOCK	109176	200077	30	22701	1.000	1.000	SR
9855	STOCK	109176	200399	30	30101	1.000	1.000	SR
9855	STOCK	109176	201974	40	31501	1.000	1.000	SR
9855	STOCK	109176	202505	40	32001	1.000	1.000	SR
9855	STOCK	109176	203983	40	40301	2.000	2.000	SR
9855	STOCK	109176	205663	40	41701	1.000	1.000	SR
9855	STOCK	109176	207292	40	50201	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	207811	40	50701	1.000	1.000	SR
9855	STOCK	109176	208900	40	51501	1.000	1.000	SR
9855	STOCK	109176	209517	40	52101	1.000	1.000	SR
9855	STOCK	109176	210470	40	53001	1.000	1.000	SR
9855	STOCK	109176	211795	40	61301	1.000	1.000	SR
9855	STOCK	109176	212686	40	62001	2.000	2.000	SR
9855	STOCK	109176	213998	40	70301	1.000	1.000	SR
9855	STOCK	109176	215538	40	71801	2.000	2.000	SR
9855	STOCK	109176	217414	40	80201	2.000	2.000	SR
9855	STOCK	109176	218393	40	81301	2.000	2.000	SR
9855	STOCK	109176	218779	40	81601	3.000	3.000	SR
9855	STOCK	109176	220670	40	90501	3.000	3.000	SR
9855	STOCK	109176	222327	40	92101	1.000	1.000	SR
9855	STOCK	109176	222328	40	92101	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	224028	40	100501	2.000	2.000	SR
9855	STOCK	109176	225057	40	101501	2.000	2.000	SR
9855	STOCK	109176	225869	40	102401	2.000	2.000	SR
9855	STOCK	109176	227384	40	110601	1.000	1.000	SR
9855	STOCK	109176	227385	40	110601	1.000	1.000	SR
9855	STOCK	109176	228149	40	111301	1.000	.000	SR

F3=Exit F7=Fold F12=Previous

EQ Resource Recovery, Inc.

an EQ company

Generator Approval Notification *October 22, 2001*

Customer: ENVIRONMENTAL WASTE SRVCS.
Fax: (630) 365-3112

FRED PFEIFFER
THE MOREY GROUP
100 MOREY DR.
WOODRIDGE, IL 60517

This Generator Approval Notification acknowledges the acceptability of waste material(s) into the EQ environmental protection facility identified below and ensures that this facility has the appropriate permit(s) issued by federal and state regulatory agencies to properly transport, treat, and/or disposal of the waste material(s).

EQ FACILITY: **EQ Resource Recovery, Inc. (MID060975844)**
36345 Van Born Road, Romulus, Michigan 48174

Approval Number: J06300D

Generator EPA ID #: ILG000060910 **Approved Container:** DRUM **Expires On:** 10/9/2002
Waste Common Name: Waste Flux
Comments:
Primary Waste Code: D001

The Approval(s) listed above are based upon characterization information supplied to EQRR by the Customer and the generator (if other than the Customer). The Customer is ultimately responsible for the accuracy and completeness of all such information, whether provided by the Customer or the generator. The Customer must notify the EQRR Approvals Department immediately upon knowledge of any changes to this information. This Approval and all wastes which are transported, delivered, or tendered to EQ under this Approval shall be subject to the attached Standard Terms and Conditions.

The Approval(s) will expire on the date(s) noted. Any new Approvals obtained from EQRR on future business will be valid for a period of one (1) year from the date of issuance. Within 30 days of the Approval Expiration Date, you will be notified of the requirements for recertification.

If you have any questions, please call us toll free at
1-800-521-0998

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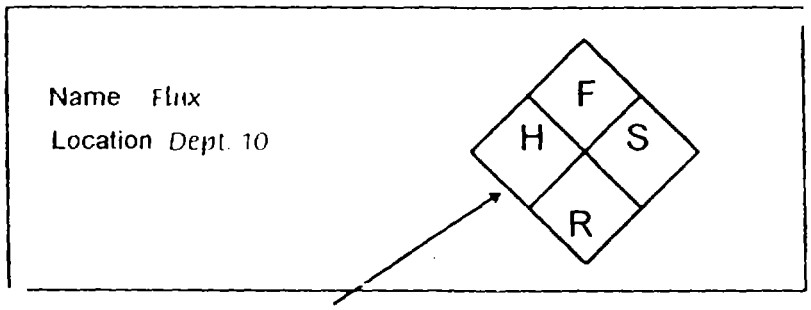
MOR 001520

Hazardous Chemical Labeling Procedure

Hazardous chemicals must be labeled with the following information.

- The place where the chemical is stored (i.e. Paint Room, Post Wave etc.).
- The name of the chemical (Flux, Alcohol, etc.)
- The hazard diamond must be filled in with the hazard ratings in each of the four categories.

1. Flammability rating
2. Health hazards
3. Reactivity rating.
4. Specific hazards



The information needed to fill in the Hazard diamond can be found on the MSDS reference guide, or on the label of the original container, the chemical came in.

Each category is rated on a scale from zero to four, with four being the most hazardous.

for instance: Liquid Nitrogen has a flammability rating of 4
Isopropyl Alcohol has a flammability rating of 3
Crude oil has a flammability rating of 2
Wood has a flammability rating of 1
Water has a flammability rating of 0

PROGRAM FOR REMOVAL OF HAZARDOUS WASTE

Six Chemicals May Be Disposed Of In The 55 Gallon Drum Marked "HAZARDOUS WASTE." The Drum Is Located In The Flame Room.

1. **Waste Solder Flux**
2. **P.C. 101**
3. **P.C. 101 Thinner**
4. **Di-Basic Ester**
5. **Potting Compound**
6. **PAINT**

*** NOTE: No other chemicals are to be disposed of in this 55 gallon drum Mixing unknown chemicals may cause a reaction resulting in explosion or fire. Any waste chemicals not on this list should be stored in their original containers and given to the Safety Director For Disposal.**

Accumulating and Storing Wastes:

1). Proper Transfer Container --- 5 gallon drums acceptable, but must be emptied into larger 55 gallon drums within 30 days of it's filling with used chemical.
2). Proper Labeling --- Each container must be labeled with the following:
   A). Name (used flux, used P.C. 101)
   B). Where it came from (wave solder)
   C). Using the diamond shaped area on the Hazmat Label, fill in the 4 hazard categories.

      1). Health Hazard; rating - 1
      2). Fire Hazard; rating - 3
      3). Reactivity; rating - 0
      4). Specific Hazard; rating - 0

3). All containers must be poured directly into the 55 gallon drum at the time they are moved to the Flame Room
4). Each full 55 gallon drum of used flux should be disposed of as soon as it becomes full.
5). All containers must have lids in place.

The company ENVIRONMENTAL WASTE SERVICES (630) 365-1100 is our source for disposing of waste flux

Disposal cost: $110.00 per 55 gallon drum
New Drum Cost: $35.00

Hazardous Waste Procedure

The Morey Corporation has been identified as a potential hazardous waste generator and therefore subject to regulation of such waste under the Resource Conservation and Recovery Act (RCRA) . Failure to follow RCRA may result in a civil penalty.

If waste exhibits the following characteristics it is considered to be hazardous:

1. Ignitability;
2. Corrosivity;
3. Reactivity;
4. Extraction Procedure Toxicity

Hazardous waste cannot be thrown out with the garbage. It must be disposed of in the following manner.

Supervisor's Responsibility:

A. Hazardous material cannot be mixed exept for the 6 chemicals allowed to be mixed in the hazardous waste drum

B. Containers for hazardous material must be identified with a label on the container.

C. Satelite waste containers must be dumped into a 55 gal. drum as soon as they become full. This applies to all chemicals.

D. All 55 gallon containers must be stored in the Fire Room until they are ready to be disposed of.

E. Once the 55 gal. drum is filled the Safety Supervisor is to fill out a disposal form and give it to the purchasing department.

STOCK ROOM:

A. It is the Safety Manager's responsibility to provide empty 55 gal. drums as required.

PURCHASING:

A. Upon receipt of the hazardous waste disposal form the purchasing department will Call Environmental Waste Services at (630) 365-1100

B. Environmental Waste Services will fill out the hazardous waste labels (one per container), and provide all necessary paperwork for transportation including Uniform Manifest.

C. The Safety Manager will receive 2 copies of the Uniform Manifest from the

Environmental Waste Services pick up person. One copy will be filed in the "Hazardous Waste Folder" in the safety file drawer located at the Safety manager's desk. The second copy must be mailed to the State of Michigan Department of Environmental Quality by the front office.

D. The Safety Manager will receive a copy of the Uniform Manifest from the State of Michigan. The copy must be filed in the "Hazardous Waste Folder" in the safety file drawer located at the Safety manager's desk.

DOCUMENT PREPARED BY:
Todd A. Bancroft, Esq.
O'Brien, O'Rourke & Hogan
10 South LaSalle Street, Suite 2900
Chicago, Illinois 60603

FUTURE TAX BILLS TO:
A-1 Holdings, L.L.C.
1928 Kimberly Drive
Darien, Illinois 60561

(Space above this Line for County Recorder's Use Only)

SPECIAL WARRANTY DEED
[Illinois]

THE GRANTOR, MC HOLDINGS CORP., an Illinois corporation, for consideration of TEN DOLLARS ($10.00), and other valuable consideration, pursuant to authority duly given by the Board of Directors of said corporation, hereby REMISES, RELEASES, ALIENS and CONVEYS to A-1 HOLDINGS, L.L.C., an Illinois limited liability company, all of its right, title and interest in the Real Estate situated in the State of Illinois, County of DuPage, legally described on *Exhibit A*, attached hereto, subject to those limitations on title described on said *Exhibit A*.

SEE EXHIBIT A FOR LEGAL DESCRIPTION

TOGETHER WITH all and singular the hereditaments and appurtenances thereunto belonging, or in any way appertaining, TO HAVE AND TO HOLD the said described property forever. Grantor does covenant, promise and agree that it has not done or suffered to be done anything whereby the said described property hereby granted is, or may be, in any manner encumbered or charged, except as herein recited, and Grantor will warrant and defend same for all persons claiming by through or under Grantor, subject to the matters set forth on Exhibit A.

IN WITNESS WHEREOF, said corporation has caused this Special Warranty Deed to be executed and delivered by its President and attested to by its Secretary as of the date set forth below.

DATE: June 4, 1998

MC HOLDINGS CORP.,
an Illinois corporation

By: _____
Its: President

ATTEST:
By: _____
Its: ~~Secretary~~ Assistant Secretary

MOR 001525

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

ACKNOWLEDGEMENT

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that DANA MOREY and ~~SCOTT~~ MOREY, personally known to me to be the President and Secretary of MC HOLDINGS CORP., and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that they signed, sealed and delivered said instrument as their free and voluntary act and as the free and voluntary act of the corporation, for the uses and purposes therein set forth.

Given under my hand and official seal, this 4 day of June, 1998.

[SEAL]

NOTARY PUBLIC

EXHIBIT A

LEGAL DESCRIPTION

THE NORTH 385 FEET OF LOT 34 IN ELLSWORTH PARK UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER (1/4) OF SECTION 12, TOWNSHIP 38 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 10, 1962 AS DOCUMENT NO. R62-993, IN DUPAGE COUNTY, ILLINOIS

COMMONLY KNOWN AS: 2661 WISCONSIN AVENUE
DOWNERS GROVE, ILLINOIS 60516

P. I. N.: 08-12-303-004

Less and except the following:

1. Real estate taxes and installments of special assessments not yet due and payable;

2. Easement for public utilities as disclosed by the Plat of Subdivision recorded as Document R62-993 on January 10, 1962; and

3. Building setback line as established, recorded January 10, 1962 as Document R62-993.

DOCUMENT PREPARED BY:
Todd A. Bancroft, Esq.
O'Brien, O'Rourke & Hogan
10 South LaSalle Street, Suite 2900
Chicago, Illinois 60603

FUTURE TAX BILLS TO:
A-1 Holdings, L.L.C.
1928 Kimberly Drive
Darien, Illinois 60561

(Space above this Line for County Recorder's Use Only)

SPECIAL WARRANTY DEED
[Illinois]

THE GRANTOR, MOREY REALTY GROUP, INC., an Illinois corporation, for consideration of TEN DOLLARS ($10.00), and other valuable consideration, pursuant to authority duly given by the Board of Directors of said corporation, hereby REMISES, RELEASES, ALIENS and CONVEYS to A-1 HOLDINGS, L.L.C., an Illinois limited liability company, all of its right, title and interest in the Real Estate situated in the State of Illinois, County of DuPage, legally described on *Exhibit A*, attached hereto, subject to those limitations on title described on said *Exhibit A*.

SEE EXHIBIT A FOR LEGAL DESCRIPTION

TOGETHER WITH all and singular the hereditaments and appurtenances thereunto belonging, or in any way appertaining, TO HAVE AND TO HOLD the said described property forever. Grantor does covenant, promise and agree that it has not done or suffered to be done anything whereby the said described property hereby granted is, or may be, in any manner encumbered or charged, except as herein recited, and Grantor will warrant and defend same for all persons claiming by through or under Grantor, subject to the matters set forth on Exhibit A.

IN WITNESS WHEREOF, said corporation has caused this Special Warranty Deed to be executed and delivered by its President and attested to by its Secretary as of the date set forth below.

DATE: June 4, 1998

MOREY REALTY GROUP, INC.,
an Illinois corporation

By: _____
Its: President

ATTEST:
By: _____
Its: ~~Secretary~~ Assistant Secretary

STATE OF ILLINOIS)
) SS.
COUNTY OF ~~COOK~~)
DuPAGE

ACKNOWLEDGEMENT

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that DANA MOREY and ~~SCOTT~~ MOREY, personally known to me to be the President and Secretary of MOREY REALTY GROUP, INC., and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that they signed, sealed and delivered said instrument as their free and voluntary act and as the free and voluntary act of the corporation, for the uses and purposes therein set forth.

Given under my hand and official seal, this 4 day of June, 1998.

[SEAL]

NOTARY PUBLIC

EXHIBIT A

LEGAL DESCRIPTION

LOT 34 (EXCEPT THE NORTH 385 FEET) IN ELLSWORTH PARK UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER (1/4) OF SECTION 12, TOWNSHIP 38 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 10, 1962 AS DOCUMENT NO. R62-993, IN DUPAGE COUNTY, ILLINOIS

COMMONLY KNOWN AS: 2661 WISCONSIN AVENUE
DOWNERS GROVE, ILLINOIS 60516

P. I. N.: 08-12-303-006

Less and except the following:

1. Real estate taxes and installments of special assessments not yet due and payable;

2. Easement for public utilities as disclosed by the Plat of Subdivision recorded as Document R62-993 on January 10, 1962; and

4. Building setback line as established, recorded January 10, 1962 as Document R62-993.

This Lease, dated ~~November 17, 1979~~ February 5 , 1980
between Downers Grove National Bank and Trust, as Trustee under Trust No. 78-309

herein called the "Landlord," and MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, with ~~General~~ Offices at ~~619 West Chicago Avenue~~, Chicago, Illinois, herein called the "Tenant,"
Regional 140 South State Street,

WITNESSETH:

1. The Landlord leases to the Tenant for a term commencing on * , and continuing to and including ** , the premises located in the City of Downers Grove , County of Dupage , and State of Illinois , described as follows:

See Exhibit "~~B~~ A", which is attached hereto and made a part hereof.

* the date Tenant takes possessic of the demised Premises provide Landlord has completed the work described in Paragraph #19 here unde

** Ten (10) years after the first day of the first month followir the month in which Tenant take possession.

including all improvements now or hereafter thereon and all appurtenances thereto. Said premises are commonly known as 2663 Wisconsin Avenue.

2. The Tenant shall pay rent to the Landlord at the annual rate of Twenty Five Thousand Seven Hundred and No/100 Dollars ($ 25,700.00) payable in equal monthly installments on or before the tenth (10th) day of each calendar month for the current calendar month. Rent for part of a month shall be prorated. Anything contained herein to the contrary notwithstanding, the Tenant's obligation to pay rent hereunder shall not commence until actual and exclusive possession of the leased premises has been delivered to the Tenant and all repairs, alterations and improvements necessary to fit the premises for occupancy and use by the Tenant shall have been completed, all as contemplated by Paragraphs 19 & 20 hereinbelow.

3. All payments to the Landlord may be made by checks or drafts payable to the order of

The Morey Corporation and mailed to such payee at 2659 Wisconsin Avenue
Downers Grove, Illinois 60515

4. The Tenant may, by written notice mailed or telegraphed to the Landlord One Hundred Eighty (180) or more days before the end of the term, extend the term ~~to and including~~ an additional Five (5) years , upon the same terms and conditions as herein set forth, except that rent shall be adjusted upward ~~[illegible]~~ at the commencement of the extended term by the percentage in the CPI since the commencement of the term, but in no event shall the rent be increased by more than 75%.

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5. If the Tenant has exercised the foregoing option to extend the term, it may, by written notice mailed or telegraphed to the Landlord One Hundred Eighty (180) or more days before the end of the term as extended, further extend the term ~~to and including~~ for an additional Five years

upon the same terms and conditions as herein set forth, except that rent during the further extended term shall be adjusted upward [illegible] at the commencement of the further extended term by the percentage change in the CPI since the commencement of the extended term, but in no event shall rent be increased by more than 75%.

~~graphed to the Landlord ( ) or more days before the effective date of the~~

cancellation, may cancel this lease as of

All rent and ~~other charges paid~~ in advance for any period after the effective date of such cancellation ~~shall be refunded to the Tenant.~~

7. The Landlord will not interrupt or disturb any entrances, exits, or approaches, or deprive the premises of any light or air now enjoyed by the premises.

8. The Landlord covenants and agrees to maintain the Tenant's quiet possession and enjoyment of the entire leased premises during the term hereof [illegible] The Landlord shall hold harmless the Tenant of and from any and all loss, damage and claims for damage to person or property resulting from his failure to comply with this agreement.

9. The Tenant, at its own expense, may from time to time install on the premises any equipment fixtures and improvements and remove them and may make any alterations or additions in a good and workmanlike manner in and to the premises and may erect or remove any signs on the premises which it may deem necessary or suitable for the conduct of its business.(except advertising signs)

10. Notwithstanding any other provision of this lease, the Tenant shall not be liable for any loss or damage to the premises caused by fire or the elements, whether or not such loss or damage shall result from the Tenant's negligence. [illegible]

11. If any default of either party continues uncorrected for sixty (60) days (thirty (30) days in the case of a default in the payment of rent) after receipt of written notice from the other party, stating with particularity the nature and extent of the default, the party giving such notice may cancel this lease by written notice of cancellation. [illegible] remedy provided in this lease shall be exclusive, but each shall be cumulative with all other remedies provided in this lease and at law or in equity.

12. The Tenant may sublet the premises or assign this lease; provided, however, that the Tenant shall not be relieved from its obligations under the lease by such subletting or assignment without the Landlord's consent.

13. The Tenant may holdover at the end of the term, without extending the term or renewing the lease, provided the Landlord, at least thirty (30) days prior to the expiration of the term, has not given written notice to the Tenant to vacate the premises at the expiration of the term. If the Tenant does so holdover, the tenancy thereafter shall continue upon the terms and conditions of this lease in effect during the last month of the term until terminated by either party by notice mailed to the other party at least thirty (30) days before the effective date of such termination.

14. The Tenant, on the last day of the term, or on the last day of any holdover, will surrender the premises in as good condition as when the Tenant takes possession, except for ordinary wear and tear, repairs and replacements required to be made by the Landlord, loss by fire or casualty, loss by any cause beyond the Tenant's control, and alterations, additions, and improvements herein permitted.

15. Tenant shall pay for all gas and electricity used by it on the demised premises.

16. (a) The Landlord shall pay when due all taxes and assessments of every kind and nature which have been or which shall during the term of this lease be levied, assessed or otherwise imposed upon the leased premises, including all improvements now or hereafter thereon, but nothing contained in this Section 16 shall be deemed to obligate the Landlord to pay any taxes levied or assessed against the personal property of the Tenant located in the leased premises or any taxes commonly known as "chain store taxes" imposed on the Tenant by reason of the fact that the Tenant operatesmore than one place of business in the jurisdiction imposing such tax, which personal property taxes and chain store shall be paid the Tenant.

(b) The Tenant, upon receipt of satisfactory evidence of the amount of such excess, shall reimburse the Landlord the amount by which the general real estate taxes levied and assessed against the leased premises for each subsequent tax fiscal year during the term of this lease exceed the general real estate taxes levied and assessed against the leased premises for the third tax fiscal year following Tenant's occupancy; provided, however, that the Tenant shall be obligated to pay only its pro rata share of such excess taxes for the tax fiscal year during which its obligation to pay rent under this lease ceases, said pro rata share to be based upon the number of days of the then current tax fiscal year for which the Tenant has been obligated to pay rent under this lease.

(c) Prior to the payment thereof, the Landlord shall submit to the Tenant copies of all general real estate tax bills, a portion of which the Tenant may be obligated to pay to the Landlord under this Section 18, together with a statement showing the computation of the amount owed by the Tenant to the Landlord hereunder, supported by such evidence as the Tenant may reasonably require, whereupon the Tenant (unless it shall contest such taxes as hereinafter provided) shall pay to the Landlord within thirty (30) days after receipt of such bills, statement and other evidence, that portion of such general real estate taxes required to be paid by the Tenant hereunder.

(d) In the event the Tenant shall desire to contest the validity or amount of any tax, a portion of which it may be required to pay to the Landlord hereunder, the Tenant, within thirty (30) days after being notified of the amount thereof, shall notify the Landlord of its intention to do so, whereupon the Landlord shall defer payment of any such tax so long as the validity or amount thereof shall be contested by the Tenant in good faith and by proper proceedings, except that the Landlord may make such payments under protest or take such other steps with regard to said tax as will not prejudice the Tenant's opportunity to successfully contest the validity or amount thereof. The Landlord agrees to render to the Tenant all assistance reasonably possible, without expense to the Landlord, in contesting the validity or amount of any such tax, including joining in and signing any protest or pleading which the Tenant may deem it advisable to file. Should any rebate be made on account of any tax a portion of which has been paid by the Tenant to the Landlord hereunder shall belong to and be paid to the Tenant.

17. Tenant shall maintain the parking lot areas, fence, and paved areas in good condition and repair, and shall also, as necessary, maintain, repair, and replace the gas pump and lighting facilities on the demised premises.

18. Tenant shall carry General Liability insurance, or at its option be self-insured, with limits of not less than Two Hundred and Fifty Thousand Dollars ($250,000.00).

[illegible]

[illegible]

[illegible]

(a) [illegible]

(b) [illegible]

[illegible] approval of plans by Tenant as herinafter specified.

19. Within Thirty (30) days after [illegible], Landlord shall commence, and thereafter diligently prosecute to completion, the following Landlord's work, as also more fully described an Exhibit "B", which is attached hereto and made a part hereof:

(a) Grade, compact, and gravel the parking areas so as to be suitable for Tenant's intended use.

(b) Install a six (6) foot chainlink fence (with barbed wire and sliding gate) around the perimeter of the demised area.

(c) Excavate for, position, and install a certain Eight Thousand (8000) gallon gasoline tank, and pump, located as shown on Exhibit "B", tank and pump to be supplied by Tenant promptly after last execution of this Lease.

(d) Provide electric service to the gas pump.

(e) Install and erect a lighting pylon, and attach lighting fixtures thereto, as shown on Exhibit "B".

(f) Lay concretepaving in and about the area of the gasoline pump as required.

(g) Pave a hard surface, all weather, access drive from the pump area to the adjoining parcel also leased by Tenant.

All work required to be performed by the Landlord hereunder shall be performed in a good and workmanlike manner. The Premises shall be left at the completion of such work in a safe, clean and tenantable condition and in good order and repair. Landlord shall perform all work provided for hereunder in conformity with all applicable construction and building codes and with every applicable requirement of law or duly constituted authority of law, or any Board of Underwriters, Rating Bureau or similar organization having jurisdiction, of carriers of insurance on the leased Premises.

See paragraph 19, continued on Page 4a.

20. Tenant shall take possession of the Leased premises within a reasonable time, not to exceed Thirty (30) days, after Landlord notifies Tenant that all Landlord's work pursuant to Paragraph #19 has been completed and that Tenant may have exclusive possession of the Premises. In the event the Landlord has not completed all work on or before June 1, 1980 , Tenant may cancel this Lease by sending written notice to Landlord, whereupon this Lease shall be terminated and of no further force and event.

21.1 Within thirty (30) days from the date of last execution of this Lease, Landlord shall [illegible], provide and deliver to Tenant (at the office of Tenant) a leasehold title insurance policy of a title company acceptable to Tenant in the amount of ONE HUNDRED THOUSAND and No/100 ($100,000.00) DOLLARS covering the date hereof, or if Tenant so elects, its preliminary report on title or title binder in said amount of $100,000.00 showing title in Landlord, subject only to matters to which this Lease is subject. All such title costs and premiums to be paid by [illegible] Tenant.

If the report on title, title binder, or leasehold title insurance policy, so required, discloses any defects in title (other than such usual objections contained in Leasehold policies and matters to which this Lease is subject) Landlord shall, upon tendering the same to Tenant within thirty (30) days from the date of last execution of this Lease, have sixty (60) days, from the date which such title report, binder, or leasehold title insurance policy bears, to cure such defects and to furnish such title report, binder, or leasehold policy showing such defects cured or removed. If such defects in title are not so cured within sixty (60) days, Tenant may, at its option, terminate this Lease. In the event this Lease is so te[illegible]

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Paragraph 19 (continued)

Within Thirty (30) days after the last execution of this Lease, Landlord shall prepare appropriate plans, specifications and/or working drawings covering the foregoing work, and submit same to Tenant for approval.

In the event Landlord does not complete the work diligently, Tenant may, at its option, cause the work to be completed and deduct the cost thereof from rent.

21.2 Tenant may, at its option, record this Lease and the cost of all documentary stamps, or conveyancing, transfer tax and recording fees shall be paid ~~equally by the parties hereto~~ by Tenant.

21. Broker's Commissions - If there are any Broker's fees or commissions payable in connection with the bringing about of the execution and delivery of this lease, the Landlord agrees that Landlord will pay same, that the Tenant shall not be liable for such fees and commissions and that the Landlord will indemnify and save the Tenant harmless from any and all claims for such fees and commissions.

22. Landlord and Tenant acknowledge that Tenant is negotiating a Lease of substiantially like terms and conditions for Premises adjoining the Landlord's Premises, and that Tenant's use of the demised premises is not feasible without the use of said adjoining Premises. Notwithstanding anything in this Lease to the contrary, Tenant's rental obligation hereunder shall not commence until Tenant has taken possession of the adjoining Premises. When the commencement date of both leases has become fixed, Landlord and Tenant agree to execute a Lease Supplement fixing the commencement date and the termination date of the Lease.

If, due to fire, the elements, or the exercise of the right of eminent domain or other authority of law, or any other cause, the premises shall become untenantable, dangerous or unfit for the Tenant's use, rent payable under this lease shall abate during the continuance of that condition. If the conditions which give rise to an abatement of rent under this section continue for a period of ninety (90) days, then the Tenant may, at any time within sixty (60) days after such ninety (90) day period, cancel this lease and terminate its tenancy by giving the Landlord written notice of its intention to do so.

All notices, approvals, or requests in connection with this lease shall be sent by registered mail or telegram. Notices to the Landlord may be addressed to the Landlord at the address set forth in Section 3 above. Notices to the Tenant shall be addressed to Montgomery Ward & Co., Incorporated, at 140 South State Street, Chicago, Illinois, attention: Regional law Department.

Employees or agents of the Tenant have no authority to make or agree to make a lease. This instrument shall not be binding upon the Tenant until it has been executed on behalf of the Tenant by one of its corporate officers. No act or omission of any employee of the Tenant shall alter, change, or modify any of the provisions of this lease. Any alterations, changes, and modifications of this lease shall be effective only when made in writing and executed on behalf of the Tenant by one of its corporate officers.

All the grantors of the term shall be bound jointly and severally by this lease. This lease shall inure to the benefit of and be binding upon, the respective heirs, legal representatives, successors and assigns of the Landlord and the Tenant.

IN WITNESS WHEREOF, this lease has been duly executed under seal as of the first hereinabove written.

LANDLORD:

DOWNERS GROVE NATIONAL BANK & TRUST,
as Trustee under Trust No. 73-309

By: _____

Attest: _____

TENANT:

MONTGOMERY WARD & CO., INCORPORATED

By: _____
William J. Harbeck, Senior Vice President

Attest: _____
Norman A. Smith,
Assistant Secretary

WITNESSES:

_____

_____

WITNESSES:

_____

_____

MOR 001536

(ACKNOWLEDGMENT)

STATE OF ILLINOIS
COUNTY OF COOK SS:

I,_____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that J.B. Gelling, Senior Vice President, and G. Fletcher Ward, Assistant Secretary, of MONTGOMERY WARD, & CO., INCORPORATED an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such J.B. Gelling, Senior Vice President, and G. Fletcher Ward, Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Senior Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposed therein set forth.

Given under my hand and notarial seal, this _____day of _____, 19____:

_____
Notary Public

(ACKNOWLEDGMENT-INDIVIDUAL)

STATE OF
COUNTY OF SS:

I,_____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____and_____ _____of_____who (is) (are) personally known to me to be the same person(s) whose name(s) (is) (are) subscribed to the foregoing instrument appeared before me this day in person and acknowledged that (he) (they) signed, sealed and delivered the said instrument as (h) (their) free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal, this _____day of _____19____.

_____
Notary Public

ACKNOWLEDGMENT-CORPORATE)

STATE OF ILLINOIS
COUNTY OF DU PAGE SS:

I, FAYE D. HOFFAMN, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that GEORGE H. STARMANN III, VICE President, and LISA SODER, TRUST, Secretary of DOWNERS GROVE NATIONAL BANK, A NATIONAL corporation, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such VICE President and ~~Secretary~~ Trust, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Vice President and ~~Secretary~~ Trust, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 5th day of February 19 80.

_____
Notary Public

MI-K79

(ACKNOWLEDGEMENT)

STATE OF ILLINOIS
COUNTY OF COOK SS:

I, Hattie L. Foster, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY THAT W.J. Harbeck, Vice President, and Norman A. Smith, Assistant Secretary, of MONTGOMERY WARD, & CO., INCORPORATED an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such W.J. Harbeck, Vice President, and Norman A. Smith, Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposed therein set forth.

Given under my hand and notarial seal, this 31st day of March, 1980.

Hattie L. Foster
Notary Public

My commission expire 4-10-83.

(ACKNOWLEDGEMENT-INDIVIDUAL)

STATE OF
COUNTY OF SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____ of _____ who (is) (are) personally known to me to be the same person(s) whose name(s) (is) (are) subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (he) (they) signed, sealed and delivered the said instrument as (he) (their) free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal, this ___ day of _____ 19__.

_____
Notary Public

(ACKNOWLEDGEMENT-CORPORATE)

STATE OF
COUNTY OF SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____, President, and _____, Secretary of _____ an _____ corporation, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such _____, President and Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such President and Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this ___ day of _____, 19__.

_____
Notary Public

ASSUMPTION AGREEMENT

The undersigned, THE MOREY CORPORATION, a corporation of Illinois

being all (or a majority of) the beneficiaries of Downers Grove National Bank and Trust, as Trustee under Trust #78-309, dated _____, and the holders of appropriate power of direction thereunder, hereby expressly agree, in consideration of the execution of the lease to which this Assumption Agreement is attached, i.e., that certain Lease dated February 5, 1980 by and between the aforesaid mentioned Downers Grove National Bank and Trust, as Trustee, as Lessor, and Montgomery Ward & Co., Incorporated, as Lessee, that they will individually and personally, jointly and severally, perform each and every of the Lessor's undertakings and obligations assumed and expressed in the Lease to which this Assumption Agreement is attached.

This undertaking and obligation of the undersigned, shall be binding upon their successors, assignees, administrators and assigns, and they covenant and agree not to assign the said lease or any rights thereunder unless such assignee expressly assumes to perform all of the covenant and undertakings of said Lease.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 2nd day of April, 1980.

THE MOREY CORPORATION, a corporation of Illinois

BY: Richard R. Morey
President

ATTEST: Edward S. Hollowell
Secretary

EXHIBIT A

Lot 34 (except the North 385 feet thereof) in ELLSWORTH PARK Unit Number 5, *being a Subdivision in the South*-west Quarter of Section 12, Township 38, Range 10, East of the Third Principal Meridian, according to the Plat thereof recorded January 10, 1962 as Document R62-993 in DuPage County, Illinois.

FIRST SUPPLEMENTAL AGREEMENT

The Morey Corp
RRM

THIS FIRST SUPPLEMENTAL AGREEMENT made this 29th day of December, 1989, ~~by and between DOWNERS GROVE NATIONAL BANK, a National Banking Association, as Trustee under Trust No. [illegible]~~, hereinafter called Landlord, and MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, with corporate offices at One Montgomery Ward Plaza, Chicago, Illinois 60671, hereinafter called Tenant.

W I T N E S S E T H:

WHEREAS, the parties hereto entered into a certain Lease Agreement dated February 5, 1980, hereafter called the Lease, covering certain premises located in the City of Downers Grove, County of DuPage, State of Illinois, commonly known as 2663 Wisconsin Avenue, now occupied by Tenant and more fully described in said Lease, and

WHEREAS, the parties are mutually desirous of supplementing said Lease;

NOW THEREFORE, for and in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

(1) The term of said Lease is hereby extended from and including the first (1st) day of October, 1990 to and including the thirtieth (30th) day of September, 1995.

(2) Tenant shall continue to pay rent to Landlord for the leased premises during the extended term herein provided at the annual rate of TWENTY FIVE THOUSAND SEVEN HUNDRED AND NO/100 DOLLARS ($25,700.00), payable in equal monthly installments on or before the tenth (10th) day of each calendar month for the current calendar month. Rent for part of a month shall be prorated.

(3) Payments to the Landlord may be made by checks or drafts payable to the order of The Morey Corporation, and mailed to such payee at 2659 Wisconsin Avenue, Downers Grove, Illinois 60515.

(4) Effective as of the complete execution and delivery of this First Supplemental Agreement, Section 4 of said Lease shall be and is hereby cancelled and deleted therefrom, it being understood and agreed, however, that the Tenant shall continue to have the option granted to it in Section 5 of said Lease to further extend the term for an additional period of five (5) years from the end of the extended term herein provided, in accordance with said Section 5.

(5) In consideration of One Dollar ($1.00) paid by the Tenant to the Landlord, the receipt and sufficiency of which is hereby acknowledged, Landlord hereby agrees that the Tenant shall have the option to execute this First Supplemental Agreement at any time within thirty (30) days after receipt of the same duly executed by Landlord.

EXCEPT as above supplemented, the Lease, together with any previous Supplemental Agreements and/or Lease Amendments, is hereby ratified and confirmed. All of the covenants of said Lease, as amended, shall be interdependent and binding upon and shall inure to the benefit of the parties hereto, their respective successors and assigns.

Date: 2/7/96 #PGS 2
FAX TO: Doug Cunningham
From: Barbara H
Message: Per your phone Request
Montgomery Ward
60180 E

RECEIVED
JAN 15 1996
THE MOREY CORP.

IN WITNESS WHEREOF, the parties hereto have caused this First Supplemental Agreement to be executed the first day and year above written.

LANDLORD:
~~DOWNERS GROVE NATIONAL BANK~~
~~as Trustee under~~
~~Trust No. 78-209~~
The Morey Corporation

By: Richard R. Morey
[redacted] President

ATTEST: Edward J. Hallowell
[redacted] Secretary

WITNESS:

TENANT:
MONTGOMERY WARD & CO.,
INCORPORATED

By: Spencer H. Hess
Senior Vice President

ATTEST: G J Morgan
Assistant Secretary

WITNESS:

William J. White

John A. Pressler

STATE OF ILLINOIS)
COUNTY OF DU PAGE)SS:

I, Douglas E. Cunningham, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that R.S. Morey President, and E. Stallard Secretary of ~~BONNERS GROUP~~ The Morey Corp, ~~NATIONAL BANK, a National Banking Association~~, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such _____ President, and _____ Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such _____ President and Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 5th day of Feb, 1996.

"OFFICIAL SEAL"
Douglas E. Cunningham
Notary Public, State of Illinois
My Commission Expires 11/05/53

Notary Public

My Commission Expires: 11/5/53

STATE OF ILLINOIS)
COUNTY OF COOK)SS:

I, Frances M. Catledge, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that Spencer H. Heinc, Senior Vice President, and G. T. Morgan, Assistant Secretary, of MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such Senior Vice President and Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Senior Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 11th day of April, 1990.

Frances M. Catledge
Notary Public

"OFFICIAL SEAL"
FRANCES M. CATLEDGE
Notary Public, State of Illinois
My Commission Expires 10/25/91

My Commission Expires: 10/25/1991

January 19, 1996

Mr. Chuck Jensen
Regional Property Manager
Montgomery Ward
Corporate Real Estate
535 West Chicago Avenue
Chicago, Illinois 60671

RE: Parking lot lease, Montgomery Ward Service Facility 2701, Behind Walnut Avenue, Downers Grove, Illinois.

Dear Mr. Jensen:

As you are aware, Montgomery Ward has chosen to exercise the final five year option on the parking lot described above.

The lease terms provide for a 75% increase in rent effective on the October 1, 1995 renewal date.

We therefore request that you update your records and payment system to reflect a monthly rent of $3,747.91 as of October 1, 1995.

Please feel free to call the undersigned at (708) 964-2300 with any questions.

Very truly yours,

THE MOREY CORPORATION

Douglas E. Cunningham
Controller

DEC/s

Montgomery Ward
Corporate Offices
Montgomery Ward Plaza
Chicago, Illinois 60671

Corporate Offices
312-467 2000

Chicago, Illinois
January 30, 1996

The Morey Corporation
Mr. Douglas E. Cunningham
2659 Wisconsin Avenue
Downers Grove, IL 60515-0719

RE: MONTGOMERY WARD - DOWNERS GROVE, IL
PARKING LOT LEASE RENT INCREASE

Dear Mr. Cunningham:

Your letter of January 19, 1996 was referred to me for handling. According to the terms of our Lease dated February 5, 1980 and the First Supplemental Agreement dated December 29, 1989, our rent shall be increased per section 5 during the option period 10/1/95 thru 9/30/2000. Our fixed rent during this further extended term shall be adjusted upward at the commencement of the extended term by the percentage change in the CPI since the commencement of the extended term, but in no event shall rent be increased by more than 75%.

Below you will find our calculation for this increase using the following indexes:

CPI-U (82 Series) $\frac{10/95 \quad 153.7}{10/90 \quad 133.5}$ - 15.13% Increase

Current monthly rent $2,141.67 x 15.13% = $2,465.70 mo.

I have adjusted our rent retroactively to 10/1/95 to the new monthly amount of $2,465.70. Our check in the amount of $1,620.15 representing the rent adjustment for period 10/1/95 thru 2/29/96 shall be forthcoming in about ten days. Please note your records.

Should you have any questions, feel free to contact me at #312/467-7798.

Sincerely,

Barbara Gianfrancesco

Barbara Gianfrancesco, Supr.
Corporate Lease Accounting, 7-3

cc: Chuck Jensen

/db

MOR 001546

ASSIGNMENT OF LEASE

THIS ASSIGNMENT OF LEASE is executed this 18th day of June, 1996, by THE MOREY CORPORATION (herein called the "Assignor") formerly the beneficiary of Downers Grove National Bank, as trustee under trust number 78-309 (herein called the "Trust"), and MOREY REALTY GROUP, INC., an Illinois corporation (herein called the "Assignee").

WHEREAS, pursuant to written lease (the "Lease") dated February 5, 1980, between Trust and Montgomery Ward & Co., Incorporated ("Tenant"), and amended by that First Supplemental Lease dated December 29, 1989, between Assignor (as successor to Trust) and Tenant, Tenant did lease the real property described therein; and

WHEREAS, in order to protect the real estate assets of Assignor from the possible liabilities attendant to the operation of Assignor'/s primary business, the Assignor did create a wholly owned subsidiary (Assignment) for purposes of owning and operating its real estate interests; and

WHEREAS, Assignor has transferred legal title to the Property which is the subject of the lease to Assignee;

NOW, THEREFORE, in consideration of the sum of Ten Dollars ($10.00) in hand paid to Assignor, the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledge, the parties hereby agree as follows:

1. **Assignment of Lease.** Assignor hereby transfers and assigns to Assignee any and all right, title and interest (specifically including, but not limited to, entitlement to receipt of rental income from the tenant thereunder from and after the date hereof) which Assignor may have, as landlord or otherwise, in the Lease.

2. **Acceptance.** By executing this Assignment, Assignee hereby accepts and agrees to perform all of the terms, covenants and conditions of the Lease on the part of the landlord therein required to be performed, from and after the date hereof.

3. **Cross Indemnities.** Assignee covenants and agrees to indemnify, save and hold harmless Assignor from and against any and all losses, liabilities, costs, expenses, damages, claims or causes of action existing in favor of, or asserted by, the tenant under the Lease which arise out of or relate to Assignee's failure to perform any of the obligations as landlord under the Lease arising after the date hereof. Assignor covenants and agrees to indemnify, save and hold harmless Assignee from and against any and all losses, liabilities, costs, expenses, damages, claims or causes of action existing in favor of, or asserted by, the tenant under the Lease which arise out of or relate to Assignor's failure to perform any of the obligations as landlord under the Lease arising prior to the date hereof.

4. **Successors and Assigns.** This Assignment of Lease shall inure to the benefit of, and be binding upon, the successors, executors, administrators, legal representatives and assigns of the parties hereto.

5. Governing Law. This Assignment of Lease shall be construed under and enforced in accordance with the laws of the State of Illinois.

IN WITNESS WHEREOF, the parties have executed this Assignment of Lease as of the date set forth above.

ASSIGNOR:	ASSIGNEE:
THE MOREY CORPORATION, an Illinois corporation	MOREY REALTY GROUP, INC., an Illinois corporation
By: Dana Morey	By: Dana Morey
Its: Vice President	Its: President

ACKNOWLEDGMENT AND CONSENT BY TENANT

The undersigned on behalf of Montgomery Ward & Co., Incorporated does hereby acknowledge receipt of a copy of the foregoing Assignment of Lease in which the Lease described therein is assigned from The Morey Corporation to Morey Realty Group, Inc., consents to same. Tenant agrees that all future rent payments thereunder shall be payable to : Morey Realty Group, Inc., 2659 Wisconsin Avenue, Downers Grove, IL 60516.

MONTGOMERY WARD & CO., INCORPORATED

By: _____
Name: _____ (see attached)
Title: _____

Date: _____, 1996

C\WJC\MOREY\ASSIGN.LSE\06-14-96

MOR 001548

Montgomery Ward
535 W. Chicago Avenue
Chicago, Illinois 60610

Corporate Real Estate

312-467-2000

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 23, 1996

The Morey Corporation
2659 Wisconsin Avenue
Downers Grove, IL 60516

RE: That certain lease ("Lease") dated February 5, 1980 by and between Downers Grove National Bank, as trustee under trust number 78-309, as Landlord, and Montgomery Ward & Co., Incorporated, as Tenant, for the real property described therein.

Dear Sir or Madam:

The undersigned does hereby acknowledge receipt of a copy of the Assignment of Lease dated June 18, 1996 by and between The Morey Corporation, as Assignee, and Morey Realty Group, Inc., as Assignor, in which the above-referenced Lease was assigned to Morey Realty Group, Inc. The undersigned further acknowledges that, pursuant to the Assignment, all future rent payments due under the Lease should be made payable to Morey Realty Group, Inc. and sent to 2659 Wisconsin Avenue, Downers Grove, IL 60516.

MONTGOMERY WARD & CO., INCORPORATED

By: Chuck Jensen

Name: Chuck Jensen

Title: Regional Property Manager

cc: G. Reinhold

SELLER'S CLOSING STATEMENT

SELLER:	MC Holdings Corp., an Illinois corporation Morey Realty Group, Inc., and Illinois corporation
BUYER:	A-1 Holdings, L.L.C., an Illinois limited liability company
PROPERTY:	2661 Wisconsin, Downers Grove, IL 60516
CLOSING DATE:	June 4, 1998

	DEBIT SELLER	CREDIT SELLER
Balance of Purchase Price (Parcel 1 & 2):		$678,217.68
($4.50 x 150,715.04 sq. ft.)		
Earnest Money:	$100,000.00	
Title Insurance Charges:		
Premium	1,075.00	
Closing Fee:	370.00	
New York Style Closing Fee:	250.00	
Real Estate Taxes (See calculation, attached):	11,383.62	
Transfer Taxes:		
State of Illinois:	679.00	
DuPage County:	339.50	
Downers Grove (None):	00.00	
Recording Fees (Estimated):	30.00	
Commission Payable:		
Frain Camins & Swartchild	16,955.44	
Grubb & Ellis	16,955.44	
Lease Payment Proration ($2,465.70 x 26/30)	2,136.94	
Other:	00.00	
Balance of Proceeds to Seller:	528,042.74	
TOTALS:	$678,217.68	$678,217.68

[Approvals contained on the following page]

APPROVED:

For Seller

For Buyer

Joseph Voltura

REAL ESTATE TAX CREDIT COMPUTATION
[PRORATIONS FINAL]

		1997 Tax
Tax Number:	08-12-303-004	$ 8,232.94
	08-12-303-006	3,938.50
Total:		$ 12,171.44
@ 102.5%		$ 12,475.73
Per Diem Amount: $12,475.73/ 365 =		$ 34.18

1997 2nd Installment	6,085.72
1998, 1/1 through 6/4 (155 Days):	5,297.90
TOTAL TAX CREDIT TO BUYER:	**$ 11,383.62**

Liquid Control Corp.

Plural Component Dispensing Equipment

Technical Service

Dan Phillips
8400 PORT JACKSON AVE. NW
NORTH CANTON, OH 44720
330/494-1313 EXT.250
FAX: 330/966-3006

To:	**Bogdan**	Date:	**05/10/02**
Company:	**Morcy Corp.**	Fax.	**630-754-2543**
#of Pages	5	Note:	**Po's of machines**

Bogdan,

These are the original purchase orders from Morey Corp to purchase the serial numbers SN-1136, SN-1782, SN-2039, and SN-2405 we had talked about. If you have any questions or need more information please let me know.

Best regards,

Dan Phillips
Technical Service Rep.

SN-2405

2659 WISCONSIN AVE.
TELEPHONE 708-964-2300

DOWNERS GROVE, IL 60515-0719
FAX NO 708-960-7484

DEC 21 1990

The Morey Corporation

ENGINEERS AND ELECTRONIC EQUIPMENT MANUFACTURERS

ACCT. NO.

6000-1990

PURCHASE ORDER
NO. 08809

S/N -2405

DATE

12/13/90

State of Illinois Cert. No. 2084-1994 ** For Resale ☐ For Consumption

GOVT. CONTRACT NUMBER

1-4-91

PRIORITY RATING

CERTIFIED UNDER DMS REG. #

LIQUID CONTROL CORP 5025
7576 FREEDOM AVE N.W
N. CANTON OH 44720-0000

SHIP VIA UPS

** CONFIRMING ORDER **

216/494-1313

FROM	TO	ON
PAR	JEFF	12/06/90

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
9000	029	1 EA	MINI METER #TFM 15/20 2405 TWINFLOW BENCHTOP MACHINE FOR CATERPILLAR CONTRACTS	9990.00	E	9,990.00
9000	034	100 EA	POSIMIXER 1/4 X 24 ELEMENT LIQUID CONTROL TO BE USED WITH TFM 15/20 MACHINE	1.86	E	186.00

10,176.00
DOLLAR VALUE THIS ORDER

REQUIRED DELIVERY ON OUR DOCK AS FOLLOWS				VENDOR PROMISED DELIVERY ON OUR DOCK			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
9000	029	1/14/91	ALL	9000	029	1/14/91	ALL
9000	034	1/14/91	ALL	9000	034	1/14/91	ALL

The Morey Corporation

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

The Purchase Order Number must appear on your package, Packing Slip, Bill of Lading and Invoice

PURCHASING AGENT

SN-2039

2659 WISCONSIN AVE.
TELEPHONE 312-964-2300

DOWNERS GROVE, IL 60515-0719
FAX NO. 312-960-7484

5/0 IE
12041

ACCT. NO.
000-1989

The Morey Corporation

ENGINEERS AND ELECTRONIC EQUIPMENT MANUFACTURERS

PURCHASE ORDER NO. 94117

DATE
7/27/89

State of Illinois Cert No 2004-1004 For Resale For Consumption

GOVT CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #1

TO LIQUID CONTROL CORP 5025 SHIP VIA: UPS
7576 FREEDOM AVE N.W
N. CANTON OH 44720-0000

** CONFIRMING ORDER **

216/494-1313
317 758-5843

PR FROM JEFF TO 7/21/89 ON

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
3180	135	2 EA	SPARE PARTS KIT SWG/POTTING MACHINE #SPK-35-MM	90.00	E	180.00
3180	136	2 EA	SPARE PARTS KIT SWG/POTTING MACHINE #SPK-15-MM	82.00	E	164.00
6006	148	1 EA	POTTING MACH AS LISTED BELOW PR4-35-15	4600.00	E	4,600.00

The above machine will be completely shop assembled and wet tested prior to shipment. Liquid Control will provide in house video taping facilities to tape your wet test at no charge. Jeff Beals will assist in the start up of our new equipment at our Downers Grove facility at no charge. -ajp-

DOLLAR VALUE THIS ORDER 4,944.00

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS				VENDOR PROMISED DELIVERY			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
3180	135	8/01/89	ALL	3180	135	8/01/89	ALL
3180	136	8/01/89	ALL	3180	136	8/01/89	ALL
6006	148	8/01/89	ALL	6006	148	10/15/89	ALL

Wet Test Oct 30, 1989

9/25/89 Need accounts code & adv. AGI

SN-2039 code chg. - Also review video & startup requirements

LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED
				4	Control Systems					SPK		6	Modern		

DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE

SN-1782

2659 WISCONSIN AVE.
TELEPHONE 312-964-2300

DOWNERS GROVE, IL 60515-0719
FAX NO. 312-960-7484

The Morey Corporation

ACCT. NO.

PURCHASE ORDER NO.

DATE

State of Illinois Cert. No. 410849 [X] For Resale [ ] For Consumption

GOVT. CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #1

SHIP VIA: BRG

FROM TO ON

8-23-88 CONFIRMED 25/65/10 TERMS

PAT RECT

S.C.

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
9000	217	1 EA	POTTING MACH. #PR435/15	24,400.00	E	24,400.00
			$150 PKG CHARGE			
			8/23/88			
			Steve please reconcile + advise MGr			
			1) Ship via			
			2) Payment Terms			

DOLLAR VALUE THIS ORDER

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS

10X	ITEM	DATE	QUAN.
9000	217	9/01/88	ALL

VENDOR PROMISED DELIVERY

10X	ITEM	DATE	QUAN.
9000	217	10/05/88	ALL

AUG 22 1988

The Morey Corporation

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

The Purchase Order Number must appear on your package, Packing Slip, Bill of Lading and Invoice

Patricia Pratt
PURCHASING AGENT

SN-1136

2868 WISCONSIN AVE. DOWNERS GROVE, IL 60515-0719 · TELEPHONE 312 · 964-2300

The Morey Corporation

ACCT. NO.

1177-0000

PURCHASE ORDER

NO. 59346

DATE

3/04/86

State of Illinois Cert. No. 410849 [M] For Resale [ ] For Consumption

GOVT. CONTRACT NUMBER

PRIORITY RATING CERTIFIED UNDER DMS REG. 4 :

LIQUID CONTROL CORP 5025 SHIP VIA: UPS
7576 FREEDOM AVE N.W
N. CANTON OH 44720-0000 ** CONFIRMING ORDER **

216/494-1313 FAT (FROM) JERRY (TO) 3/05/86 (ON)

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
3180	136	1 EA	POSI-RATIO 4198-36R1 POTTING MACHINE S.W.G.	10,820.00	E	10,820.00

EFFECTIVE AT ONCE, WE MUST INSIST THAT ALL VENDORS SHOW OUR "10X ITEM & DESC." ON PACKING LISTS. FAILURE TO COMPLY MAY DELAY PAYMENT AND CAUSE REMOVAL FROM APPROVED SOURCE LISTINGS.
THANKS FOR YOUR HELP

1136

25% Deposit Received

DOLLAR VALUE THIS ORDER 10,820.00

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS				VENDOR PROMISED DELIVERY			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
3180	136	4/12/86	ALL	3180	136	4/12/86	ALL

The Morey Corporation

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

e Purchase Order Number must appear on your kage, Packing Slip, Bill of Lading and Invoice.

PURCHASING AGENT

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	66053	8167	10	82792	500.000	.000	SR
2928	STOCK	66053	9246	20	92292	500.000	.000	SR
2928	STOCK	66053	9350	30	92492	500.000	.000	SR
2928	STOCK	66053	10598	40	102392	500.000	.000	SR
2928	STOCK	66053	11729	50	112592	500.000	.000	SR
2928	STOCK	66053	12681	60	122892	500.000	.000	SR
2928	STOCK	66053	13582	70	12593	500.000	.000	SR
2928	STOCK	66053	14781	80	22293	500.000	.000	SR
2928	STOCK	66053	17989	90	43093	500.000	500.000	SR
2928	STOCK	66053	18949	100	52093	500.000	500.000	SR
2928	STOCK	66053	20255	110	62393	500.000	500.000	SR
2928	STOCK	66053	21217	120	72193	500.000	500.000	SR
2928	STOCK	71120	22344	10	82593	500.000	500.000	SR
2928	STOCK	71120	23335	20	92793	500.000	500.000	SR +

F3=Exit F7=Fold F12=Previous

Earlier Receipts dom

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	71120	24208	30	102293	500.000	500.000	SR
2928	STOCK	71120	25364	40	112493	500.000	500.000	SR
2928	STOCK	71120	26146	50	122293	500.000	500.000	SR
2928	STOCK	71120	27320	60	12594	500.000	500.000	SR
2928	STOCK	71120	28896	70	22894	50.000	50.000	SR
2928	STOCK	71120	28930	70	22894	450.000	450.000	SR
2928	STOCK	71120	29778	80	32494	500.000	500.000	SR
2928	STOCK	71120	31060	90	42594	500.000	500.000	SR
2928	STOCK	71120	32610	100	52494	500.000	500.000	SR
2928	STOCK	71120	33999	999	62294	500.000	500.000	SR
2928	STOCK	71120	35151	999	71894	500.000	500.000	SR
2928	STOCK	77919	37099	10	81894	500.000	500.000	SR
2928	STOCK	77919	38328	10	90794	400.000	500.000	SR
7622	STOCK	81194	39310	10	92694	1005.000	1000.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2928	STOCK	77919	40020	10	100694	529.000	500.000	SR
2928	STOCK	77919	41798	10	110894	532.000	500.000	SR
2928	STOCK	77919	44105	10	121594	500.000	500.000	SR
2928	STOCK	77919	45033	10	10495	500.000	500.000	SR
2928	STOCK	82414	46176	10	12095	1500.000	1500.000	SR
2928	STOCK	82414	49159	20	30395	500.000	500.000	SR
2928	STOCK	82414	51754	30	33195	500.000	500.000	SR
1625	STOCK	85234	52106	10	40595	500.000	500.000	SR
2928	STOCK	82414	53816	40	42695	500.000	500.000	SR
1625	STOCK	85985	54556	10	50595	1500.000	1500.000	SR
2928	STOCK	82414	55225	50	51695	500.000	500.000	SR
2928	STOCK	82414	56695	60	60795	500.000	500.000	SR
1625	MRA	86219	58110	10	62795	63.000	.000	MA
1625	STOCK	86219	58669	10	70395	417.000	417.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	86219	58670	20	70395	91.000	91.000	SR
1625	STOCK	86219	60086	30	72095	480.000	480.000	SR
1625	STOCK	86219	60087	20	72095	28.000	28.000	SR
1625	STOCK	86219	62539	20	81895	520.000	520.000	SR
1625	STOCK	90089	65890	20	92995	510.000	501.000	SR
1625	STOCK	90089	66100	10	100495	497.000	497.000	SR
1625	STOCK	90089	69375	20	112295	490.000	490.000	SR
1625	STOCK	90089	72531	20	11296	970.000	970.000	SR
1625	STOCK	90089	74425	20	20696	500.000	500.000	SR
1625	STOCK	91844	82738	10	62096	544.000	544.000	SR
1625	STOCK	91844	86693	10	82196	500.000	500.000	SR
1625	STOCK	91844	89501	10	92496	500.000	500.000	SR
1625	STOCK	91844	91712	10	102296	500.000	500.000	SR
1625	STOCK	91844	93580	10	111596	500.000	500.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:41:52 12/03/01
* HISTORY * Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	91844	96008	10	121796	500.000	500.000	SR
1625	STOCK	91844	99365	10	20397	500.000	500.000	SR
1625	STOCK	91844	100453	10	21497	540.000	500.000	SR
1625	STOCK	91844	102387	10	31497	480.000	480.000	SR
1625	STOCK	91844	102857	10	32197	540.000	540.000	SR
1625	STOCK	91844	104875	10	41697	480.000	480.000	SR
1625	STOCK	91844	107939	10	60397	480.000	480.000	SR
1625	STOCK	101351	108694	10	61697	480.000	480.000	SR
1625	STOCK	101351	109856	10	70297	240.000	240.000	SR
1625	STOCK	101351	111626	10	72897	240.000	240.000	SR
1625	STOCK	101351	112275	10	80597	480.000	480.000	SR
1625	STOCK	101351	114272	10	90497	420.000	420.000	SR
1625	STOCK	101351	116366	10	100197	600.000	600.000	SR
1625	STOCK	101351	119786	30	120197	72.000	72.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	101351	121866	30	10998	66.000	66.000	SR
1625	STOCK	101351	125415	30	30598	72.000	72.000	SR
1625	STOCK	101351	128422	30	41698	60.000	60.000	SR
1625	STOCK	101351	130403	30	51998	84.000	84.000	SR
1625	STOCK	101351	132325	40	62698	60.000	60.000	SR
1625	STOCK	101351	136127	40	82498	60.000	60.000	SR
1625	STOCK	101351	138262	40	100298	60.000	60.000	SR
1625	STOCK	101351	140027	40	110498	54.000	54.000	SR
1625	STOCK	101351	142160	40	121598	60.000	60.000	SR
1625	STOCK	101351	143815	40	11899	60.000	60.000	SR
1625	STOCK	101351	145143	40	21599	10.000	10.000	SR
1625	STOCK	101351	145149	40	21599	50.000	50.000	SR

F3=Exit F7=Fold F12=Previous

P00153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	146638	10	31199	24.000	24.000	SR
1625	STOCK	109500	148763	10	41499	60.000	60.000	SR
1625	STOCK	109500	149581	10	42799	18.000	18.000	SR
1625	STOCK	109500	150101	10	50599	12.000	12.000	SR
1625	STOCK	109500	150936	10	51999	18.000	18.000	SR
1625	STOCK	109500	151365	10	52699	18.000	18.000	SR
1625	STOCK	109500	151683	10	60399	12.000	12.000	SR
1625	STOCK	109500	152229	10	61599	18.000	18.000	SR
1625	STOCK	109500	152945	10	62999	24.000	24.000	SR
1625	STOCK	109500	156130	10	81699	54.000	54.000	SR
1625	STOCK	109500	156966	10	82699	18.000	18.000	SR
1625	STOCK	109500	158247	10	91099	36.000	36.000	SR
1625	STOCK	109500	158484	10	91599	24.000	24.000	SR
1625	STOCK	109500	159928	10	100799	18.000	18.000	SR +

F3=Exit F7=Fold F12=Previous

10 LB Solder Bars

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	160476	10	101599	12.000	12.000	SR
1625	STOCK	109500	160822	10	102199	4.000	4.000	SR
1625	STOCK	109500	161183	10	102799	11.000	10.000	SR
1625	STOCK	109500	161700	10	110499	8.000	8.000	SR
1625	STOCK	109500	162112	10	111299	1.000	.000	SR
1625	STOCK	109500	162310	10	111699	24.000	24.000	SR
1625	STOCK	109500	163082	10	112999	10.000	10.000	SR
1625	STOCK	109500	163271	10	120199	30.000	30.000	SR
1625	STOCK	109500	164132	10	121699	6.000	6.000	SR
1625	STOCK	109500	164601	10	122399	6.000	6.000	SR
1625	STOCK	109500	164895	10	122999	12.000	12.000	SR
1625	STOCK	109500	165652	10	11100	12.000	12.000	SR
1625	STOCK	109500	165831	10	11300	18.000	18.000	SR
1625	STOCK	109500	166736	10	12700	24.000	24.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse	
1625	STOCK	109500	167709	10	21000	18.000	18.000	SR	
1625	STOCK	109500	168866	10	22500	18.000	18.000	SR	
1625	STOCK	109500	169142	10	30100	18.000	18.000	SR	
1625	STOCK	109500	170380	10	31600	18.000	18.000	SR	
1625	STOCK	109500	171456	10	33000	36.000	36.000	SR	
1625	STOCK	109500	174524	10	50200	24.000	24.000	SR	
1625	STOCK	109500	174705	10	50400	6.000	6.000	SR	
1625	STOCK	109500	174724	10	50400	12.000	12.000	SR	
1625	STOCK	109500	175242	10	51000	36.000	36.000	SR	
1625	STOCK	109500	175861	10	51600	6.000	6.000	SR	
1625	STOCK	109500	176495	10	52300	12.000	12.000	SR	
1625	STOCK	109500	177031	10	60100	10.000	10.000	SR	
5626	STOCK	114182	177793	30	61900	12.000	12.000	SR	
5626	STOCK	114182	178071	30	62100	24.000	23.000	SR	+

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1625	STOCK	109500	178150	10	62200	12.000	12.000	SR
1625	STOCK	109500	178156	20	62200	18.000	18.000	SR
5626	STOCK	114182	180310	30	71800	30.000	.000	SR
5626	STOCK	114182	181464	30	80100	12.000	12.000	SR
1625	STOCK	109500	182264	20	81000	7.000	7.000	SR
5626	STOCK	114182	182262	30	81000	12.000	12.000	SR
5626	STOCK	114182	182615	30	81500	18.000	18.000	SR
5626	STOCK	114182	183907	30	82800	18.000	18.000	SR
5626	STOCK	114182	184137	30	83000	12.000	12.000	SR
5626	STOCK	114182	184755	30	90700	12.000	12.000	SR
5626	STOCK	114182	184998	30	91100	18.000	18.000	SR
5626	STOCK	114182	185589	30	91800	18.000	18.000	SR
5626	STOCK	114182	186195	30	92500	12.000	12.000	SR
5626	STOCK	114182	186840	30	100200	18.000	18.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	187659	30	101000	18.000	18.000	SR
5626	STOCK	114182	188131	30	101600	12.000	12.000	SR
5626	STOCK	114182	188242	30	101700	12.000	12.000	SR
5626	STOCK	114182	188572	30	102400	12.000	12.000	SR
5626	STOCK	114182	188913	30	103100	12.000	12.000	SR
5626	STOCK	114182	190044	30	110800	12.000	12.000	SR
5626	STOCK	114182	190445	30	111500	6.000	6.000	SR
5626	STOCK	114182	190995	30	112200	12.000	12.000	SR
5626	STOCK	114182	191310	30	112800	12.000	12.000	SR
5626	STOCK	114182	192193	30	120500	12.000	6.000	SR
5626	STOCK	114182	192578	30	121200	18.000	18.000	SR
5626	STOCK	114182	193084	30	121900	6.000	6.000	SR
5626	STOCK	114182	193486	30	122600	12.000	12.000	SR
5626	STOCK	114182	194044	30	10201	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	194729	30	10801	6.000	6.000	SR
5626	STOCK	114182	194954	30	10901	6.000	6.000	SR
5626	STOCK	114182	195681	30	11601	12.000	12.000	SR
5626	STOCK	114182	196554	30	12301	12.000	120.000	SR
5626	STOCK	114182	197891	30	20701	180.000	180.000	SR
5626	STOCK	114182	201688	30	31401	42.000	42.000	SR
5626	STOCK	114182	201822	30	31401	12.000	12.000	SR
5626	STOCK	114182	203269	30	32801	18.000	18.000	SR
5626	STOCK	114182	203984	30	40301	12.000	12.000	SR
5626	STOCK	114182	204889	30	41101	12.000	12.000	SR
5626	STOCK	114182	205576	30	41701	12.000	12.000	SR
5626	STOCK	114182	206274	30	42401	12.000	12.000	SR
5626	STOCK	114182	207192	30	50101	6.000	6.000	SR
5626	STOCK	114182	209021	30	51601	30.000	30.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	209842	40	52301	120.000	.000	SR
5626	STOCK	114182	213884	40	70301	24.000	24.000	SR
5626	STOCK	114182	213967	40	70301	180.000	.000	SR
5626	STOCK	114182	214010	40	70501	12.000	.000	SR
5626	STOCK	114182	215572	40	71801	84.000	84.000	SR
5626	STOCK	114182	217465	40	80301	60.000	60.000	SR
5626	STOCK	114182	218197	40	81001	84.000	84.000	SR
5626	STOCK	114182	218424	40	81401	96.000	96.000	SR
5626	STOCK	114182	219150	40	82101	48.000	48.000	SR
5626	STOCK	114182	219880	40	82801	48.000	48.000	SR
5626	STOCK	114182	220696	40	90501	36.000	36.000	SR
5626	STOCK	114182	221308	40	91101	36.000	36.000	SR
5626	STOCK	114182	221962	40	91801	24.000	24.000	SR
5626	STOCK	114182	222645	40	92501	24.000	24.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:36:30 11/15/01
Receiver Detail

Product 1014770 GEN SOLDER BAR SN63

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
5626	STOCK	114182	223360	40	100201	48.000	48.000	SR
5626	STOCK	114182	224261	40	100901	48.000	48.000	SR
5626	STOCK	114182	225096	40	101601	36.000	36.000	SR
5626	STOCK	114182	225711	40	102301	12.000	12.000	SR
5626	STOCK	114182	226554	40	103001	48.000	48.000	SR
5626	STOCK	114182	228330	40	111501	24.000	.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:42:42 12/03/01
* HISTORY * Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	95279	105348	11	42197	6.000	6.000	SR
7622	STOCK	100444	107114	10	51597	10.000	10.000	SR
7622	STOCK	100444	107717	10	53097	20.000	20.000	SR
7622	STOCK	100473	107917	10	60397	1.000	1.000	SR
7622	STOCK	100473	108087	30	60597	4.000	4.000	SR
7622	STOCK	101367	109586	10	63097	10.000	10.000	SR
7622	STOCK	101411	113271	10	82097	10.000	10.000	SR
7622	STOCK	103026	115513	10	92297	10.000	10.000	SR
7622	STOCK	103026	116940	10	100797	10.000	10.000	SR
7622	STOCK	104630	120808	10	121997	5.000	5.000	SR
7622	STOCK	104751	123508	10	20398	11.000	11.000	SR
7622	STOCK	105206	124108	10	21398	4.000	4.000	SR
7622	STOCK	105335	125001	10	22698	5.000	5.000	SR
7622	STOCK	106004	127357	10	40298	7.000	7.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:42:42 12/03/01
* HISTORY * Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	106294	128632	10	41798	3.000	3.000	SR
7622	STOCK	106436	130223	10	51598	7.000	7.000	SR
7622	STOCK	90201	131950	10	61998	10.000	10.000	SR
7622	STOCK	107364	135235	10	81298	10.000	10.000	SR
7622	STOCK	108090	138709	10	100998	10.000	10.000	SR
7622	STOCK	108416	140203	10	110698	10.000	10.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 14:29:08 12/03/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	108937	143758	10	11899	7.000	7.000	SR
7622	STOCK	108937	145148	10	21599	28.000	25.000	SR
7622	STOCK	109499	145212	10	21799	7.000	7.000	SR
7622	STOCK	109499	145716	10	22599	1.000	1.000	SR
7622	STOCK	109499	146626	10	31099	2.000	2.000	SR
7622	STOCK	109499	147364	10	32399	3.000	3.000	SR
7622	STOCK	109499	147847	10	33099	2.000	2.000	SR
7622	STOCK	109499	148276	10	40699	1.000	1.000	SR
7622	STOCK	109499	149116	10	42199	3.000	3.000	SR
7622	STOCK	109499	149483	10	42799	1.000	1.000	SR
7622	STOCK	109499	150443	10	51099	2.000	2.000	SR
7622	STOCK	109499	150521	10	51199	1.000	1.000	SR
7622	STOCK	109499	151177	10	52599	1.000	1.000	SR
7622	STOCK	109499	151273	10	52699	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:06 11/15/01
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	151434	10	52799	1.000	1.000	SR
7622	STOCK	109499	151932	10	60899	2.000	2.000	SR
7622	STOCK	109499	152571	10	62299	3.000	3.000	SR
7622	STOCK	109499	153090	10	63099	1.000	1.000	SR
7622	STOCK	109499	154387	10	72299	4.000	4.000	SR
7622	STOCK	109499	154814	10	72799	1.000	1.000	SR
7622	STOCK	109499	154823	10	72899	1.000	1.000	SR
7622	STOCK	109499	154824	10	72899	1.000	1.000	SR
7622	STOCK	109499	155334	10	80499	1.000	1.000	SR
7622	STOCK	109499	156452	10	81899	3.000	3.000	SR
7622	STOCK	109499	157207	10	82799	1.000	1.000	SR
7622	STOCK	109499	157524	10	90199	3.000	3.000	SR
7622	STOCK	109499	158404	10	91499	1.000	1.000	SR
7622	STOCK	109499	158915	10	92299	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon Pails of Flux

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Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	159315	10	92999	1.000	1.000	SR
7622	STOCK	109499	160237	10	101299	3.000	3.000	SR
7622	STOCK	109499	160634	10	101999	1.000	1.000	SR
7622	STOCK	109499	161083	10	102699	2.000	2.000	SR
7622	STOCK	109499	161951	10	111099	3.000	3.000	SR
7622	STOCK	109499	162495	10	111899	1.000	1.000	SR
7622	STOCK	109499	163270	10	120199	2.000	2.000	SR
7622	STOCK	109499	164071	10	121599	4.000	4.000	SR
7622	STOCK	109499	164507	10	122299	1.000	1.000	SR
7622	STOCK	109499	165673	10	11100	2.000	2.000	SR
7622	STOCK	109499	166567	10	12500	3.000	3.000	SR
7622	STOCK	109499	166571	10	12600	1.000	1.000	SR
7622	STOCK	109499	167625	10	20900	4.000	4.000	SR
7622	STOCK	109499	168015	10	21500	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

Purchase Order Inquiry
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	168625	10	22400	2.000	2.000	SR
7622	STOCK	109499	169054	10	22900	1.000	1.000	SR
7622	STOCK	109499	171336	10	32900	6.000	6.000	SR
7622	STOCK	109499	173087	10	41800	2.000	2.000	SR
7622	STOCK	109499	173115	10	41800	4.000	4.000	SR
7622	STOCK	109499	173784	10	42600	1.000	1.000	SR
7622	STOCK	109499	175323	10	51100	3.000	3.000	SR
7622	STOCK	109499	176729	10	52500	4.000	4.000	SR
7622	STOCK	109499	177242	10	60500	3.000	3.000	SR
7622	STOCK	109499	177585	10	61400	2.000	2.000	SR
7622	STOCK	109499	179051	10	63000	1.000	1.000	SR
7622	STOCK	109499	180319	10	71800	4.000	4.000	SR
7622	STOCK	109499	180973	10	72600	2.000	2.000	SR
7622	STOCK	109499	182744	10	81600	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	183220	10	82200	2.000	2.000	SR
7622	STOCK	109499	185050	10	91200	3.000	3.000	SR
7622	STOCK	109499	185699	10	91900	3.000	3.000	SR
7622	STOCK	109499	186346	10	92700	1.000	1.000	SR
7622	STOCK	109499	187669	10	101000	3.000	3.000	SR
7622	STOCK	109499	188245	10	101700	2.000	2.000	SR
7622	STOCK	109499	188880	10	103100	3.000	3.000	SR
7622	STOCK	109499	190379	10	111500	3.000	3.000	SR
7622	STOCK	109499	190991	10	112200	1.000	1.000	SR
7622	STOCK	109499	191329	10	112800	2.000	2.000	SR
7622	STOCK	109499	192704	10	121400	3.000	3.000	SR
7622	STOCK	109499	195112	10	11001	7.000	7.000	SR
7622	STOCK	109499	195907	10	11701	2.000	2.000	SR
7622	STOCK	109499	197356	10	13101	3.000	3.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109499	198726	10	21401	15.000	15.000	SR
7622	STOCK	109499	201805	10	31401	5.000	5.000	SR
2664	STOCK	118774	202430	10	32001	1.000	1.000	SR
2664	STOCK	118774	202431	10	32001	1.000	1.000	SR
296	STOCK	118778	202541	10	32101	1.000	1.000	SR
2664	STOCK	118774	202701	10	32201	9.000	9.000	SR
7622	STOCK	109499	202937	10	32301	2.000	2.000	SR
7622	STOCK	109499	203416	10	32901	5.000	5.000	SR
2664	STOCK	119037	206435	20	42501	1.000	1.000	SR
2664	STOCK	119037	208523	20	51401	2.000	2.000	SR
2664	STOCK	118774	209397	10	52101	3.000	3.000	SR
2664	STOCK	119037	209892	20	52401	3.000	3.000	SR
2664	STOCK	119037	210780	20	60401	1.000	1.000	SR
2664	STOCK	119037	211093	20	60601	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	211287	20	60701	5.000	5.000	SR
2664	STOCK	119037	211986	20	61401	1.000	1.000	SR
2664	STOCK	119037	212415	20	61901	2.000	2.000	SR
2664	STOCK	119037	212422	20	61901	3.000	3.000	SR
2664	STOCK	119037	213545	20	62801	2.000	2.000	SR
2664	STOCK	119037	213902	20	70301	2.000	2.000	SR
2664	STOCK	119037	214147	20	70601	1.000	.000	SR
2664	STOCK	119037	215410	20	71701	2.000	2.000	SR
2664	STOCK	119037	216527	20	72601	6.000	6.000	SR
2664	STOCK	119037	218414	20	81401	2.000	2.000	SR
2664	STOCK	119037	219153	20	82101	2.000	2.000	SR
2664	STOCK	119037	219969	20	82901	2.000	2.000	SR
2664	STOCK	119037	221964	20	91801	1.000	1.000	SR
2664	STOCK	119037	223052	20	92801	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

Purchase Order Inquiry
Receiver Detail

Product 1224256 GEN FLUX (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	224256	20	100901	2.000	2.000	SR
2664	STOCK	119037	225235	20	101701	1.000	1.000	SR
2664	STOCK	119037	225236	20	101701	2.000	2.000	SR
2664	STOCK	119037	225681	20	102301	2.000	2.000	SR
2664	STOCK	119037	226505	20	103001	2.000	2.000	SR
2664	STOCK	119037	226507	20	103001	1.000	1.000	SR
2664	STOCK	119037	227294	20	110601	1.000	.000	SR
2664	INSP	119037	228214	20	111401	1.000	.000	IN

F3=Exit F7=Fold F12=Previous

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
3812	STOCK	112916	168507	20	22300	6.000	6.000	SR
3812	STOCK	112980	168865	20	22500	1.000	1.000	SR
3812	STOCK	112980	178931	20	63000	5.000	5.000	SR
3812	STOCK	112980	181332	20	73100	1.000	1.000	SR

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Receiver Detail

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	185003	20	91100	1.000	1.000	SR
2626	STOCK	114204	188599	20	102400	1.000	1.000	SR
296	STOCK	116726	188745	10	102600	2.000	.000	SR
2626	STOCK	114204	195888	20	11701	1.000	1.000	SR
2626	STOCK	114204	196106	20	11801	1.000	1.000	SR
2626	STOCK	114204	199292	20	22001	5.000	1.000	SR
2626	STOCK	114204	204803	20	41001	2.000	2.000	SR
2626	STOCK	114204	207814	20	50701	2.000	2.000	SR
2626	STOCK	114204	213067	20	62501	2.000	2.000	SR
2626	STOCK	114204	214693	20	71101	1.000	1.000	SR
2626	STOCK	114204	215479	20	71701	1.000	1.000	SR
2626	STOCK	114204	218470	20	81401	1.000	1.000	SR
2626	STOCK	114204	219926	20	82801	1.000	1.000	SR
2626	STOCK	114204	220651	20	90501	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon Pails of Conformal Coat My Thinner.

PO0153.05 1 Purchase Order Inquiry 17:37:33 11/15/01
Receiver Detail

Product 1261583 GEN THINNER CONFORMAL (801)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	224007	20	100501	1.000	1.000	SR
2626	STOCK	114204	225240	20	101701	1.000	1.000	SR
2626	STOCK	114204	225266	20	101701	1.000	1.000	SR
2626	STOCK	114204	227110	20	110201	1.000	1.000	SR
2626	INSP	114204	228250	20	111401	1.000	.000	IN

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	95279	105334	20	42197	20.000	20.000	SR
7622	STOCK	100464	107695	10	52997	10.000	10.000	SR
7622	STOCK	100464	108843	10	61797	10.000	10.000	SR
7622	STOCK	101362	109518	10	62797	1.000	1.000	SR
7622	STOCK	101362	109619	10	63097	9.000	9.000	SR
7622	STOCK	101411	113272	20	82097	10.000	10.000	SR
7622	STOCK	103201	118169	10	102297	5.000	5.000	SR
7622	STOCK	103963	119424	10	111997	5.000	5.000	SR
7622	STOCK	104573	121506	10	10598	5.000	5.000	SR
7622	STOCK	104573	121747	10	10798	6.000	6.000	SR
7622	STOCK	105965	126917	10	32698	4.000	4.000	SR
7622	STOCK	105965	128293	10	41598	7.000	7.000	SR
7622	STOCK	97694	130839	10	52898	11.000	11.000	SR
7622	STOCK	107323	134451	10	73198	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:43:34 12/03/01
* HISTORY * Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	107804	137216	10	91598	5.000	5.000	SR
7622	STOCK	108109	138926	10	101498	2.000	2.000	SR
7622	STOCK	108109	139340	10	102298	2.000	2.000	SR
7622	STOCK	108109	139903	10	110398	6.000	6.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:37:55 11/15/01
Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	108817	142581	10	122298	5.000	5.000	SR
7622	STOCK	108817	144344	10	12899	20.000	.000	SR
7622	STOCK	108817	144461	20	12999	4.000	4.000	SR
7622	STOCK	109510	145913	10	30199	1.000	1.000	SR
7622	STOCK	109510	146801	10	31299	5.000	5.000	SR
7622	STOCK	109510	147363	10	32399	1.000	1.000	SR
7622	STOCK	109510	148275	10	40699	2.000	2.000	SR
7622	STOCK	109510	148762	10	41499	1.000	1.000	SR
7622	STOCK	109510	149482	10	42799	2.000	2.000	SR
7622	STOCK	109510	150522	10	51199	1.000	1.000	SR
7622	STOCK	109510	151274	10	52699	2.000	2.000	SR
7622	STOCK	109510	151933	10	60899	2.000	2.000	SR
7622	STOCK	109510	152279	10	61599	1.000	1.000	SR
7622	STOCK	109510	153091	10	63099	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of flux thinner

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	154388	10	72299	2.000	2.000	SR
7622	STOCK	109510	154815	10	72799	1.000	1.000	SR
7622	STOCK	109510	155335	10	80499	1.000	1.000	SR
7622	STOCK	109510	156453	10	81899	2.000	2.000	SR
7622	STOCK	109510	157523	10	90199	2.000	2.000	SR
7622	STOCK	109510	158405	10	91499	2.000	2.000	SR
7622	STOCK	109510	158916	10	92299	1.000	1.000	SR
7622	STOCK	109510	160236	10	101299	2.000	2.000	SR
7622	STOCK	109510	160404	10	101499	1.000	1.000	SR
7622	STOCK	109510	160633	10	101999	1.000	1.000	SR
7622	STOCK	109510	161952	10	111099	1.000	1.000	SR
7622	STOCK	109510	162494	10	111899	2.000	2.000	SR
7622	STOCK	109510	162838	10	112399	2.000	2.000	SR
7622	STOCK	109510	164070	10	121599	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	164508	10	122299	1.000	1.000	SR
7622	STOCK	109510	165674	10	11100	2.000	2.000	SR
7622	STOCK	109510	166122	10	11800	1.000	1.000	SR
7622	STOCK	109510	167626	10	20900	2.000	2.000	SR
7622	STOCK	109510	168016	10	21500	1.000	1.000	SR
7622	STOCK	109510	169055	10	22900	1.000	1.000	SR
7622	STOCK	109510	170163	10	31400	2.000	2.000	SR
7622	STOCK	109510	170669	10	32100	1.000	1.000	SR
7622	STOCK	109510	172447	10	41200	2.000	2.000	SR
7622	STOCK	109510	173783	10	42600	1.000	1.000	SR
7622	STOCK	109510	175324	10	51100	2.000	2.000	SR
7622	STOCK	109510	176728	10	52500	2.000	2.000	SR
7622	STOCK	109510	177584	10	61400	3.000	3.000	SR
7622	STOCK	109510	179050	10	63000	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7622	STOCK	109510	180972	10	72600	2.000	2.000	SR
7622	STOCK	109510	182745	10	81600	4.000	4.000	SR
7622	STOCK	109510	183219	10	82200	1.000	1.000	SR
7622	STOCK	109510	185051	10	91200	4.000	3.000	SR
7622	STOCK	109510	186345	10	92700	1.000	1.000	SR
7622	STOCK	109510	187668	10	101000	2.000	2.000	SR
7622	STOCK	109510	188244	10	101700	1.000	1.000	SR
7622	STOCK	109510	188879	10	103100	3.000	3.000	SR
7622	STOCK	109510	190990	10	112200	2.000	2.000	SR
7622	STOCK	109510	191328	10	112800	1.000	1.000	SR
7622	STOCK	109510	193615	10	122700	2.000	2.000	SR
7622	STOCK	109510	195908	10	11701	2.000	2.000	SR
7622	STOCK	109510	196612	10	12301	1.000	1.000	SR
7622	STOCK	109510	198727	10	21401	10.000	10.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	118939	204501	10	40901	2.000	2.000	SR
2664	STOCK	118939	205307	10	41601	2.000	2.000	SR
2664	STOCK	119037	206828	10	42701	1.000	1.000	SR
2664	STOCK	119037	208295	10	51001	2.000	2.000	SR
2664	STOCK	119037	208522	10	51401	2.000	2.000	SR
2664	STOCK	119037	210187	10	52501	1.000	1.000	SR
2664	STOCK	119037	210617	10	60101	1.000	1.000	SR
2664	STOCK	119037	210622	10	60101	2.000	2.000	SR
2664	STOCK	119037	210939	10	60501	2.000	2.000	SR
2664	STOCK	119037	212315	10	61801	2.000	2.000	SR
2664	STOCK	119037	213901	10	70301	2.000	2.000	SR
2664	STOCK	119037	214014	10	70501	3.000	3.000	SR
2664	STOCK	119037	215409	10	71701	2.000	2.000	SR
2664	STOCK	119037	216321	10	72501	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1224267 GEN THINNER (NO CLEAN)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2664	STOCK	119037	216974	10	73101	2.000	2.000	SR
2664	STOCK	119037	217719	10	80701	2.000	2.000	SR
2664	STOCK	119037	219334	10	82201	2.000	2.000	SR
2664	STOCK	119037	219430	10	82301	2.000	2.000	SR
2664	STOCK	119037	219968	10	82901	2.000	2.000	SR
2664	STOCK	119037	222740	10	92601	2.000	2.000	SR
2664	STOCK	119037	222741	10	92601	1.000	1.000	SR
2664	STOCK	119037	223528	10	100301	2.000	2.000	SR
2664	STOCK	119037	224257	10	100901	1.000	1.000	SR
2664	STOCK	119037	225237	10	101701	2.000	2.000	SR
2664	STOCK	119037	226506	10	103001	2.000	.000	SR
2664	STOCK	119037	227293	10	110601	1.000	.000	SR

F3=Exit F7=Fold F12=Previous

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6626	STOCK	20248	6100	10	70692	4.000	.000	SR
6626	STOCK	20248	7172	10	80492	4.000	.000	SR
6626	STOCK	20248	8439	10	90192	4.000	.000	SR
6626	STOCK	20248	9735	10	100192	4.000	.000	SR
6626	STOCK	69394	14152	10	20593	20.000	.000	SR
6626	STOCK	69394	16112	20	31893	20.000	.000	SR
6626	STOCK	69394	16782	30	40193	20.000	.000	SR
6626	STOCK	69394	19246	40	52793	20.000	.000	SR
6626	STOCK	69394	20480	50	62993	20.000	.000	SR
163	STOCK	72586	22606	10	90193	20.000	.000	SR
163	STOCK	72590	23206	10	92293	20.000	.000	SR
163	STOCK	72590	24216	20	102293	20.000	20.000	SR
163	STOCK	72590	25129	30	111693	20.000	.000	SR
163	STOCK	72590	26074	40	122093	20.000	20.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	72590	28445	50	21794	20.000	.000	SR
163	STOCK	72590	30882	60	41994	20.000	20.000	SR
163	STOCK	72590	33104	70	60194	20.000	.000	SR
163	STOCK	72590	33881	999	62094	20.000	.000	SR
163	STOCK	72590	35260	999	71894	4.000	.000	SR
163	STOCK	72590	36897	999	81594	20.000	.000	SR
163	STOCK	72590	39425	999	92794	4.000	.000	SR
163	STOCK	72590	39448	999	92894	16.000	.000	SR
163	STOCK	72590	39531	999	92994	10.000	.000	SR
163	STOCK	72590	40732	999	102094	20.000	.000	SR
163	STOCK	72590	42698	999	112194	20.000	.000	SR
163	STOCK	72590	49563	140	30895	20.000	20.000	SR
163	STOCK	72590	50884	140	32295	15.000	15.000	SR
163	STOCK	72590	53247	140	41995	20.000	.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	72590	55844	80	52495	30.000	.000	SR
163	STOCK	72590	57967	80	62695	20.000	.000	SR
163	STOCK	72590	59974	80	71995	20.000	.000	SR
163	STOCK	72590	61445	999	80495	20.000	20.000	SR
163	STOCK	72590	62537	150	81895	20.000	20.000	SR
163	STOCK	72590	64115	150	90795	25.000	25.000	SR
163	STOCK	90049	65593	10	92695	20.000	.000	SR
163	STOCK	90101	67054	10	101895	20.000	20.000	SR
163	STOCK	91613	69186	10	112095	20.000	20.000	SR
163	STOCK	91811	70823	10	121895	10.000	10.000	SR
163	STOCK	91831	71988	10	10596	15.000	15.000	SR
163	STOCK	91855	72756	10	11696	20.000	20.000	SR
163	REJ	92445	73460	10	12496	5.000	1.000	RJ
163	STOCK	92445	73460	10	12496	5.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:43:54 12/03/01
* HISTORY * Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	SNDOUT	92449	73459	10	12496	5.000	1.000	OT
163	STOCK	92451	73928	10	13096	10.000	10.000	SR
163	STOCK	91831	74305	10	20596	25.000	25.000	SR
163	STOCK	93662	76322	10	31296	2.000	2.000	SR
163	STOCK	93662	76324	10	31296	8.000	8.000	SR
163	STOCK	93632	76441	10	31396	5.000	5.000	SR
163	STOCK	93632	76451	10	31496	20.000	20.000	SR
163	STOCK	93715	76931	10	32196	15.000	15.000	SR
163	STOCK	93765	79238	10	42796	15.000	15.000	SR
163	STOCK	94671	80299	10	51496	20.000	20.000	SR
163	STOCK	94722	82171	10	61196	25.000	25.000	SR
163	STOCK	95019	84752	10	72496	10.000	10.000	SR
163	STOCK	95094	86489	10	81696	15.000	15.000	SR
163	STOCK	95131	89498	20	92496	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	95139	89983	10	100196	4.000	4.000	SR
163	STOCK	95224	91858	10	102396	2.000	2.000	SR
163	STOCK	96747	94098	10	112196	5.000	5.000	SR
163	STOCK	96764	94927	10	120496	5.000	.000	SR
163	STOCK	98842	98566	10	12197	3.000	3.000	SR
163	STOCK	97630	100395	10	21497	2.000	.000	SR
163	STOCK	101359	108884	10	61897	4.000	.000	SR
163	STOCK	101391	112117	10	73197	5.000	.000	SR
163	STOCK	102099	116195	10	92997	5.000	.000	SR
163	STOCK	109026	143822	10	11999	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:25:08 12/03/01
Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	103940	119151	10	111297	5.000	.000	SR
163	STOCK	103940	122576	10	12098	5.000	.000	SR
163	STOCK	105207	123985	10	21298	4.000	.000	SR
163	STOCK	105207	124880	10	22698	6.000	.000	SR
163	STOCK	105207	131878	20	61898	4.000	.000	SR
163	STOCK	105207	133443	20	71698	6.000	.000	SR
163	STOCK	105207	137720	20	92598	4.000	4.000	SR
163	STOCK	105207	138226	20	100298	6.000	.000	SR
163	STOCK	109154	144658	10	20399	2.000	2.000	SR
163	STOCK	109154	145582	10	22399	3.000	3.000	SR
163	STOCK	109154	146462	10	30899	2.000	2.000	SR
163	STOCK	109154	148274	10	40699	2.000	2.000	SR
163	STOCK	109154	149011	10	42099	2.000	2.000	SR
163	STOCK	109154	149963	10	50499	3.000	3.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:38:21 11/15/01
Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	109154	151797	10	60499	2.000	2.000	SR
163	STOCK	109154	153097	10	70199	2.000	2.000	SR
163	STOCK	109154	153944	10	71499	2.000	2.000	SR
163	STOCK	109154	154389	10	72299	2.000	2.000	SR
163	STOCK	109154	155661	10	80999	4.000	4.000	SR
163	STOCK	109154	158243	10	91099	3.000	3.000	SR
163	STOCK	109154	159633	10	100499	3.000	3.000	SR
163	STOCK	109154	161519	10	110399	3.000	3.000	SR
163	STOCK	109154	164079	10	121599	3.000	3.000	SR
163	STOCK	109154	167316	10	20400	3.000	3.000	SR
163	STOCK	109154	169168	10	30100	3.000	3.000	SR
163	STOCK	109154	171118	10	32700	1.000	1.000	SR
163	STOCK	109154	171781	10	40400	4.000	4.000	SR
163	STOCK	109154	174725	10	50400	4.000	4.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Conformal Coating thinner.

PO0153.05 1 Purchase Order Inquiry 17:38:21 11/15/01
Receiver Detail

Product 1090268 GEN THINNER CONFORMAL (R4K183)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
163	STOCK	109154	177244	10	60500	2.000	2.000	SR
163	STOCK	109154	179230	10	70500	2.000	2.000	SR
163	STOCK	109154	181848	10	80400	3.000	3.000	SR
163	STOCK	109154	185503	10	91500	3.000	3.000	SR
163	STOCK	109154	187657	10	101000	3.000	3.000	SR
163	STOCK	109154	192270	10	120600	3.000	3.000	SR
163	STOCK	109154	197600	10	20201	3.000	3.000	SR
163	STOCK	109154	201510	10	31301	3.000	3.000	SR
163	STOCK	109154	204409	10	40601	3.000	3.000	SR
163	STOCK	109154	207567	10	50401	3.000	3.000	SR
163	STOCK	109154	212383	10	61801	3.000	3.000	SR
163	STOCK	109154	220842	10	90601	4.000	4.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:44:23 12/03/01
* HISTORY * Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
3812	STOCK	112916	168507	10	22300	6.000	6.000	SR
3812	STOCK	112980	168865	10	22500	1.000	1.000	SR
3812	STOCK	112980	178930	10	63000	1.000	1.000	SR
3812	STOCK	112980	182756	10	81600	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:38:37 11/15/01
Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	185983	10	92200	1.000	1.000	SR
2626	STOCK	114204	187175	10	100400	1.000	1.000	SR
2626	STOCK	114204	188783	10	102700	1.000	1.000	SR
2626	STOCK	114204	190974	10	112200	1.000	1.000	SR
2626	STOCK	114204	195889	10	11701	1.000	1.000	SR
2626	STOCK	114204	199291	10	22001	5.000	1.000	SR
2626	STOCK	114204	202919	10	32301	1.000	1.000	SR
2626	STOCK	114204	204802	10	41001	2.000	2.000	SR
2626	STOCK	114204	207813	10	50701	1.000	1.000	SR
2626	STOCK	114204	211152	10	60601	1.000	1.000	SR
2626	STOCK	114204	211153	10	60601	1.000	1.000	SR
2626	STOCK	114204	214692	10	71101	1.000	1.000	SR
2626	STOCK	114204	217173	10	80101	1.000	1.000	SR
2626	STOCK	114204	218469	10	81401	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Conformal Coating.

PO0153.05 1 Purchase Order Inquiry 17:38:37 11/15/01
Receiver Detail

Product 1261572 GEN CONFORMAL COAT (1B31LSE)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	114204	220650	10	90501	1.000	1.000	SR
2626	STOCK	114204	223821	10	100401	1.000	.000	SR
2626	STOCK	114204	225265	10	101701	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	60025	406	10	102591	1.000	.000	SR
2662	STOCK	60025	624	10	111591	1.000	.000	SR
2662	STOCK	60025	1443	10	11392	1.000	.000	SR
2662	STOCK	60554	1896	10	20492	1.000	.000	SR
2662	STOCK	60025	2062	10	21192	1.000	.000	SR
2662	STOCK	60554	2622	10	30692	1.000	.000	SR
2662	STOCK	60025	2718	10	31092	1.000	.000	SR
2662	STOCK	60554	2687	10	31092	1.000	.000	SR
2662	MRA	60554	2951	20	32092	1.000	.000	MA
2662	STOCK	60554	3420	30	40792	1.000	.000	SR
2662	STOCK	60554	3443	40	40792	1.000	.000	SR
2662	STOCK	64678	4002	10	42992	2.000	.000	SR
2662	STOCK	60554	4234	50	50792	1.000	.000	SR
2662	STOCK	60025	4297	10	51292	1.000	.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	60554	5041	60	60592	1.000	.000	SR
2662	STOCK	64678	5788	20	62692	1.000	.000	SR
2662	STOCK	60554	6173	70	70892	1.000	.000	SR
2662	STOCK	64678	6866	30	72992	1.000	.000	SR
2662	STOCK	60554	7365	80	80792	1.000	.000	SR
2662	REJ	60554	8586	90	90492	1.000	.000	RJ
2662	MRA	60554	9057	110	91692	1.000	.000	MA
2662	STOCK	60554	9817	100	100292	1.000	.000	SR
2662	STOCK	60554	10016	10	100792	1.000	.000	SR
2662	STOCK	67061	10472	10	102092	1.000	.000	SR
2662	STOCK	60554	11167	10	110992	2.000	.000	SR
2662	STOCK	67583	11360	10	111392	160.000	.000	SR
2662	STOCK	67591	11359	10	111392	80.000	.000	SR
2662	STOCK	67591	11727	20	112592	40.000	.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	67591	11728	30	112592	40.000	.000	SR
2662	STOCK	67591	11862	40	120192	40.000	.000	SR
2662	STOCK	67591	12388	50	121592	40.000	.000	SR
2662	STOCK	67591	12741	60	122992	40.000	.000	SR
2662	STOCK	67591	13162	70	11393	40.000	.000	SR
2662	STOCK	67591	13773	80	12893	40.000	.000	SR
2662	STOCK	67591	14103	90	20593	40.000	.000	SR
2662	STOCK	67591	14104	100	20593	40.000	.000	SR
2662	STOCK	67591	14641	110	21893	40.000	.000	SR
2662	STOCK	67591	15377	120	30493	40.000	.000	SR
2662	STOCK	69634	15892	10	31293	80.000	.000	SR
2662	STOCK	69634	16074	10	31793	80.000	80.000	SR
2662	STOCK	69634	16416	10	32593	640.000	640.000	SR
2662	STOCK	69634	16417	20	32593	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	69634	16634	30	33193	400.000	.000	SR
2662	STOCK	67591	16783	10	40193	80.000	80.000	SR
2662	STOCK	67591	17413	10	41593	80.000	.000	SR
2662	STOCK	69634	17762	20	42793	320.000	.000	SR
2662	STOCK	69634	17763	40	42793	80.000	.000	SR
2662	STOCK	69634	19413	40	60293	320.000	320.000	SR
2662	STOCK	69634	19414	50	60293	80.000	80.000	SR
2662	STOCK	69634	20559	60	63093	400.000	400.000	SR
2662	STOCK	69634	21383	50	72793	320.000	320.000	SR
2662	STOCK	69634	21384	70	72793	80.000	80.000	SR
2662	STOCK	69634	22636	70	90293	320.000	320.000	SR
2662	STOCK	69634	22637	80	90293	80.000	80.000	SR
2662	STOCK	69634	23516	80	100193	320.000	320.000	SR
2662	STOCK	69634	23517	90	100193	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	83394	45921	10	11795	6.000	6.000	SR
2662	STOCK	84273	48607	20	22495	8.000	8.000	SR
2662	STOCK	90048	63350	10	82995	2.000	2.000	SR
2662	INSP	90048	63397	10	83095	2.000	.000	IN
2662	STOCK	90098	63901	20	90695	6.000	6.000	SR
2662	STOCK	90098	72172	20	10996	6.000	4.000	SR
2662	STOCK	90098	72173	30	10996	2.000	.000	SR
2662	STOCK	90098	77843	30	40496	2.000	2.000	SR
2662	STOCK	93716	77844	10	40496	2.000	2.000	SR
2662	STOCK	94761	83838	10	71096	2.000	2.000	SR
2662	STOCK	95014	85618	10	80596	2.000	2.000	SR
2662	STOCK	95260	90519	10	100796	2.000	2.000	SR
2662	STOCK	95150	90766	10	100996	2.000	2.000	SR
2662	STOCK	95243	93005	10	111196	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

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* HISTORY * Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	96679	94320	10	112596	2.000	2.000	SR
2662	STOCK	96770	95904	10	121696	4.000	2.000	SR
2662	STOCK	97682	101905	10	30697	4.000	4.000	SR
2662	STOCK	103204	118584	10	103097	10.000	10.000	SR
2662	STOCK	109173	144872	10	20999	4.000	4.000	SR

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2626	STOCK	109160	145508	10	22299	4.000	2.000	SR
2626	STOCK	109160	153157	10	70199	1.000	1.000	SR
2626	STOCK	109160	154396	10	72299	1.000	1.000	SR
2626	STOCK	109160	160294	10	101399	1.000	1.000	SR
2626	STOCK	109160	163872	10	121099	1.000	1.000	SR
2626	STOCK	109160	165191	10	10400	1.000	1.000	SR
2626	STOCK	109160	166235	10	12000	1.000	1.000	SR
2626	STOCK	109160	169739	10	30800	1.000	1.000	SR
2626	STOCK	109160	175607	10	51200	1.000	1.000	SR
4280	STOCK	114175	182086	10	80900	2.000	2.000	SR
4280	STOCK	114175	183726	10	82500	2.000	2.000	SR
2626	STOCK	109160	189795	10	110700	1.000	1.000	SR
4280	STOCK	114175	195106	10	11001	1.000	1.000	SR
4280	STOCK	114175	196096	10	11801	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

to LB pails of potting compound kits. Parts A & B.

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Receiver Detail

Product 1041411 GEN POTTING COMPOUND (1265)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
4280	STOCK	114175	201710	10	31401	1.000	1.000	SR
4280	STOCK	114175	202704	10	32201	1.000	1.000	SR
4280	STOCK	114175	207076	10	50101	1.000	1.000	SR
4280	STOCK	114175	211092	10	60601	1.000	1.000	SR
4280	STOCK	114175	221524	10	91201	1.000	1.000	SR
4280	STOCK	114175	222683	10	92501	2.000	2.000	SR
4280	STOCK	114175	223527	10	100301	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
7	STOCK	1	134	10	91791	100.000	.000	SR
7	STOCK	1	135	10	91791	1.000	.000	SR
2662	STOCK	20284	5391	10	61892	40.000	.000	SR
2662	STOCK	20284	5977	10	70192	40.000	.000	SR
2662	STOCK	20284	6331	10	71492	40.000	.000	SR
2662	STOCK	20284	6941	10	73092	40.000	.000	SR
2662	STOCK	20284	7369	10	81092	20.000	.000	SR
2662	STOCK	61635	9338	10	92492	40.000	.000	SR
2662	MRA	61635	10077	20	100892	40.000	.000	MA
2662	STOCK	61635	12476	30	121892	30.000	.000	SR
2662	STOCK	61635	12972	40	10693	30.000	.000	SR
2662	STOCK	61635	13225	50	11493	30.000	.000	SR
2662	STOCK	61635	14091	70	20493	30.000	.000	SR
2662	STOCK	61635	14652	60	21893	30.000	.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	61635	15691	80	31093	30.000	.000	SR
2662	STOCK	61635	16426	30	32593	10.000	.000	SR
2662	STOCK	61635	16427	40	32593	10.000	.000	SR
2662	STOCK	61635	16428	50	32593	10.000	.000	SR
2662	STOCK	61635	18614	230	51193	1200.000	.000	SR
2662	STOCK	61635	18947	230	52093	600.000	.000	SR
2662	STOCK	61635	19304	240	52893	600.000	.000	SR
2662	STOCK	61635	19364	250	60193	1200.000	.000	SR
2662	STOCK	61635	19972	250	61693	600.000	.000	SR
2662	STOCK	61635	19973	260	61693	1200.000	.000	SR
2662	STOCK	61635	22694	270	90393	1800.000	1800.000	SR
2662	STOCK	61635	23661	290	100693	1800.000	1800.000	SR
2662	STOCK	72630	24787	10	110893	1800.000	1800.000	SR
2662	STOCK	72630	25779	20	120893	1800.000	1800.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:45:17 12/03/01
* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	72630	26550	30	10594	1800.000	1800.000	SR
2662	STOCK	75522	29368	10	31194	1800.000	1800.000	SR
2662	STOCK	76025	37110	20	81894	2100.000	2100.000	SR
2662	STOCK	76025	41327	20	103194	2275.000	2100.000	SR
2662	STOCK	76025	46044	20	11995	1300.000	1200.000	SR
2662	STOCK	76025	49160	10	30395	1800.000	1800.000	SR
2662	STOCK	76025	52262	20	40695	600.000	600.000	SR
2662	STOCK	76025	52561	20	41095	2400.000	2400.000	SR
2662	STOCK	76025	59752	20	71795	2850.000	2850.000	SR
2662	STOCK	76025	64930	20	91895	1200.000	1200.000	SR
2662	STOCK	76025	68746	20	111395	57000.000	.000	SR
2662	STOCK	76025	68839	20	111495	1200.000	1200.000	SR
2662	STOCK	76025	74537	10	20896	120.000	120.000	SR
2662	STOCK	76025	74689	20	21296	180.000	180.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:45:17 12/03/01
* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	75058	20	21696	300.000	300.000	SR
2662	STOCK	76025	75126	20	21996	1200.000	1200.000	SR
2662	STOCK	76025	76231	10	31196	180.000	180.000	SR
2662	STOCK	76025	76232	20	31196	120.000	120.000	SR
2662	STOCK	76025	79030	20	42496	300.000	300.000	SR
2662	STOCK	76025	79351	20	43096	300.000	300.000	SR
2662	STOCK	76025	81131	20	52896	60.000	60.000	SR
2662	STOCK	76025	81157	20	52896	300.000	300.000	SR
2662	STOCK	76025	81216	20	52996	60.000	60.000	SR
2662	STOCK	76025	81217	20	52996	300.000	300.000	SR
2662	STOCK	76025	82212	20	61296	300.000	300.000	SR
2662	STOCK	76025	83175	20	62696	325.000	300.000	SR
2662	STOCK	76025	84123	20	71596	300.000	300.000	SR
2662	STOCK	76025	86239	20	81396	300.000	300.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	95124	90296	10	100396	600.000	600.000	SR
2662	STOCK	95124	93098	10	111296	600.000	600.000	SR
2662	STOCK	95124	95054	10	120696	600.000	600.000	SR
2662	STOCK	95124	99001	10	12897	600.000	600.000	SR
2662	STOCK	95124	99075	20	12897	1.000	1.000	SR
2662	STOCK	98869	99930	10	21097	6.000	6.000	SR
2662	STOCK	98869	101546	10	22797	7.000	7.000	SR
2662	STOCK	98869	102061	10	31097	7.000	7.000	SR
2662	STOCK	97706	104386	10	40997	10.000	10.000	SR
2662	STOCK	97706	105935	10	42897	5.000	5.000	SR
2662	STOCK	100469	107944	10	60497	1.000	1.000	SR
2662	STOCK	97706	108232	10	60997	5.000	5.000	SR
2662	STOCK	100469	108231	10	60997	9.000	9.000	SR
2662	STOCK	103209	118682	10	110397	20.000	20.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:45:17 12/03/01
* HISTORY * Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	103761	119329	10	111897	20.000	20.000	SR
2662	STOCK	103965	119662	10	112697	20.000	20.000	SR
2662	STOCK	103965	119882	10	120397	30.000	30.000	SR
2662	STOCK	103965	120562	10	121797	12.000	12.000	SR
2662	STOCK	103965	120713	10	121897	8.000	8.000	SR
2662	STOCK	103965	120899	10	122297	30.000	30.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:42:29 12/03/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	101347	109119	10	62097	10.000	10.000	SR
2662	STOCK	101347	112875	10	81497	10.000	10.000	SR
2662	STOCK	101347	115231	10	91897	5.000	5.000	SR
2662	STOCK	101347	116644	10	100397	5.000	5.000	SR
2662	STOCK	101347	116835	10	100697	20.000	20.000	SR
2662	M N	104576	122034	10	11298	30.000	30.000	MN
2662	STOCK	104576	124030	10	21298	40.000	40.000	SR
2662	STOCK	104576	124180	10	21698	100.000	100.000	SR
2662	STOCK	104576	128413	11	41698	32.000	32.000	SR
2662	STOCK	104576	129455	11	50198	32.000	32.000	SR
2662	STOCK	104576	130772	11	52798	32.000	32.000	SR
2662	STOCK	104576	131790	11	61798	12.000	12.000	SR
2662	STOCK	104576	131877	11	61898	36.000	36.000	SR
2662	STOCK	104576	132719	11	70798	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:42:29 12/03/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	M N	104576	133134	11	71498	16.000	16.000	MN
2662	STOCK	104576	133730	11	72298	32.000	32.000	SR
2662	STOCK	104576	135746	11	81898	4.000	4.000	SR
2662	STOCK	104576	135755	11	81998	32.000	32.000	SR
2662	STOCK	104576	136649	11	90198	32.000	32.000	SR
2662	STOCK	104576	137506	11	92398	32.000	.000	SR
2662	STOCK	104576	138449	11	100698	32.000	32.000	SR
2662	STOCK	104576	139214	11	102098	32.000	32.000	SR
2662	STOCK	104576	139701	11	103098	32.000	32.000	SR
2662	STOCK	104576	140845	11	111998	32.000	32.000	SR
2662	STOCK	104576	141896	11	120998	32.000	32.000	SR
2662	STOCK	104576	142889	11	123098	32.000	32.000	SR
2662	STOCK	104576	144210	11	12699	32.000	32.000	SR
2662	STOCK	104576	144609	11	20399	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:07 11/15/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	145717	11	22599	32.000	32.000	SR
2662	STOCK	104576	146572	11	31099	32.000	32.000	SR
2662	STOCK	104576	148048	11	40199	32.000	32.000	SR
2662	STOCK	104576	149042	11	42099	32.000	32.000	SR
2662	STOCK	104576	150147	11	50599	32.000	32.000	SR
2662	STOCK	104576	150949	11	52099	32.000	32.000	SR
2662	STOCK	104576	152015	11	60999	32.000	32.000	SR
2662	STOCK	104576	153333	11	70799	32.000	32.000	SR
2662	STOCK	104576	155474	11	80599	32.000	32.000	SR
2662	STOCK	104576	157407	11	83199	10.000	10.000	SR
2662	STOCK	104576	157621	11	90299	22.000	22.000	SR
2662	STOCK	104576	158589	11	91799	32.000	32.000	SR
2662	STOCK	104576	160134	11	101199	32.000	32.000	SR
2662	STOCK	104576	161625	11	110499	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

60 LB pails of potting

PO0153.05 1 Purchase Order Inquiry 17:39:07 11/15/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	163363	11	120299	8.000	8.000	SR
2662	STOCK	104576	163545	11	120699	24.000	24.000	SR
2662	STOCK	104576	164010	11	121499	32.000	32.000	SR
2662	STOCK	104576	165109	11	10300	7.000	7.000	SR
2662	STOCK	104576	165190	11	10400	25.000	25.000	SR
2662	STOCK	104576	166390	11	12100	32.000	32.000	SR
2662	STOCK	104576	168014	11	21500	32.000	32.000	SR
2662	STOCK	104576	169246	11	30200	32.000	32.000	SR
2662	STOCK	104576	170505	11	31700	32.000	32.000	SR
2662	STOCK	104576	172828	11	41400	32.000	32.000	SR
2662	STOCK	104576	174486	11	50200	32.000	32.000	SR
2662	STOCK	104576	176119	11	51800	32.000	32.000	SR
2662	STOCK	104576	177383	11	60700	32.000	32.000	SR
2662	STOCK	104576	178503	11	62600	6.000	6.000	SR +

F3=Exit F7=Fold F12=Previous

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Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	179064	11	63000	31.000	31.000	SR
2662	STOCK	104576	179142	11	70500	58.000	58.000	SR
2662	STOCK	104576	182056	11	80900	16.000	16.000	SR
2662	STOCK	104576	182254	11	81000	16.000	16.000	SR
2662	STOCK	104576	183248	11	82200	32.000	.000	SR
2662	STOCK	104576	184455	11	90500	5.000	5.000	SR
2662	STOCK	104576	184601	11	90600	27.000	27.000	SR
2662	STOCK	104576	185258	11	91300	8.000	8.000	SR
2662	STOCK	104576	185420	11	91500	24.000	24.000	SR
2662	STOCK	104576	186542	11	92800	32.000	32.000	SR
2662	STOCK	104576	188232	11	101700	32.000	32.000	SR
2662	STOCK	104576	188515	11	102300	32.000	32.000	SR
2662	STOCK	104576	190323	11	111400	32.000	32.000	SR
2662	STOCK	104576	191755	11	120200	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:07 11/15/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	192273	11	120600	16.000	16.000	SR
2662	STOCK	104576	194285	11	10301	32.000	32.000	SR
2662	STOCK	104576	196562	11	12301	6.000	6.000	SR
2662	STOCK	104576	196694	11	12401	26.000	26.000	SR
2662	STOCK	104576	197720	11	20601	6.000	6.000	SR
2662	STOCK	104576	197884	11	20701	26.000	26.000	SR
2662	STOCK	104576	199927	11	22601	32.000	32.000	SR
2662	STOCK	104576	202073	11	31601	32.000	32.000	SR
2662	STOCK	104576	204963	11	41101	32.000	32.000	SR
2662	STOCK	104576	206537	11	42501	32.000	32.000	SR
2662	STOCK	104576	207522	11	50401	32.000	32.000	SR
2662	STOCK	104576	210393	11	53001	32.000	32.000	SR
2662	STOCK	104576	212253	11	61801	32.000	32.000	SR
2662	STOCK	104576	213172	11	62601	32.000	32.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:07 11/15/01
Receiver Detail

Product 1000135 GEN POTTING COMPOUND (2850FT)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	215708	11	71901	32.000	32.000	SR
2662	STOCK	104576	217802	11	80701	32.000	32.000	SR
2662	STOCK	104576	219677	10	82401	32.000	32.000	SR
2662	STOCK	104576	221344	10	91101	32.000	32.000	SR
2662	STOCK	104576	222520	10	92401	32.000	32.000	SR
2662	STOCK	104576	224419	10	101001	32.000	32.000	SR
2662	STOCK	104576	226014	10	102501	2.000	2.000	SR
2662	STOCK	104576	226015	11	102501	30.000	30.000	SR
2662	STOCK	104576	227681	11	110801	32.000	32.000	SR

F3=Exit F7=Fold F12=Previous

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	66075	7986	10	82492	10.000	.000	SR
2662	MRA	66618	9339	10	92492	10.000	.000	MA
2662	STOCK	67085	10540	10	102292	10.000	.000	SR
2662	STOCK	69391	14651	10	21893	50.000	.000	SR
2662	STOCK	70747	19774	10	61193	240.000	240.000	SR
2662	STOCK	70747	20558	20	63093	240.000	240.000	SR
2662	STOCK	70747	21385	30	72793	240.000	240.000	SR
2662	STOCK	70747	22334	40	82593	240.000	240.000	SR
2662	STOCK	70747	23499	50	93093	240.000	240.000	SR
2662	STOCK	70747	24687	60	110493	240.000	240.000	SR
2662	STOCK	70747	25616	70	120293	240.000	240.000	SR
2662	STOCK	70747	26423	80	123093	240.000	240.000	SR
2662	STOCK	70747	27460	90	12694	240.000	240.000	SR
2662	STOCK	70747	29248	100	30994	240.000	240.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	82494	41329	20	103194	28.000	.000	SR
2662	STOCK	82494	43006	30	112994	20.000	20.000	SR
2662	STOCK	82494	43252	30	120194	220.000	.000	SR
2662	STOCK	82494	44851	50	122994	20.000	20.000	SR
2662	STOCK	82494	44871	50	123094	220.000	220.000	SR
2662	STOCK	82494	46365	40	12595	240.000	240.000	SR
2662	STOCK	82494	48714	60	22495	240.000	240.000	SR
2662	STOCK	82494	51851	20	40395	240.000	240.000	SR
2662	STOCK	93457	76690	10	31996	300.000	300.000	SR
2662	STOCK	94759	83098	10	62696	120.000	120.000	SR
2662	STOCK	94759	83376	10	70296	300.000	300.000	SR
2662	STOCK	96681	95010	10	120596	20.000	20.000	SR
2662	STOCK	98870	102475	10	31797	4.000	4.000	SR
2662	STOCK	98870	109206	10	62397	5.000	5.000	SR +

F3=Exit F7=Fold F12=Previous

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	98870	118524	10	102997	9.000	9.000	SR
2662	STOCK	98870	118571	10	103097	1.000	1.000	SR
2662	STOCK	98870	126997	10	32798	2.000	2.000	SR
2662	STOCK	98870	128717	10	42098	5.000	5.000	SR
2662	STOCK	98870	129989	20	51398	2.000	2.000	SR
2662	STOCK	98870	130148	20	51498	6.000	6.000	SR
2662	STOCK	98870	130991	20	60198	10.000	10.000	SR
2662	STOCK	107602	136950	10	90898	5.000	5.000	SR
2662	STOCK	107908	138773	10	101298	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:30 11/15/01
Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	114122	172717	10	41300	4.000	4.000	SR
2662	STOCK	114122	177606	10	61400	1.000	1.000	SR
2662	STOCK	114122	178465	10	62300	3.000	3.000	SR
2662	STOCK	114122	179280	10	70600	2.000	.000	SR
2662	STOCK	114122	180421	10	72000	1.000	1.000	SR
4280	STOCK	114175	182087	20	80900	2.000	2.000	SR
4280	STOCK	114175	183725	20	82500	2.000	2.000	SR
4280	STOCK	114175	187123	20	100400	2.000	2.000	SR
4280	STOCK	114175	187973	20	101300	2.000	2.000	SR
4280	STOCK	114175	192972	20	121800	3.000	3.000	SR
4280	STOCK	114175	195105	20	11001	1.000	1.000	SR
4280	STOCK	114175	196095	20	11801	2.000	2.000	SR
4280	STOCK	114175	201084	20	30801	2.000	2.000	SR
4280	STOCK	114175	206149	20	42301	2.000	2.000	SR +

F3=Exit F7=Fold F12=Previous

60 LB pails of potting

PO0153.05 1 Purchase Order Inquiry 17:39:30 11/15/01
Receiver Detail

Product 1016424 GEN POTTING COMPOUND (2651MM)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
4280	STOCK	114175	208941	20	51601	1.000	1.000	SR
4280	STOCK	114175	211703	20	61201	1.000	1.000	SR
4280	STOCK	114175	215463	20	71701	1.000	1.000	SR
4280	STOCK	114175	217901	20	80801	1.000	1.000	SR
4280	STOCK	114175	219009	20	82001	1.000	1.000	SR
4280	STOCK	114175	220096	20	83001	1.000	1.000	SR
4280	STOCK	114175	221305	20	91101	1.000	1.000	SR
4280	STOCK	114175	222737	20	92601	1.000	1.000	SR
4280	STOCK	114175	225379	20	101801	1.000	1.000	SR
4280	STOCK	114175	226369	20	102901	1.000	1.000	SR
4280	STOCK	114175	226699	20	103101	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	20284	5391	20	61892	12.000	.000	SR
2662	STOCK	61635	9338	130	92492	24.000	.000	SR
2662	MRA	61635	10077	130	100892	16.000	.000	MA
2662	MRA	61635	10078	140	100892	8.000	.000	MA
2662	STOCK	61635	12476	140	121892	17.000	.000	SR
2662	STOCK	61635	12972	150	10693	17.000	.000	SR
2662	STOCK	61635	13225	160	11493	17.000	.000	SR
2662	STOCK	61635	14091	180	20493	17.000	.000	SR
2662	STOCK	61635	14652	170	21893	17.000	.000	SR
2662	STOCK	61635	15691	190	31093	17.000	.000	SR
2662	STOCK	61635	16426	140	32593	15.000	.000	SR
2662	STOCK	61635	16427	200	32593	2.000	.000	SR
2662	STOCK	61635	18081	221	43093	17.000	17.000	SR
2662	STOCK	61635	18614	221	51193	17.000	.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:46:13 12/03/01
* HISTORY * Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	61635	18947	221	52093	102.000	.000	SR
2662	STOCK	61635	18948	310	52093	34.000	.000	SR
2662	STOCK	61635	19306	320	52893	34.000	.000	SR
2662	STOCK	61635	19364	310	60193	102.000	.000	SR
2662	STOCK	61635	19972	320	61693	102.000	.000	SR
2662	STOCK	61635	19973	330	61693	34.000	.000	SR
2662	STOCK	61635	22694	350	90393	136.000	136.000	SR
2662	STOCK	72577	22952	10	91393	80.000	80.000	SR
2662	STOCK	61635	23661	370	100693	136.000	136.000	SR
2662	STOCK	72630	24787	130	110893	136.000	136.000	SR
2662	STOCK	72630	25779	140	120893	136.000	136.000	SR
2662	STOCK	72630	26550	150	10594	136.000	136.000	SR
2662	STOCK	75522	29368	20	31194	200.000	200.000	SR
2662	REJ	75522	29368	20	31194	480.000	480.000	RJ +

F3=Exit F7=Fold F12=Previous

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	36800	30	81294	7.000	7.000	SR
2662	STOCK	76025	37111	30	81894	120.000	120.000	SR
2662	STOCK	80200	40199	20	101194	11.000	11.000	SR
2662	STOCK	80200	40591	20	101794	2.000	2.000	SR
2662	STOCK	76025	41327	40	103194	142.000	120.000	SR
2662	STOCK	76025	46044	40	11995	80.000	80.000	SR
2662	STOCK	76025	46759	40	13195	168.000	168.000	SR
2662	STOCK	76025	49161	40	30395	160.000	160.000	SR
2662	QUEST.	85279	51642	10	33095	60.000	20.000	Q
2662	STOCK	76025	52529	40	41095	400.000	400.000	SR
2662	STOCK	85279	52812	10	41295	20.000	.000	SR
2662	STOCK	76025	59752	40	71795	20.000	20.000	SR
2662	STOCK	76025	64930	40	91895	80.000	80.000	SR
2662	STOCK	76025	68746	40	111395	80.000	80.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:46:13 12/03/01
* HISTORY * Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	76025	75609	30	22896	20.000	20.000	SR
2662	STOCK	76025	75610	40	22896	140.000	140.000	SR
2662	STOCK	76025	76525	30	31596	29.000	29.000	SR
2662	STOCK	76025	76526	40	31596	91.000	91.000	SR
2662	STOCK	76025	82402	40	61496	304.000	304.000	SR
2662	STOCK	76025	83176	40	62696	350.000	304.000	SR
2662	STOCK	98040	104087	10	40497	10.000	10.000	SR
2662	STOCK	98040	104180	10	40797	70.000	.000	SR
2662	STOCK	98040	108555	10	61297	80.000	80.000	SR
2662	STOCK	98040	109205	10	62397	30.000	30.000	SR
2662	STOCK	101401	112813	10	81397	25.000	25.000	SR
2662	STOCK	101401	119777	20	120197	2.000	2.000	SR
2662	STOCK	101401	119982	20	120597	15.000	15.000	SR
2662	STOCK	101401	120412	20	121297	15.000	15.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:53:30 12/03/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	122034	20	11298	15.000	15.000	SR
2662	STOCK	104576	122041	20	11398	7.000	7.000	SR
2662	STOCK	104576	124030	20	21298	21.000	21.000	SR
2662	STOCK	104576	124180	20	21698	60.000	60.000	SR
2662	STOCK	104576	128496	21	41698	32.000	32.000	SR
2662	STOCK	104576	130772	21	52798	7.000	7.000	SR
2662	STOCK	104576	130775	21	52898	21.000	21.000	SR
2662	STOCK	104576	131790	21	61798	24.000	24.000	SR
2662	STOCK	104576	132719	21	70798	16.000	16.000	SR
2662	STOCK	104576	133134	21	71498	8.000	8.000	SR
2662	STOCK	104576	133730	21	72298	32.000	32.000	SR
2662	STOCK	104576	135755	21	81998	16.000	16.000	SR
2662	STOCK	104576	136659	21	90198	16.000	16.000	SR
2662	STOCK	104576	137493	21	92298	8.000	8.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 16:53:30 12/03/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	137506	21	92398	8.000	8.000	SR
2662	STOCK	104576	138449	21	100698	16.000	16.000	SR
2662	STOCK	104576	138866	21	101498	16.000	.000	SR
2662	STOCK	104576	139214	21	102098	16.000	16.000	SR
2662	STOCK	104576	139701	21	103098	16.000	16.000	SR
2662	STOCK	104576	140845	21	111998	16.000	.000	SR
2662	STOCK	104576	141896	21	120998	32.000	32.000	SR
2662	STOCK	104576	142889	21	123098	16.000	16.000	SR
2662	STOCK	104576	144210	21	12699	16.000	16.000	SR
2662	STOCK	104576	144609	21	20399	16.000	16.000	SR
2662	STOCK	104576	145717	21	22599	16.000	16.000	SR
2662	STOCK	104576	146572	21	31099	16.000	16.000	SR
2662	STOCK	104576	148048	21	40199	16.000	16.000	SR
2662	STOCK	104576	149042	21	42099	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	150147	21	50599	16.000	16.000	SR
2662	STOCK	104576	150949	21	52099	16.000	16.000	SR
2662	STOCK	104576	152015	21	60999	16.000	16.000	SR
2662	STOCK	104576	153333	21	70799	16.000	16.000	SR
2662	STOCK	104576	155474	21	80599	16.000	16.000	SR
2662	STOCK	104576	157621	21	90299	16.000	16.000	SR
2662	STOCK	104576	158589	21	91799	16.000	16.000	SR
2662	STOCK	104576	160134	21	101199	16.000	16.000	SR
2662	STOCK	104576	161625	21	110499	16.000	16.000	SR
2662	STOCK	104576	163363	21	120299	4.000	4.000	SR
2662	STOCK	104576	163545	21	120699	12.000	12.000	SR
2662	STOCK	104576	164010	21	121499	16.000	16.000	SR
2662	STOCK	104576	165109	21	10300	4.000	4.000	SR
2662	STOCK	104576	165190	21	10400	12.000	12.000	SR +

F3=Exit F7=Fold F12=Previous

9 LB containers of
Poly hardener.

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	166390	21	12100	16.000	16.000	SR
2662	STOCK	104576	168014	21	21500	16.000	16.000	SR
2662	STOCK	104576	169246	21	30200	16.000	16.000	SR
2662	STOCK	104576	170505	21	31700	16.000	16.000	SR
2662	STOCK	104576	172828	21	41400	16.000	16.000	SR
2662	STOCK	104576	174486	21	50200	16.000	16.000	SR
2662	STOCK	104576	174688	21	50300	16.000	16.000	SR
2662	STOCK	104576	176119	21	51800	16.000	16.000	SR
2662	STOCK	104576	177383	21	60700	16.000	16.000	SR
2662	STOCK	104576	179065	21	63000	32.000	32.000	SR
2662	STOCK	104576	179141	21	70500	16.000	16.000	SR
2662	STOCK	104576	182057	21	80900	16.000	.000	SR
2662	STOCK	104576	182255	21	81000	16.000	.000	SR
2662	STOCK	104576	183249	21	82200	16.000	.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	184454	21	90500	4.000	4.000	SR
2662	STOCK	104576	184602	21	90600	12.000	12.000	SR
2662	STOCK	104576	185260	21	91400	4.000	4.000	SR
2662	STOCK	104576	185421	21	91500	12.000	12.000	SR
2662	STOCK	104576	186541	21	92800	16.000	16.000	SR
2662	STOCK	104576	188231	21	101700	16.000	16.000	SR
2662	STOCK	104576	188514	21	102300	16.000	16.000	SR
2662	STOCK	104576	190322	21	111400	16.000	16.000	SR
2662	STOCK	104576	192272	21	120600	16.000	16.000	SR
2662	STOCK	104576	194284	21	10301	16.000	16.000	SR
2662	STOCK	104576	196693	21	12401	16.000	16.000	SR
2662	STOCK	104576	197883	21	20701	16.000	16.000	SR
2662	STOCK	104576	199928	21	22601	16.000	16.000	SR
2662	STOCK	104576	202074	21	31601	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	204962	21	41101	16.000	16.000	SR
2662	STOCK	104576	206536	21	42501	16.000	16.000	SR
2662	STOCK	104576	207523	21	50401	16.000	16.000	SR
2662	STOCK	104576	210394	21	53001	16.000	16.000	SR
2662	STOCK	104576	212254	21	61801	16.000	16.000	SR
2662	STOCK	104576	213173	20	62601	16.000	16.000	SR
2662	STOCK	104576	215737	20	71901	16.000	16.000	SR
2662	STOCK	104576	217803	20	80701	1.000	1.000	SR
2662	STOCK	104576	217804	21	80701	15.000	15.000	SR
2662	STOCK	104576	219678	21	82401	16.000	16.000	SR
2662	STOCK	104576	221345	21	91101	16.000	16.000	SR
2662	STOCK	104576	222521	21	92401	16.000	16.000	SR
2662	STOCK	104576	224420	21	101001	16.000	16.000	SR
2662	STOCK	104576	226016	21	102501	16.000	16.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:39:45 11/15/01
Receiver Detail

Product 1015300 GEN CATALYST (23LV)

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
2662	STOCK	104576	227682	21	110801	16.000	16.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:07 11/15/01
Receiver Detail

Product 1296389 GEN SEALANT (LOCTITE 5900) 5GA

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6888	STOCK	119628	211985	10	61401	1.000	1.000	SR
6888	STOCK	119628	222503	10	92401	1.000	1.000	SR
6888	STOCK	119628	223724	10	100401	1.000	1.000	SR
6888	STOCK	119628	226025	10	102501	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

5 gallon pail of Loctite
5900

PO0153.05 1 Purchase Order Inquiry 17:40:40 11/15/01
* HISTORY * Receiver Detail

Product 1090314 GEN DIBASIC ESTER

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1376	STOCK	69281	14646	10	21893	55.000	.000	SR
1376	STOCK	74785	28180	10	21094	1.000	1.000	SR
1376	STOCK	83892	46583	10	12795	2.000	2.000	SR
1376	STOCK	93727	78289	10	41296	1.000	1.000	SR
1376	STOCK	106416	129772	10	50898	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

02/17/93 received as 55 Gallons. All receipts after are Drums (55 gallon)

PO0153.05 1 Purchase Order Inquiry 17:40:27 11/15/01
Receiver Detail

Product 1090314 GEN DIBASIC ESTER

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
1376	STOCK	120560	226491	10	103001	1.000	1.000	SR

F3=Exit F7=Fold F12=Previous

55 gallon drum of
Dibasic Ester

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6577	STOCK	67640	11403	10	111692	20.000	.000	SR
6577	STOCK	69449	13002	10	10793	20.000	.000	SR
6577	STOCK	69284	14541	10	21693	20.000	.000	SR
6577	STOCK	69648	15570	10	30893	20.000	20.000	SR
6577	STOCK	69647	16775	10	40193	20.000	20.000	SR
6577	STOCK	69647	17985	20	43093	20.000	20.000	SR
6577	STOCK	69647	19432	30	60293	20.000	20.000	SR
6577	STOCK	69647	20590	40	70193	20.000	20.000	SR
6577	STOCK	69647	21598	50	80293	20.000	20.000	SR
6577	STOCK	69647	22604	60	90193	20.000	20.000	SR
6577	STOCK	69647	23537	70	100193	20.000	20.000	SR
6577	STOCK	69647	24563	80	110193	20.000	20.000	SR
6577	STOCK	69647	25547	90	120193	20.000	20.000	SR
6577	STOCK	77424	34407	10	63094	20.000	20.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:47:16 12/03/01
* HISTORY * Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
6577	STOCK	82410	40872	10	102494	20.000	20.000	SR
6577	STOCK	83391	45532	10	11195	20.000	20.000	SR
6577	STOCK	84335	47951	10	21795	6.000	6.000	SR
6577	STOCK	84610	49179	10	30395	50.000	50.000	SR
6577	STOCK	88224	58373	20	62895	40.000	40.000	SR
6577	STOCK	88224	58374	10	62895	10.000	10.000	SR
6577	STOCK	90297	64177	10	90895	50.000	50.000	SR
6577	STOCK	91805	70685	10	121595	5.000	5.000	SR
6577	STOCK	91829	72010	10	10596	50.000	50.000	SR
6577	STOCK	93458	75861	10	30496	50.000	50.000	SR
6577	STOCK	94715	81950	10	60796	40.000	40.000	SR
6577	STOCK	95102	87810	10	90596	10.000	10.000	SR
6577	STOCK	95102	87852	10	90596	40.000	40.000	SR
6577	STOCK	96685	93751	10	111996	50.000	50.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 13:47:16 12/03/01
* HISTORY * Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	103964	119425	10	112097	15.000	15.000	SR
9855	STOCK	104763	123628	30	20498	20.000	20.000	SR
9855	STOCK	103964	124856	10	22598	65.000	65.000	SR
9855	STOCK	106285	128420	10	41698	5.000	5.000	SR
9855	STOCK	103964	140747	20	111898	2.000	2.000	SR
9855	STOCK	103964	142580	20	122298	2.000	2.000	SR
9855	STOCK	103964	143811	20	11899	2.000	2.000	SR

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	97505	102266	10	31397	25.000	25.000	SR
9855	STOCK	97505	105353	10	42197	5.000	5.000	SR
9855	STOCK	97505	106608	10	50897	50.000	50.000	SR
9855	STOCK	109176	144812	10	20899	2.000	2.000	SR
9855	STOCK	109176	147359	10	32399	2.000	2.000	SR
9855	STOCK	109176	148277	10	40699	2.000	2.000	SR
9855	STOCK	109176	149962	10	50499	2.000	2.000	SR
9855	STOCK	109176	150841	10	51899	1.000	1.000	SR
9855	STOCK	109176	152902	10	62899	1.000	1.000	SR
9855	STOCK	109176	154308	10	72099	1.000	1.000	SR
9855	STOCK	109176	155416	10	80599	1.000	1.000	SR
9855	STOCK	109176	156342	10	81799	2.000	2.000	SR
9855	STOCK	109176	157308	10	83099	1.000	1.000	SR
9855	STOCK	109176	157859	10	90799	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

5 gallon pails of Alcahol

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	158837	10	92199	1.000	1.000	SR
9855	STOCK	109176	160238	10	101299	1.000	1.000	SR
9855	STOCK	109176	161520	10	110399	2.000	2.000	SR
9855	STOCK	109176	162236	10	111599	1.000	1.000	SR
9855	STOCK	109176	162237	10	111599	1.000	1.000	SR
9855	STOCK	109176	164333	10	122199	1.000	1.000	SR
9855	STOCK	109176	165204	10	10400	1.000	1.000	SR
9855	STOCK	109176	166059	10	11800	1.000	1.000	SR
9855	STOCK	109176	166556	10	12500	1.000	1.000	SR
9855	STOCK	109176	167527	10	20800	1.000	1.000	SR
9855	STOCK	109176	167907	10	21400	1.000	1.000	SR
9855	STOCK	109176	170172	10	31500	2.000	2.000	SR
9855	STOCK	109176	170598	30	32100	1.000	1.000	SR
9855	STOCK	109176	173276	30	41900	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	174089	30	42800	1.000	1.000	SR
9855	STOCK	109176	176038	30	51700	1.000	1.000	SR
9855	STOCK	109176	177337	30	60700	2.000	2.000	SR
9855	STOCK	109176	178140	30	62200	1.000	1.000	SR
9855	STOCK	109176	180091	30	71400	1.000	1.000	SR
9855	STOCK	109176	181550	30	80200	1.000	1.000	SR
9855	STOCK	109176	182646	30	81600	1.000	1.000	SR
9855	STOCK	109176	184133	30	83000	2.000	2.000	SR
9855	STOCK	109176	184661	30	90700	1.000	1.000	SR
9855	STOCK	109176	185583	30	91800	1.000	1.000	SR
9855	STOCK	109176	188264	30	101700	1.000	1.000	SR
9855	STOCK	109176	188265	30	101700	1.000	1.000	SR
9855	STOCK	109176	189924	30	110700	1.000	1.000	SR
9855	STOCK	109176	190288	30	111300	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	190634	30	111700	1.000	1.000	SR
9855	STOCK	109176	190635	30	111700	1.000	1.000	SR
9855	STOCK	109176	191007	30	112400	2.000	2.000	SR
9855	STOCK	109176	194094	30	10201	1.000	1.000	SR
9855	STOCK	109176	194811	30	10801	2.000	2.000	SR
9855	STOCK	109176	197430	30	20101	1.000	1.000	SR
9855	STOCK	109176	198836	30	21501	2.000	2.000	SR
9855	STOCK	109176	200077	30	22701	1.000	1.000	SR
9855	STOCK	109176	200399	30	30101	1.000	1.000	SR
9855	STOCK	109176	201974	40	31501	1.000	1.000	SR
9855	STOCK	109176	202505	40	32001	1.000	1.000	SR
9855	STOCK	109176	203983	40	40301	2.000	2.000	SR
9855	STOCK	109176	205663	40	41701	1.000	1.000	SR
9855	STOCK	109176	207292	40	50201	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	207811	40	50701	1.000	1.000	SR
9855	STOCK	109176	208900	40	51501	1.000	1.000	SR
9855	STOCK	109176	209517	40	52101	1.000	1.000	SR
9855	STOCK	109176	210470	40	53001	1.000	1.000	SR
9855	STOCK	109176	211795	40	61301	1.000	1.000	SR
9855	STOCK	109176	212686	40	62001	2.000	2.000	SR
9855	STOCK	109176	213998	40	70301	1.000	1.000	SR
9855	STOCK	109176	215538	40	71801	2.000	2.000	SR
9855	STOCK	109176	217414	40	80201	2.000	2.000	SR
9855	STOCK	109176	218393	40	81301	2.000	2.000	SR
9855	STOCK	109176	218779	40	81601	3.000	3.000	SR
9855	STOCK	109176	220670	40	90501	3.000	3.000	SR
9855	STOCK	109176	222327	40	92101	1.000	1.000	SR
9855	STOCK	109176	222328	40	92101	1.000	1.000	SR +

F3=Exit F7=Fold F12=Previous

PO0153.05 1 Purchase Order Inquiry 17:40:57 11/15/01
Receiver Detail

Product 1090280 GEN ALCOHOL

Vendor	Disp	P.O.	Rec No	Lin	Date	Received	Billed	Whse
9855	STOCK	109176	224028	40	100501	2.000	2.000	SR
9855	STOCK	109176	225057	40	101501	2.000	2.000	SR
9855	STOCK	109176	225869	40	102401	2.000	2.000	SR
9855	STOCK	109176	227384	40	110601	1.000	1.000	SR
9855	STOCK	109176	227385	40	110601	1.000	1.000	SR
9855	STOCK	109176	228149	40	111301	1.000	.000	SR

F3=Exit F7=Fold F12=Previous

EQ Resource Recovery, Inc.

an EQ company

Generator Approval Notification *October 22, 2001*

Customer: ENVIRONMENTAL WASTE SRVCS.
Fax: (630) 365-3112

FRED PFEIFFER
THE MOREY GROUP
100 MOREY DR.
WOODRIDGE, IL 60517

This Generator Approval Notification acknowledges the acceptability of waste material(s) into the EQ environmental protection facility identified below and ensures that this facility has the appropriate permit(s) issued by federal and state regulatory agencies to properly transport, treat, and/or disposal of the waste material(s).

EQ FACILITY: **EQ Resource Recovery, Inc. (MID060975844)**
36345 Van Born Road, Romulus, Michigan 48174

Approval Number: J06300D

Generator EPA ID #: ILG000060910 **Approved Container:** DRUM **Expires On:** 10/9/2002
Waste Common Name: Waste Flux
Comments:
Primary Waste Code: D001

The Approval(s) listed above are based upon characterization information supplied to EQRR by the Customer and the generator (if other than the Customer). The Customer is ultimately responsible for the accuracy and completeness of all such information, whether provided by the Customer or the generator. The Customer must notify the EQRR Approvals Department immediately upon knowledge of any changes to this information. This Approval and all wastes which are transported, delivered, or tendered to EQ under this Approval shall be subject to the attached Standard Terms and Conditions.

The Approval(s) will expire on the date(s) noted. Any new Approvals obtained from EQRR on future business will be valid for a period of one (1) year from the date of issuance. Within 30 days of the Approval Expiration Date, you will be notified of the requirements for recertification.

If you have any questions, please call us toll free at
1-800-521-0998

YOUR BUSINESS. OUR SOLUTIONS. A PRODUCTIVE PARTNERSHIP®

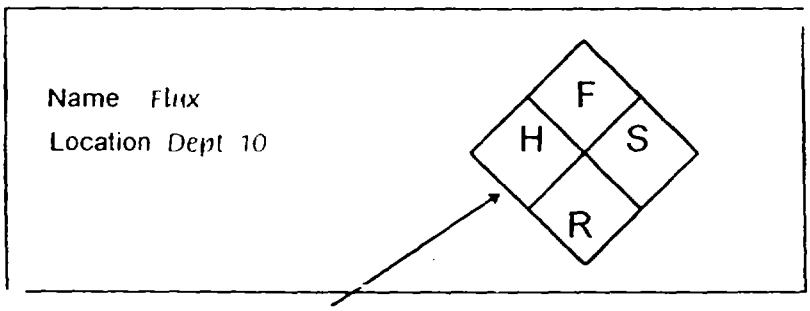
MOR 001520

Hazardous Chemical Labeling Procedure

Hazardous chemicals must be labeled with the following information.

- The place where the chemical is stored (i.e. Paint Room, Post Wave etc.).
- The name of the chemical (Flux, Alcohol, etc.)
- The hazard diamond must be filled in with the hazard ratings in each of the four categories.

1. Flammability rating
2. Health hazards
3. Reactivity rating.
4. Specific hazards



The information needed to fill in the Hazard diamond can be found on the MSDS reference guide, or on the label of the original container, the chemical came in.

Each category is rated on a scale from zero to four, with four being the most hazardous.

for instance: Liquid Nitrogen has a flammability rating of 4
Isopropyl Alcohol has a flammability rating of 3
Crude oil has a flammability rating of 2
Wood has a flammability rating of 1
Water has a flammability rating of 0

PROGRAM FOR REMOVAL OF HAZARDOUS WASTE

Six Chemicals May Be Disposed Of In The 55 Gallon Drum Marked "HAZARDOUS WASTE." The Drum Is Located In The Flame Room.

1. **Waste Solder Flux**
2. **P.C. 101**
3. **P.C. 101 Thinner**
4. **Di-Basic Ester**
5. **Potting Compound**
6. **PAINT**

*** NOTE: No other chemicals are to be disposed of in this 55 gallon drum Mixing unknown chemicals may cause a reaction resulting in explosion or fire. Any waste chemicals not on this list should be stored in their original containers and given to the Safety Director For Disposal.**

Accumulating and Storing Wastes:

1). Proper Transfer Container --- 5 gallon drums acceptable, but must be emptied into larger 55 gallon drums within 30 days of it's filling with used chemical.

2). *Proper Labeling --- Each container must be labeled with the following:*
   A). Name (used flux, used P.C. 101)
   B). Where it came from (wave solder)
   C). Using the diamond shaped area on the Hazmat Label, fill in the 4 hazard categories.

      1). Health Hazard; rating - 1
      2). Fire Hazard; rating - 3
      3). Reactivity; rating - 0
      4). Specific Hazard; rating - 0

3) All containers must be poured directly into the 55 gallon drum at the time they are moved to the Flame Room.

4). Each full 55 gallon drum of used flux should be disposed of as soon as it becomes full.

5). All containers must have lids in place.

The company ENVIRONMENTAL WASTE SERVICES (630) 365-1100 is our source for disposing of waste flux

Disposal cost: $110.00 per 55 gallon drum
New Drum Cost: $35.00

Hazardous Waste Procedure

The Morey Corporation has been identified as a potential hazardous waste generator and therefore subject to regulation of such waste under the Resource Conservation and Recovery Act (RCRA) . Failure to follow RCRA may result in a civil penalty.

If waste exhibits the following characteristics it is considered to be hazardous:

1. Ignitability;
2. Corrosivity;
3. Reactivity;
4. *Extraction Procedure Toxicity*

Hazardous waste cannot be thrown out with the garbage It must be disposed of in the following manner.

Supervisor's Responsibility:

A. Hazardous material cannot be mixed exept for the 6 chemicals allowed to be mixed in the hazardous waste drum

B. Containers for hazardous material must be identified with a label on the container.

C. Satelite waste containers must be dumped into a 55 gal. drum as soon as they become full. This applies to all chemicals.

D. All 55 gallon containers must be stored in the Fire Room until they are ready to be disposed of.

E. Once the 55 gal. drum is filled the Safety Supervisor is to fill out a disposal form and give it to the purchasing department

STOCK ROOM:

A. It is the Safety Manager's responsibility to provide empty 55 gal. drums as required.

PURCHASING:

A. Upon receipt of the hazardous waste disposal form the purchasing department will Call Environmental Waste Services at (630) 365-1100

B. Environmental Waste Services will fill out the hazardous waste labels (one per container), and provide all necessary paperwork for transportation including Uniform Manifest.

C. The Safety Manager will receive 2 copies of the Uniform Manifest from the

Environmental Waste Services pick up person. One copy will be filed in the "Hazardous Waste Folder" in the safety file drawer located at the Safety manager's desk. The second copy must be mailed to the State of Michigan Department of Environmental Quality by the front office.

D. The Safety Manager will receive a copy of the Uniform Manifest from the State of Michigan. The copy must be filed in the "Hazardous Waste Folder" in the safety file drawer located at the Safety manager's desk.

DOCUMENT PREPARED BY:
Todd A. Bancroft, Esq.
O'Brien, O'Rourke & Hogan
10 South LaSalle Street, Suite 2900
Chicago, Illinois 60603

FUTURE TAX BILLS TO:
A-1 Holdings, L.L.C.
1928 Kimberly Drive
Darien, Illinois 60561

(Space above this Line for County Recorder's Use Only)

SPECIAL WARRANTY DEED
[Illinois]

THE GRANTOR, MC HOLDINGS CORP., an Illinois corporation, for consideration of TEN DOLLARS ($10.00), and other valuable consideration, pursuant to authority duly given by the Board of Directors of said corporation, hereby REMISES, RELEASES, ALIENS and CONVEYS to A-1 HOLDINGS, L.L.C., an Illinois limited liability company, all of its right, title and interest in the Real Estate situated in the State of Illinois, County of DuPage, legally described on *Exhibit A*, attached hereto, subject to those limitations on title described on said *Exhibit A*.

SEE EXHIBIT A FOR LEGAL DESCRIPTION

TOGETHER WITH all and singular the hereditaments and appurtenances thereunto belonging, or in any way appertaining, TO HAVE AND TO HOLD the said described property forever. Grantor does covenant, promise and agree that it has not done or suffered to be done anything whereby the said described property hereby granted is, or may be, in any manner encumbered or charged, except as herein recited, and Grantor will warrant and defend same for all persons claiming by through or under Grantor, subject to the matters set forth on Exhibit A.

IN WITNESS WHEREOF, said corporation has caused this Special Warranty Deed to be executed and delivered by its President and attested to by its Secretary as of the date set forth below.

DATE: June 4, 1998

MC HOLDINGS CORP.,
an Illinois corporation

By: _____
Its: President

ATTEST:
By: _____
Its: ~~Secretary~~ Assistant Secretary

MOR 001525

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

ACKNOWLEDGEMENT

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that DANA MOREY and ~~SCOTT~~ MOREY, personally known to me to be the President and Secretary of MC HOLDINGS CORP., and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that they signed, sealed and delivered said instrument as their free and voluntary act and as the free and voluntary act of the corporation, for the uses and purposes therein set forth.

Given under my hand and official seal, this 4 day of June, 1998.

[SEAL]

NOTARY PUBLIC

EXHIBIT A

LEGAL DESCRIPTION

THE NORTH 385 FEET OF LOT 34 IN ELLSWORTH PARK UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER (1/4) OF SECTION 12, TOWNSHIP 38 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 10, 1962 AS DOCUMENT NO. R62-993, IN DUPAGE COUNTY, ILLINOIS

COMMONLY KNOWN AS: 2661 WISCONSIN AVENUE
DOWNERS GROVE, ILLINOIS 60516

P. I. N.: 08-12-303-004

Less and except the following:

1. Real estate taxes and installments of special assessments not yet due and payable;

2. Easement for public utilities as disclosed by the Plat of Subdivision recorded as Document R62-993 on January 10, 1962; and

3. Building setback line as established, recorded January 10, 1962 as Document R62-993.

DOCUMENT PREPARED BY:
Todd A. Bancroft, Esq.
O'Brien, O'Rourke & Hogan
10 South LaSalle Street, Suite 2900
Chicago, Illinois 60603

FUTURE TAX BILLS TO:
A-1 Holdings, L.L.C.
1928 Kimberly Drive
Darien, Illinois 60561

(Space above this Line for County Recorder's Use Only)

SPECIAL WARRANTY DEED
[Illinois]

THE GRANTOR, MOREY REALTY GROUP, INC., an Illinois corporation, for consideration of TEN DOLLARS ($10.00), and other valuable consideration, pursuant to authority duly given by the Board of Directors of said corporation, hereby **REMISES, RELEASES, ALIENS** and **CONVEYS** to A-1 HOLDINGS, L.L.C., an Illinois limited liability company, all of its right, title and interest in the Real Estate situated in the State of Illinois, County of DuPage, legally described on *Exhibit A*, attached hereto, subject to those limitations on title described on said *Exhibit A*.

SEE EXHIBIT A FOR LEGAL DESCRIPTION

TOGETHER WITH all and singular the hereditaments and appurtenances thereunto belonging, or in any way appertaining, TO HAVE AND TO HOLD the said described property forever. Grantor does covenant, promise and agree that it has not done or suffered to be done anything whereby the said described property hereby granted is, or may be, in any manner encumbered or charged, except as herein recited, and Grantor will warrant and defend same for all persons claiming by through or under Grantor, subject to the matters set forth on Exhibit A.

IN WITNESS WHEREOF, said corporation has caused this Special Warranty Deed to be executed and delivered by its President and attested to by its Secretary as of the date set forth below.

DATE: June 4, 1998

MOREY REALTY GROUP, INC.,
an Illinois corporation

By: _____
Its: President

ATTEST:
By: _____
Its: ~~Secretary~~ Assistant Secretary

STATE OF ILLINOIS)
) SS.
COUNTY OF ~~COOK~~ DuPAGE)

ACKNOWLEDGEMENT

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that DANA MOREY and ~~SCOTT~~ Jay J MOREY, personally known to me to be the President and Assistant Secretary of MOREY REALTY GROUP, INC., and personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that they signed, sealed and delivered said instrument as their free and voluntary act and as the free and voluntary act of the corporation, for the uses and purposes therein set forth.

Given under my hand and official seal, this 4 day of June, 1998.

[SEAL]

NOTARY PUBLIC

EXHIBIT A

LEGAL DESCRIPTION

LOT 34 (EXCEPT THE NORTH 385 FEET) IN ELLSWORTH PARK UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER (1/4) OF SECTION 12, TOWNSHIP 38 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JANUARY 10, 1962 AS DOCUMENT NO. R62-993, IN DUPAGE COUNTY, ILLINOIS

COMMONLY KNOWN AS: 2661 WISCONSIN AVENUE
DOWNERS GROVE, ILLINOIS 60516

P. I. N.: 08-12-303-006

Less and except the following:

1. Real estate taxes and installments of special assessments not yet due and payable;

2. Easement for public utilities as disclosed by the Plat of Subdivision recorded as Document R62-993 on January 10, 1962; and

4. Building setback line as established, recorded January 10, 1962 as Document R62-993.

This Lease, dated ~~November 1, 1979~~ February 5 , 1980

between Downers Grove National Bank and Trust, as Trustee under Trust No. 78-309

herein called the "Landlord," and MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, with ~~General~~ Offices at ~~619 West Chicago Avenue~~, Chicago, Illinois, herein called the "Tenant,"
Regional 140 South State Street,

WITNESSETH:

1. The Landlord leases to the Tenant for a term commencing on * , and continuing to and including ** , the premises located in the City of Downers Grove , County of Dupage , and State of Illinois , described as follows:

"A"
See Exhibit "~~B~~", which is attached hereto and made a part hereof.

* the date Tenant takes possessio of the demised Premises provide Landlord has completed the work described in Paragraph #19 here unde

** Ten (10) years after the first day of the first month followir the month in which Tenant take possession.

including all improvements now or hereafter thereon and all appurtenances thereto. Said premises are commonly known as 2663 Wisconsin Avenue.

2. The Tenant shall pay rent to the Landlord at the annual rate of Twenty Five Thousand Seven Hundred and No/100 Dollars ($ 25,700.00) payable in equal monthly installments on or before the tenth (10th) day of each calendar month for the current calendar month. Rent for part of a month shall be prorated. Anything contained herein to the contrary notwithstanding, the Tenant's obligation to pay rent hereunder shall not commence until actual and exclusive possession of the leased premises has been delivered to the Tenant and all repairs, alterations and improvements necessary to fit the premises for occupancy and use by the Tenant shall have been completed, all as contemplated by Paragraphs 19 & 20 hereinbelow.

3. All payments to the Landlord may be made by checks or drafts payable to the order of

The Morey Corporation and mailed to such payee at 2659 Wisconsin Avenue
Downers Grove, Illinois 60515

4. The Tenant may, by written notice mailed or telegraphed to the Landlord One Hundred Eighty (180) or more days before the end of the term, extend the term ~~to and including~~ an additional Five (5) years , upon the same terms and conditions as herein set forth, except that rent shall be adjusted upward ~~[redacted]~~ at the commencement of the extended term by the percentage in the CPI since the commencement of the term, but in no event shall the rent be increased by more than 75%.

MOR 001531

5. If the Tenant has exercised the foregoing option to extend the term, it may, by written notice mailed or telegraphed to the Landlord One Hundred Eighty (180) or more days before the end of the term as extended, further extend the term ~~to and including~~ for an additional Five years upon the same terms and conditions as herein set forth, except that rent during the further extended term shall be adjusted upward at the commencement of the further extended term by the percentage change in the CPI since the commencement of the extended term, but in no event shall rent be increased by more than 75%.

~~graphed to the Landlord ( ) or more days before the effective date of the~~ cancellation, may cancel this lease as of

All rent and other ~~charges paid~~ in advance for any period after the effective date of such cancellation ~~shall be refunded to the Tenant.~~

7. The Landlord will not interrupt or disturb any entrances, exits, or approaches, or deprive the premises of any light or air now enjoyed by the premises.

8. The Landlord covenants and agrees to maintain the Tenant's quiet possession and enjoyment of the entire leased premises during the term hereof The Landlord shall hold harmless the Tenant of and from any and all loss, damage and claims for damage to person or property resulting from his failure to comply with this agreement.

9. The Tenant, at its own expense, may from time to time install on the premises any equipment fixtures and improvements and remove them and may make any alterations or additions in a good and workmanlike manner in and to the premises and may erect or remove any signs on the premises which it may deem necessary or suitable for the conduct of its business.(except advertising signs)

10. Notwithstanding any other provision of this lease, the Tenant shall not be liable for any loss or damage to the premises caused by fire or the elements, whether or not such loss or damage shall result from the Tenant's negligence.

11. If any default of either party continues uncorrected for sixty (60) days (thirty (30) days in the case of a default in the payment of rent) after receipt of written notice from the other party, stating with particularity the nature and extent of the default, the party giving such notice may cancel this lease by written notice of cancellation. remedy provided in this lease shall be exclusive, but each shall be cumulative with all other remedies provided in this lease and at law or in equity.

12. The Tenant may sublet the premises or assign this lease; provided, however, that the Tenant shall not be relieved from its obligations under the lease by such subletting or assignment without the Landlord's consent.

13. The Tenant may holdover at the end of the term, without extending the term or renewing the lease, provided the Landlord, at least thirty (30) days prior to the expiration of the term, has not given written notice to the Tenant to vacate the premises at the expiration of the term. If the Tenant does so holdover, the tenancy thereafter shall continue upon the terms and conditions of this lease in effect during the last month of the term until terminated by either party by notice mailed to the other party at least thirty (30) days before the effective date of such termination.

14. The Tenant, on the last day of the term, or on the last day of any holdover, will surrender the premises in as good condition as when the Tenant takes possession, except for ordinary wear and tear, repairs and replacements required to be made by the Landlord, loss by fire or casualty, loss by any cause beyond the Tenant's control, and alterations, additions, and improvements herein permitted.

15. Tenant shall pay for all gas and electricity used by it on the demised premises.

16. (a) The Landlord shall pay when due all taxes and assessments of every kind and nature which have been or which shall during the term of this lease be levied, assessed or otherwise imposed upon the leased premises, including all improvements now or hereafter thereon, but nothing contained in this Section 16 shall be deemed to obligate the Landlord to pay any taxes levied or assessed against the personal property of the Tenant located in the leased premises or any taxes commonly known as "chain store taxes" imposed on the Tenant by reason of the fact that the Tenant operatesmore than one place of business in the jurisdiction imposing such tax, which personal property taxes and chain store shall be paid the Tenant.

(b) The Tenant, upon receipt of satisfactory evidence of the amount of such excess, shall reimburse the Landlord the amount by which the general real estate taxes levied and assessed against the leased premises for each subsequent tax fiscal year during the term of this lease exceed the general real estate taxes levied and assessed against the leased premises for the third tax fiscal year following Tenant's occupancy; provided, however, that the Tenant shall be obligated to pay only its pro rata share of such excess taxes for the tax fiscal year during which its obligation to pay rent under this lease ceases, said pro rata share to be based upon the number of days of the then current tax fiscal year for which the Tenant has been obligated to pay rent under this lease.

(c) Prior to the payment thereof, the Landlord shall submit to the Tenant copies of all general real estate tax bills, a portion of which the Tenant may be obligated to pay to the Landlord under this Section 18, together with a statement showing the computation of the amount owed by the Tenant to the Landlord hereunder, supported by such evidence as the Tenant may reasonably require, whereupon the Tenant (unless it shall contest such taxes as hereinafter provided) shall pay to the Landlord within thirty (30) days after receipt of such bills, statement and other evidence, that portion of such general real estate taxes required to be paid by the Tenant hereunder.

(d) In the event the Tenant shall desire to contest the validity or amount of any tax, a portion of which it may be required to pay to the Landlord hereunder, the Tenant, within thirty (30) days after being notified of the amount thereof, shall notify the Landlord of its intention to do so, whereupon the Landlord shall defer payment of any such tax so long as the validity or amount thereof shall be contested by the Tenant in good faith and by proper proceedings, except that the Landlord may make such payments under protest or take such other steps with regard to said tax as will not prejudice the Tenant's opportunity to successfully contest the validity or amount thereof. The Landlord agrees to render to the Tenant all assistance reasonably possible, without expense to the Landlord, in contesting the validity or amount of any such tax, including joining in and signing any protest or pleading which the Tenant may deem it advisable to file. Should any rebate be made on account of any tax a portion of which has been paid by the Tenant to the Landlord hereunder shall belong to and be paid to the Tenant.

17. Tenant shall maintain the parking lot areas, fence, and paved areas in good condition and repair, and shall also, as necessary, maintain, repair, and replace the gas pump and lighting facilities on the demised premises.

18. Tenant shall carry General Liability insurance, or at its option be self-insured, with limits of not less than Two Hundred and Fifty Thousand Dollars ($250,000.00).

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

* approval of plans by Tenant as herinafter specified.

19. Within Thirty (30) days after* [illegible], Landlord shall commence, and thereafter diligently prosecute to completion, the following Landlord's work, as also more fully described an Exhibit "B", which is attached hereto and made a part hereof:

(a) Grade, compact, and gravel the parking areas so as to be suitable for Tenant's intended use.

(b) Install a six (6) foot chainlink fence (with barbed wire and sliding gate) around the perimeter of the demised area.

(c) Excavate for, position, and install a certain Eight Thousand (8000) gallon gasoline tank, and pump, located as shown on Exhibit "B", tank and pump to be supplied by Tenant promptly after last execution of this Lease.

(d) Provide electric service to the gas pump.

(e) Install and erect a lighting pylon, and attach lighting fixtures thereto, as shown on Exhibit "B".

(f) Lay concrete paving in and about the area of the gasoline pump as required.

(g) Pave a hard surface, all weather, access drive from the pump area to the adjoining parcel also leased by Tenant.

All work required to be performed by the Landlord hereunder shall be performed in a good and workmanlike manner. The Premises shall be left at the completion of such work in a safe, clean and tenantable condition and in good order and repair. Landlord shall perform all work provided for hereunder in conformity with all applicable construction and building codes and with every applicable requirement of law or duly constituted authority of law, or any Board of Underwriters, Rating Bureau or similar organization having jurisdiction, of carriers of insurance on the leased Premises.

See paragraph 19, continued on Page 4a.

20. Tenant shall take possession of the Leased premises within a reasonable time, not to exceed Thirty (30) days, after Landlord notifies Tenant that all Landlord's work pursuant to Paragraph #19 has been completed and that Tenant may have exclusive possession of the Premises. In the event the Landlord has not completed all work on or before June 1, 1980 , Tenant may cancel this Lease by sending written notice to Landlord, whereupon this Lease shall be terminated and of no further force and event.

21.1 Within thirty (30) days from the date of last execution of this Lease, Landlord shall [illegible], provide and deliver to Tenant (at the office of Tenant) a leasehold title insurance policy of a title company acceptable to Tenant in the amount of ONE HUNDRED THOUSAND and No/100 ($100,000.00) DOLLARS covering the date hereof, or if Tenant so elects, its preliminary report on title or title binder in said amount of $100,000.00 showing title in Landlord, subject only to matters to which this Lease is subject. All such title costs and premiums to be paid by [illegible] Tenant.

If the report on title, title binder, or leasehold title insurance policy, so required, discloses any defects in title (other than such usual objections contained in Leasehold policies and matters to which this Lease is subject) Landlord shall, upon tendering the same to Tenant within thirty (30) days from the date of last execution of this Lease, have sixty (60) days, from the date which such title report, binder, or leasehold title insurance policy bears, to cure such defects and to furnish such title report, binder, or leasehold policy showing such defects cured or removed. If such defects in title are not so cured within sixty (60) days, Tenant may, at its option, terminate this Lease. In the event this Lease is so te[illegible]

MOR 001534

Paragraph 19 (continued)

Within Thirty (30) days after the last execution of this Lease, Landlord shall prepare appropriate plans, specifications and/or working drawingscovering the foregoing work, and submit same to Tenant for approval.

In the event Landlord does not complete the work diligently, Tenant may, at its option, cause the work to be completed and deduct the cost thereof from rent.

MOR 001535

21.2 Tenant may, at its option, record this Lease and the cost of all documentary stamps, or conveyancing, transfer tax and recording fees shall be paid ~~equally by the parties hereto~~ by Tenant.

21. Broker's Commissions - If there are any Broker's fees or commissions payable in connection with the bringing about of the execution and delivery of this lease, the Landlord agrees that Landlord will pay same, that the Tenant shall not be liable for such fees and commissions and that the Landlord will indemnify and save the Tenant harmless from any and all claims for such fees and commissions.

22. Landlord and Tenant acknowledge that Tenant is negotiating a Lease of substiantially like terms and conditions for Premises adjoining the Landlord's Premises, and that Tenant's use of the demised premises is not feasible without the use of said adjoining Premises. Notwithstanding anything in this Lease to the contrary, Tenant's rental obligation hereunder shall not commence until Tenant has taken possession of the adjoining Premises. When the commencement date of both leases has become fixed, Landlord and Tenant agree to execute a Lease Supplement fixing the commencement date and the termination date of the Lease.

If, due to fire, the elements, or the exercise of the right of eminent domain or other authority of law, or any other cause, the premises shall become untenantable, dangerous or unfit for the Tenant's use, rent payable under this lease shall abate during the continuance of that condition. If the conditions which give rise to an abatement of rent under this section continue for a period of ninety (90) days, then the Tenant may, at any time within sixty (60) days after such ninety (90) day period, cancel this lease and terminate its tenancy by giving the Landlord written notice of its intention to do so.

All notices, approvals, or requests in connection with this lease shall be sent by registered mail or telegram. Notices to the Landlord may be addressed to the Landlord at the address set forth in Section 3 above. Notices to the Tenant shall be addressed to Montgomery Ward & Co., Incorporated, at 140 South State Street, Chicago, Illinois, attention: Regional law Department.

Employees or agents of the Tenant have no authority to make or agree to make a lease. This instrument shall not be binding upon the Tenant until it has been executed on behalf of the Tenant by one of its corporate officers. No act or omission of any employee of the Tenant shall alter, change, or modify any of the provisions of this lease. Any alterations, changes, and modifications of this lease shall be effective only when made in writing and executed on behalf of the Tenant by one of its corporate officers.

All the grantors of the term shall be bound jointly and severally by this lease. This lease shall inure to the benefit of and be binding upon, the respective heirs, legal representatives, successors and assigns of the Landlord and the Tenant.

IN WITNESS WHEREOF, this lease has been duly executed under seal as of the first hereinabove written.

LANDLORD:

DOWNERS GROVE NATIONAL BANK & TRUST, as Trustee under Trust No. 78-309

By: George H. Stamman

Attest: [signature]

WITNESSES:

[signature]

Kathie Motorny

TENANT:

MONTGOMERY WARD & CO., INCORPORATED

By: [signature]
William J. Harbeck, Senior Vice President

Attest: Norman A. Smith
Norman A. Smith,
Assistant Secretary

WITNESSES:

Carmen B. Zuniga

[signature]

MOR 001536

(ACKNOWLEDGMENT)

STATE OF ILLINOIS
COUNTY OF COOK SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that J.B. Gelling, Senior Vice President, and G. Fletcher Ward, Assistant Secretary, of MONTGOMERY WARD, & CO., INCORPORATED an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such J.B. Gelling, Senior Vice President, and G. Fletcher Ward, Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Senior Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposed therein set forth.

Given under my hand and notarial seal, this _____day of _____, 19____:

_____
Notary Public

(ACKNOWLEDGMENT-INDIVIDUAL)

STATE OF
COUNTY OF SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____and _____ of _____who (is) (are) personally known to me to be the same person(s) whose name(s) (is) (are) subscribed to the foregoing instrument appeared before me this day in person and acknowledged that (he) (they) signed, sealed and delivered the said instrument as (h) (their) free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal, this _____day of _____19____.

_____
Notary Public

ACKNOWLEDGMENT-CORPORATE)

STATE OF ILLINOIS
COUNTY OF DU PAGE SS:

I, FAYE D. HOFFAMN, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that GEORGE H. STARMANN III, VICE President, and LISA SODER, TRUST, Secretary of DOWNERS GROVE NATIONAL BANK, A NATIONAL corporation, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such VICE President and ~~Secretary~~ Trust, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Vice President and ~~Secretary~~ Trust, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 5th day of February 19 80.

_____
Notary Public

MM-K79

(ACKNOWLEDGEMENT)

STATE OF ILLINOIS
COUNTY OF COOK SS:

I, Hattie L. Foster, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY THAT W.J. Harbeck, Vice President, and Norman A. Smith, Assistant Secretary, of MONTGOMERY WARD, & CO., INCORPORATED an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such W.J. Harbeck, Vice President, and Norman A. Smith, Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposed therein set forth.

Given under my hand and notarial seal, this 31st day of March, 1980.

Hattie L. Foster
Notary Public

My commission expire 4-10-83.

(ACKNOWLEDGEMENT-INDIVIDUAL)

STATE OF
COUNTY OF SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____ of _____ who (is) (are) personally known to me to be the same person(s) whose name(s) (is) (are) subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that (he) (they) signed, sealed and delivered the said instrument as (he) (their) free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal, this ___ day of _____ 19__.

_____
Notary Public

(ACKNOWLEDGEMENT-CORPORATE)

STATE OF
COUNTY OF SS:

I, _____, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that _____, President, and _____, Secretary of _____ an _____ corporation, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such _____, President and Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such President and Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this ___ day of _____, 19__.

_____
Notary Public

ASSUMPTION AGREEMENT

The undersigned, THE MOREY CORPORATION, a corporation of Illinois being all (or a majority of) the beneficiaries of Downers Grove National Bank and Trust, as Trustee under Trust #78-309, dated _____, and the holders of appropriate power of direction thereunder, hereby expressly agree, in consideration of the execution of the lease to which this Assumption Agreement is attached, i.e., that certain Lease dated February 5, 1980 by and between the aforesaid mentioned Downers Grove National Bank and Trust, as Trustee, as Lessor, and Montgomery Ward & Co., Incorporated, as Lessee, that they will individually and personally, jointly and severally, perform each and every of the Lessor's undertakings and obligations assumed and expressed in the Lease to which this Assumption Agreement is attached.

This undertaking and obligation of the undersigned, shall be binding upon their successors, assignees, administrators and assigns, and they covenant and agree not to assign the said lease or any rights thereunder unless such assignee expressly assumes to perform all of the covenant and undertakings of said Lease.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 2nd day of April, 1980.

THE MOREY CORPORATION, a corporation of Illinois

BY: Richard R. Morey
President

ATTEST: Edward J. Hollowell
Secretary

EXHIBIT A

Lot 34 (except the North 385 feet thereof) in ELLSWORTH PARK Unit Number 5, being a Subdivision in the Southwest Quarter of Section 12, Township 38, Range 10, East of the Third Principal Meridian, according to the Plat thereof recorded January 10, 1962 as Document R62-993 in DuPage County, Illinois.

FIRST SUPPLEMENTAL AGREEMENT

The Morey Corp
RRM

THIS FIRST SUPPLEMENTAL AGREEMENT made this 29th day of December, 1989, ~~by and between DOWNERS GROVE NATIONAL BANK, a National Banking Association, as Trustee under Trust No. [illegible]~~, hereinafter called Landlord, and MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, with corporate offices at One Montgomery Ward Plaza, Chicago, Illinois 60671, hereinafter called Tenant.

W I T N E S S E T H:

WHEREAS, the parties hereto entered into a certain Lease Agreement dated February 5, 1980, hereafter called the Lease, covering certain premises located in the City of Downers Grove, County of DuPage, State of Illinois, commonly known as 2663 Wisconsin Avenue, now occupied by Tenant and more fully described in said Lease, and

WHEREAS, the parties are mutually desirous of supplementing said Lease;

NOW THEREFORE, for and in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

(1) The term of said Lease is hereby extended from and including the first (1st) day of October, 1990 to and including the thirtieth (30th) day of September, 1995.

(2) Tenant shall continue to pay rent to Landlord for the leased premises during the extended term herein provided at the annual rate of TWENTY FIVE THOUSAND SEVEN HUNDRED AND NO/100 DOLLARS ($25,700.00), payable in equal monthly installments on or before the tenth (10th) day of each calendar month for the current calendar month. Rent for part of a month shall be prorated.

(3) Payments to the Landlord may be made by checks or drafts payable to the order of The Morey Corporation, and mailed to such payee at 2659 Wisconsin Avenue, Downers Grove, Illinois 60515.

(4) Effective as of the complete execution and delivery of this First Supplemental Agreement, Section 4 of said Lease shall be and is hereby cancelled and deleted therefrom, it being understood and agreed, however, that the Tenant shall continue to have the option granted to it in Section 5 of said Lease to further extend the term for an additional period of five (5) years from the end of the extended term herein provided, in accordance with said Section 5.

(5) In consideration of One Dollar ($1.00) paid by the Tenant to the Landlord, the receipt and sufficiency of which is hereby acknowledged, Landlord hereby agrees that the Tenant shall have the option to execute this First Supplemental Agreement at any time within thirty (30) days after receipt of the same duly executed by Landlord.

EXCEPT as above supplemented, the Lease, together with any previous Supplemental Agreements and/or Lease Amendments, is hereby ratified and confirmed. All of the covenants of said Lease, as amended, shall be interdependent and binding upon and shall inure to the benefit of the parties hereto, their respective successors and assigns.

RECEIVED
JAN 13 1996
THE MOREY CORP.

Date: 2/7/96	#PGS 3
FAX TO: Doug Cunningham	
From: Barbara H	
Message: Per your phone Request	
40180 X	Montgomery Ward

IN WITNESS WHEREOF, the parties hereto have caused this First Supplemental Agreement to be executed the first day and year above written.

LANDLORD:
~~DOWNERS GROVE NATIONAL BANK~~
~~as Trustee under~~
~~Trust No. 78-209~~
The Morey Corporation

By: R. R. Morey
~~[redacted]~~ President

ATTEST: Edward J. Holland
~~[redacted]~~ Secretary

WITNESS:

TENANT:
MONTGOMERY WARD & CO.,
INCORPORATED

By: Senior Vice President

ATTEST: Assistant Secretary

WITNESS:

STATE OF ILLINOIS)
COUNTY OF DU PAGE)SS:

I, Douglas E. Cunningham, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that R.R. Morey President, and E. Hallows Secretary of ~~DOWNERS GROVE~~ The Morey Co, ~~NATIONAL BANK, a National Banking Association~~, who are personally known to me to be the persons whose names are subscribed to the foregoing instrument as such _____ President, and _____ Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such _____ President and Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 5th day of Feb, 1996.

"OFFICIAL SEAL"
Douglas E. Cunningham
Notary Public, State of Illinois
My Commission Expires 11/05/53

Douglas E. Cunningham
Notary Public

My Commission Expires: 11/5/53

STATE OF ILLINOIS)
COUNTY OF COOK)SS:

I, Frances M. Catledge, a Notary Public in and for the county and state aforesaid, DO HEREBY CERTIFY that Spencer H. Heinc, Senior Vice President, and G. T. Morgan, Assistant Secretary, of MONTGOMERY WARD & CO., INCORPORATED, an Illinois corporation, who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such Senior Vice President and Assistant Secretary, respectively, appeared before me this day in person and acknowledged that they signed, sealed and delivered the said instrument as their free and voluntary act and as such Senior Vice President and Assistant Secretary, respectively, and as the free and voluntary act of said corporation for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 11th day of April, 1990.

Frances M. Catledge
Notary Public

"OFFICIAL SEAL"
FRANCES M. CATLEDGE
Notary Public, State of Illinois
My Commission Expires 10/25/91

My Commission Expires: 10/25/1991

January 19, 1996

Mr. Chuck Jensen
Regional Property Manager
Montgomery Ward
Corporate Real Estate
535 West Chicago Avenue
Chicago, Illinois 60671

RE: Parking lot lease, Montgomery Ward Service Facility 2701, Behind Walnut Avenue, Downers Grove, Illinois.

Dear Mr. Jensen:

As you are aware, Montgomery Ward has chosen to exercise the final five year option on the parking lot described above.

The lease terms provide for a 75% increase in rent effective on the October 1, 1995 renewal date.

We therefore request that you update your records and payment system to reflect a monthly rent of $3,747.91 as of October 1, 1995.

Please feel free to call the undersigned at (708) 964-2300 with any questions.

Very truly yours,

THE MOREY CORPORATION

Douglas E. Cunningham
Controller

DEC/s

Montgomery Ward
Corporate Offices
Montgomery Ward Plaza
Chicago, Illinois 60671

Corporate Offices

312 467 2000

Chicago, Illinois
January 30, 1996

The Morey Corporation
Mr. Douglas E. Cunningham
2659 Wisconsin Avenue
Downers Grove, IL 60515-0719

RE: MONTGOMERY WARD - DOWNERS GROVE, IL
PARKING LOT LEASE RENT INCREASE

Dear Mr. Cunningham:

Your letter of January 19, 1996 was referred to me for handling. According to the terms of our Lease dated February 5, 1980 and the First Supplemental Agreement dated December 29, 1989, our rent shall be increased per section 5 during the option period 10/1/95 thru 9/30/2000. Our fixed rent during this further extended term shall be adjusted upward at the commencement of the extended term by the percentage change in the CPI since the commencement of the extended term, but in no event shall rent be increased by more than 75%.

Below you will find our calculation for this increase using the following indexes:

CPI-U (82 Series) $\frac{10/95 \quad 153.7}{10/90 \quad 133.5}$ - 15.13% Increase

Current monthly rent $2,141.67 x 15.13% = $2,465.70 mo.

I have adjusted our rent retroactively to 10/1/95 to the new monthly amount of $2,465.70. Our check in the amount of $1,620.15 representing the rent adjustment for period 10/1/95 thru 2/29/96 shall be forthcoming in about ten days. Please note your records.

Should you have any questions, feel free to contact me at #312/467-7798.

Sincerely,

Barbara Gianfrancesco

Barbara Gianfrancesco, Supr.
Corporate Lease Accounting, 7-3

cc: Chuck Jensen

/db

MOR 001546

ASSIGNMENT OF LEASE

THIS ASSIGNMENT OF LEASE is executed this 18th day of June, 1996, by THE MOREY CORPORATION (herein called the "Assignor") formerly the beneficiary of Downers Grove National Bank, as trustee under trust number 78-309 (herein called the "Trust"), and MOREY REALTY GROUP, INC., an Illinois corporation (herein called the "Assignee").

WHEREAS, pursuant to written lease (the "Lease") dated February 5, 1980, between Trust and Montgomery Ward & Co., Incorporated ("Tenant"), and amended by that First Supplemental Lease dated December 29, 1989, between Assignor (as successor to Trust) and Tenant, Tenant did lease the real property described therein; and

WHEREAS, in order to protect the real estate assets of Assignor from the possible liabilities attendant to the operation of Assignor'/s primary business, the Assignor did create a wholly owned subsidiary (Assignment) for purposes of owning and operating its real estate interests; and

WHEREAS, Assignor has transferred legal title to the Property which is the subject of the lease to Assignee;

NOW, THEREFORE, in consideration of the sum of Ten Dollars ($10.00) in hand paid to Assignor, the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledge, the parties hereby agree as follows:

1. **Assignment of Lease.** Assignor hereby transfers and assigns to Assignee any and all right, title and interest (specifically including, but not limited to, entitlement to receipt of rental income from the tenant thereunder from and after the date hereof) which Assignor may have, as landlord or otherwise, in the Lease.

2. **Acceptance.** By executing this Assignment, Assignee hereby accepts and agrees to perform all of the terms, covenants and conditions of the Lease on the part of the landlord therein required to be performed, from and after the date hereof.

3. **Cross Indemnities.** Assignee covenants and agrees to indemnify, save and hold harmless Assignor from and against any and all losses, liabilities, costs, expenses, damages, claims or causes of action existing in favor of, or asserted by, the tenant under the Lease which arise out of or relate to Assignee's failure to perform any of the obligations as landlord under the Lease arising after the date hereof. Assignor covenants and agrees to indemnify, save and hold harmless Assignee from and against any and all losses, liabilities, costs, expenses, damages, claims or causes of action existing in favor of, or asserted by, the tenant under the Lease which arise out of or relate to Assignor's failure to perform any of the obligations as landlord under the Lease arising prior to the date hereof.

4. **Successors and Assigns.** This Assignment of Lease shall inure to the benefit of, and be binding upon, the successors, executors, administrators, legal representatives and assigns of the parties hereto.

5. Governing Law. This Assignment of Lease shall be construed under and enforced in accordance with the laws of the State of Illinois.

IN WITNESS WHEREOF, the parties have executed this Assignment of Lease as of the date set forth above.

ASSIGNOR:

THE MOREY CORPORATION, an Illinois corporation

By: Dana Morey

Its: Vice President

ASSIGNEE:

MOREY REALTY GROUP, INC., an Illinois corporation

By: Dana Morey

Its: President

ACKNOWLEDGMENT AND CONSENT BY TENANT

The undersigned on behalf of Montgomery Ward & Co., Incorporated does hereby acknowledge receipt of a copy of the foregoing Assignment of Lease in which the Lease described therein is assigned from The Morey Corporation to Morey Realty Group, Inc., consents to same. Tenant agrees that all future rent payments thereunder shall be payable to : Morey Realty Group, Inc., 2659 Wisconsin Avenue, Downers Grove, IL 60516.

MONTGOMERY WARD & CO., INCORPORATED

By: _____
Name: _____
Title: _____

(all attached)

Date: _____, 1996

C\WJC\MOREY\ASSIGN.LSE\06-14-96

MOR 001548

Montgomery Ward
535 W. Chicago Avenue
Chicago, Illinois 60610

Corporate Real Estate

312-467-2000

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 23, 1996

The Morey Corporation
2659 Wisconsin Avenue
Downers Grove, IL 60516

RE: That certain lease ("Lease") dated February 5, 1980 by and between Downers Grove National Bank, as trustee under trust number 78-309, as Landlord, and Montgomery Ward & Co., Incorporated, as Tenant, for the real property described therein.

Dear Sir or Madam:

The undersigned does hereby acknowledge receipt of a copy of the Assignment of Lease dated June 18, 1996 by and between The Morey Corporation, as Assignee, and Morey Realty Group, Inc., as Assignor, in which the above-referenced Lease was assigned to Morey Realty Group, Inc. The undersigned further acknowledges that, pursuant to the Assignment, all future rent payments due under the Lease should be made payable to Morey Realty Group, Inc. and sent to 2659 Wisconsin Avenue, Downers Grove, IL 60516.

MONTGOMERY WARD & CO., INCORPORATED

By: Chuck Jensen

Name: Chuck Jensen

Title: Regional Property Manager

cc: G. Reinhold

Montgomery Ward

SELLER'S CLOSING STATEMENT

SELLER:	MC Holdings Corp., an Illinois corporation Morey Realty Group, Inc., and Illinois corporation
BUYER:	A-1 Holdings, L.L.C., an Illinois limited liability company
PROPERTY:	2661 Wisconsin, Downers Grove, IL 60516
CLOSING DATE:	June 4, 1998

	DEBIT SELLER	CREDIT SELLER
Balance of Purchase Price (Parcel 1 & 2):		$678,217.68
($4.50 x 150,715.04 sq. ft.)		
Earnest Money:	$100,000.00	
Title Insurance Charges:		
Premium	1,075.00	
Closing Fee:	370.00	
New York Style Closing Fee:	250.00	
Real Estate Taxes (See calculation, attached):	11,383.62	
Transfer Taxes:		
State of Illinois:	679.00	
DuPage County:	339.50	
Downers Grove (None):	00.00	
Recording Fees (Estimated):	30.00	
Commission Payable:		
Frain Camins & Swartchild	16,955.44	
Grubb & Ellis	16,955.44	
Lease Payment Proration ($2,465.70 x 26/30)	2,136.94	
Other:	00.00	
Balance of Proceeds to Seller:	528,042.74	
TOTALS:	$678,217.68	$678,217.68

[Approvals contained on the following page]

APPROVED:

For Seller

For Buyer

Joseph Voltaire

REAL ESTATE TAX CREDIT
COMPUTATION
[*PRORATIONS FINAL*]

		1997 Tax
Tax Number:	08-12-303-004	$ 8,232.94
	08-12-303-006	3,938.50
Total:		$ 12,171.44
@ 102.5%		$ 12,475.73
Per Diem Amount: $12,475.73/ 365 =		$ 34.18

1997 2nd Installment	6,085.72
1998, 1/1 through 6/4 (155 Days):	5,297.90
TOTAL TAX CREDIT TO BUYER:	$ 11,383.62

Liquid Control Corp.

Plural Component Dispensing Equipment

Technical Service

Dan Phillips
8400 PORT JACKSON AVE. NW
NORTH CANTON, OH 44720
330/494-1313 EXT.250
FAX: 330/966-3006

To:	**Bogdan**	Date:	**05/10/02**
Company:	**Morcy Corp.**	Fax.	**630-754-2543**
#of Pages	5	Note:	**Po's of machines**

Bogdan,

These are the original purchase orders from Morey Corp to purchase the serial numbers SN-1136, SN-1782, SN-2039, and SN-2405 we had talked about. If you have any questions or need more information please let me know.

Best regards,

Dan Phillips
Technical Service Rep.

May-10-02 09:03 LCC Parts SVC Fax 330 966 3006 P.02

SN-2405

2659 WISCONSIN AVE.
TELEPHONE 708-964-2300

DOWNERS GROVE, IL 60515-0719
FAX NO 708-960-7484

DEC 21 1990

The Morey Corporation

ENGINEERS AND ELECTRONIC EQUIPMENT MANUFACTURERS

ACCT. NO.

6000-1990

S/N -2405

DATE

12/13/90

1-4-91

PURCHASE ORDER

NO. 08809

State of Illinois Cert. No. 2084-1884 ** For Resale ☐ For Consumption

GOVT. CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #

LIQUID CONTROL CORP 5025
7576 FREEDOM AVE N.W
N. CANTON OH 44720-0000

SHIP VIA: UPS

** CONFIRMING ORDER **

216/494-1313

PAR	JEFF	12/06/90
FROM	TO	ON

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
9000	029	1 EA	MINI METER #TFM 15/20 2405 TWINFLOW BENCHTOP MACHINE FOR CATERPILLAR CONTRACTS	9990.00	E	9,990.00
9000	034	100 EA	POSIMIXER 1/4 X 24 ELEMENT LIQUID CONTROL TO BE USED WITH TFM 15/20 MACHINE	1.86	E	186.00

10,176.00

DOLLAR VALUE THIS ORDER

REQUIRED DELIVERY ON OUR DOCK AS FOLLOWS				VENDOR PROMISED DELIVERY ON OUR DOCK			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
9000	029	1/14/91	ALL	9000	029	1/14/91	ALL
9000	034	1/14/91	ALL	9000	034	1/14/91	ALL

The Morey Corporation

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

The Purchase Order Number must appear on your package, Packing Slip, Bill of Lading and Invoice

PURCHASING AGENT

MOR 001553

SN-2039

2659 WISCONSIN AVE.
TELEPHONE 312-964-2300

DOWNERS GROVE, IL 60512-0719
FAX NO. 312-960-7484

5/0 IC
12041

The Morey Corporation

ENGINEERS AND ELECTRONIC EQUIPMENT MANUFACTURERS

ACCT. NO.
4000-1989

PURCHASE ORDER NO. 94117

DATE
7/27/89

State of Illinois Cert No 2084-1004 ☒ For Resale ☐ For Consumption

GOVT CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #1

TO LIQUID CONTROL CORP 5025 SHIP VIA: UPS
7576 FREEDOM AVE N.W
N. CANTON OH 44720-0000

** CONFIRMING ORDER **

216/494-1313
317 758-5843

PR FROM JEFF TO 7/21/89 ON

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
3180	135	2 EA	SPARE PARTS KIT SWG/POTTING MACHINE #SPK-35-MM	90.00	E	180.00
3180	136	2 EA	SPARE PARTS KIT SWG/POTTING MACHINE #SPK-15-MM	82.00	E	164.00
6006	148	1 EA	POTTING MACH PR4-35-15 AS LISTED BELOW	14600.00	E	14,600.00

The above machine will be completely shop assembled and wet tested prior to shipment. Liquid Control will provide in house video taping facilities to tape your wet test at no charge. Jeff Beals will assist in the start up of our new equipment at our Downers Grove facility at no charge. Mor.

DOLLAR VALUE THIS ORDER 14,944.00

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS				VENDOR PROMISED DELIVERY			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
3180	135	8/01/89	ALL	3180	135	8/01/89	ALL
3180	136	8/01/89	ALL	3180	136	8/01/89	ALL
6006	148	8/01/89	ALL	6006	148	10/15/89	ALL
		Wet Test Oct 30, 1989					

9/25/89 Need accurate ... & advise ASAP

5/n-2039 ... Also ... video ... wire ...

LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED	LINE	10X	ITEM	ORDERED
				4	Cable	with									

DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE	DATE	M. T. NO.	QUANTITY	BALANCE

SN-1782

2659 WISCONSIN AVE.
TELEPHONE 312-964-2300

DOWNERS GROVE, IL 60515-0719
FAX NO. 312-980-7484

The Morey Corporation

ACCT. NO.

[illegible]

PURCHASE ORDER

NO. [illegible]

DATE

[illegible]

State of Illinois Cert. No. 410849 [X] For Resale [ ] For Consumption

GOVT. CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #1

SHIP VIA: BRO

[illegible]

8-23-88
CONFIRMED 25/65/10 TERMS
PAT RUST
S.C.

FROM | TO | ON

YOUR INVOICE & PACKING LIST MUST SHOW OUR

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
9000	217	1 EA	PUTTING MACH. #PR435/15 [illegible] [illegible] $150 PKG CHARGE 8/23/88 Steve please reconcile + advise MGR 1/ Ship via 2/ Payment Terms	24,400.00	E	24,400.00

DOLLAR VALUE THIS ORDER

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS

10X	ITEM	DATE	QUAN.
9000	217	9/01/88	ALL

VENDOR PROMISED DELIVERY

10X	ITEM	DATE	QUAN.
9000	217	10/05/88	ALL

AUG 22 1988

The Morey Corpo

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

The Purchase Order Number must appear on your package, Packing Slip, Bill of Lading and Invoice

Patrice
PURCHASING

MOR

SN-1136

2868 WISCONSIN AVE. DOWNERS GROVE, IL 60515-0719 · TELEPHONE 312 - 964-2300

The Morey Corporation

ACCT. NO.

1177-0000

PURCHASE ORDER NO. 59346

DATE

3/04/96

State of Illinois Cert. No. 410849 ☒ For Resale ☐ For Consumption

GOVT. CONTRACT NUMBER

PRIORITY RATING

CERTIFIED UNDER DMS REG. #

LIQUID CONTROL CORP 5025
7576 FREEDOM AVE N.W.
N. CANTON OH 44720-0000

SHIP VIA: UPS

** CONFIRMING ORDER **

216/494-1313

PAT (FROM) JERRY (TO) 3/29/96 (ON)

Please furnish the following articles subject to conditions stated herein and printed on the back hereof, all of which conditions become part of this order by your acceptance thereof.

WITHIN 4 DAYS PLEASE ACKNOWLEDGE RECEIPT Of This Order and Advise Date of Shipment.

10X NO.	ITEM NO.	QUANTITY	DESCRIPTION	PRICE	UNIT	EXTENSION
3180	136	1 EA	POSI-RATIO 4198-36R1 POTTING MACHINE S.W.G.	10,820.00	E	10,820.00

EFFECTIVE AT ONCE, WE MUST INSIST THAT ALL VENDORS SHOW OUR "10X ITEM & DESC." ON PACKING LISTS. FAILURE TO COMPLY MAY DELAY PAYMENT AND CAUSE REMOVAL FROM APPROVED SOURCE LISTINGS.
THANKS FOR YOUR HELP

1136

25% Deposit Received

DOLLAR VALUE THIS ORDER 10,820.00

REQUIRED DELIVERY AT OUR PLANT AS FOLLOWS				VENDOR PROMISED DELIVERY			
10X	ITEM	DATE	QUAN.	10X	ITEM	DATE	QUAN.
3180	136	4/12/86	ALL	3180	136	4/12/86	ALL

The Morey Corporation

PLEASE NOTE THAT THE QUANTITIES SHOWN ARE THE QUANTITIES REQUIRED. ANY OVERAGES ARE SUBJECT TO RETURN.

Purchase Order Number must appear on your bags, Packing Slip, Bill of Lading and Invoice.

PURCHASING AGENT