TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
NIAX POLYOL	669		UNION CARBIDE CORP CHICAGO. IL	
NICKEL EASE	1398A	MIXTURE 0-1-0-A	FEL PRO SKOKIE IL	0787
NICKEL PLATING	1359	NICKEL	NUSICK PLATING INC. EAST ST. LOUIS. IL 62207	0486
NITRIC ACID	2031			
	111	NITRIC ACID	J T BAKER -VW SCIENTIFIC- PHILLIPSBURG. NJ 08865	0186 7697372
	111A	NITRIC ACID 3-0-0-B	EM SCIENCE CHERRY HILL N.J.	1087 7697372
	1561	NITRIC ACID 4-0-0-J	ALDRICH CHEM CO. MILWAKEE WI.	1088 7697372
	735	NITRIC ACID	FISHER SCIENTIFIC FAIR LAWN. NJ 07410	0380 7697372
	735A	NITRIC ACID 3-0-0-G	FISHER SCIENTIFIC FAIR LAWN NJ	0389 7697372
	585	NITRIC ACID-98%	OLIN HUNT WEST PATERSON. NJ 07424	0987 7697372
CID. FUMING	585A	NITRIC ACID. 60-100% 3-0-0-G	OLIN HUNT WEST PATERSON. NJ	0589 7697372
ETHOXY ALUM. HYDRIDE	693A	SODIUM DIHYDROBIS ALUMINATE 3-4-3-J SARA TOXIC	HEXCEL CHEMICAL PROD. ZEELAND. MI 49464	0789

US EPA RECORDS CENTER REGION 5
423334

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
NITROANILINE	437	NITROANILINE	EASTMAN KODAK	
			ROCHESTER, NY 14650	88744
NITROANILINE	1312	1-AMINO-2-NITROBENZENE	EASTMAN KODAK	0485
			ROCHESTER, NY 14650	88744
NITROCARBOL	454A	NITROMETHANE	FISHER SCIENTIFIC	0489
		3-3-3-D/Y	FAIR LAWN, NJ, 07410	7552
NITROCELLULOSE WET/2-PROPANOL	375	CELLULOSE NITRATE WET WITH	HERCULES INC	0387
		2-PROPANOL	WILMINGTON, DE 19894	
NITROGEN	946	NITROGEN	SCOTT ENV TECH	0684
			PLUMSTEADVILLE,PA	
	946A	NITROGEN	SCOTT SPECIALTY GASES	9999
		0-0-0-A	PLUMSTEADVILLE PA	
NITROGEN GAS STD .1%	388		ALLTECH ASSOCIATES	
			DEERFIELD IL	7727379
NITROGEN GAS STD 10%	387		ALLTECH ASSOCIATES	
			DEERFIELD IL	7727379
NITROGEN LIQUID	445		AIRCO INC	
			MURRAY HILL, NJ	7727379
NITROGEN, COMPRESSED	447	NITROGEN	AIRCO INC	9999
			MURRAY HILL, NJ	7727379
NITROMETHANE	454	NITROMETHANE	FISHER SCIENTIFIC	0580
			FAIR LAWN, NJ 07410	7552
NO-BITE INSECTICIDE	1291	TRICHLOROETHANE PLUS OTHERS	BONNIE CHEM-SPEC	9999
			EARTH CITY,MO. 63045	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
NONE	1318	10% BUTOXY ETHYL ACETATE.	ALUMINUM CO. OF AMERICA	0785
		ALUMINUM OXIDE	PITTSBURG. PA. 15219	1333842
OCTADECANOL	1335	STEARYL ALCOHOL	MALLINCKRODT CHEMICALS	0985
			PARIS. KY 40361	112927
OCTADECYL ISOCYANATE.TECH	331	ISOCYANIC ACID.OCTADECYL ESTER	ALDRICH CHEMICAL CO	1285
			MILWAUKEE. WI 53201	112969
OCTYNE	603	97% OCTYNE	WHITTAKER CORP	0282
			GARDENIA CA	629059
OIL AMERICAN NO. 100	1217	PARAFFINIC PETROLEM OIL	AMOCO OIL CO.	0585
			CHICAGO. IL 60601	6474254
OIL AMOCO DEXRON II ATF	1219	SOLVENT REFINED BASE OIL	AMOCO OIL CO.	0185
			CHICAGO. IL 60601	
OIL AMOCO HYDRAULIC	1461	PARAFFINIC PETROLEUM OIL	AMOCO OIL CO.	0785
		CAS NO. 64742547 & 64741884	CHICAGO. IL 60601	
OIL AMOCO 200 HVY DTY SAE 30	1220	PARAFFINIC PETROLEUM OIL	AMOCO OIL CO.	0885
			CHICAGO. IL 60601	
OIL AMOCO 300 MOTOR SAE 30	1218	PARAFFINIC PETROLIUM OIL	AMOCO OIL CO.	0885
		SOLVENT.ZDDP.CALCIUM PHENATE	CHICAGO. IL 60601	
OIL HYVAC	582		CENCO-CENTRAL SCIENTIFIC	
OIL INLAND #19	966	PARAFFINIC PETROLEUM	INLAND VACUUM IND.	9999
			CHURCHVILLE.NY	
OIL MINERAL HULSPECIAL	353		HULBERT	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
OIL PARK AAA QUENCH	1127	MINERAL OIL	PARK CHEMICAL CO.	1185
			DETROIT,MI 48204	801295
OIL PCL -BREAK FREE-	1023	12% CHLOR.H.C., 12% ESTERS,	SAN/BAR CORP.	9999
		KEYTONES, ALIPHATICS	IRVINE, CALIF.	
OIL REFRIGERANT	567		DELCO	
OIL SHELLTELLUS -R-68	1609	OIL SHELL TELLUS -R-68	SHELL CHEM CO.	0885
		1-1-0-B	HOUSTON TX.	6474547
OIL TONNIA 68	1510	PETROLEUM HYDROCARBONS	SHELL OIL	1185
		WAY OIL	HOUSTON, TX 77210	
OIL VACUUM PUMP 19	527		VWR SCIENTIFIC	
			SAN FRANCISCO CA	
OIL 3 IN 1	287	97% PETROLEUM DISTILLATE	BOYLE MIDWAY	9999
		3% INHIBITOR & ODORANT	CRANFORD,NJ 07016	
OIL, CIRCO LIGHT RED	744	NAPHTHENIC OIL	SUN REFINING & MARKING CO	0381
			PHILADELPHIA, PA 19103	
OIL, HYDRAULIC -SIMPLEX-	1144	PETROLEUM OIL	BUEHLER LTD.	1285
			LAKE BLUFF, IL 60044	
OIL, NDL 2SAE 10W THRU 50	1160	HYDROCARBONS	CENTURY HULBURT	1085
			KANSAS CITY, KS 66111	
OIL, PENNZOIL SM 22 LUBRICANT	1439	HYDROCARBON	PENNZOIL CO.	1185
			OIL CITY, PA 16301	
OIL, WAYTAC NO. 32	1450	PARAFFINIC PETROLEUM OILS	AMOCO OIL CO.	0685
		64741-88-4 & 64742-01-4	CHICAGO, IL 60601	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
OILANCHOR # 300	1605	OIL ANCHOR #300	JENKIN-GUERN, INC	0789
		1-1-0-B	ST. LOUIS MO.	
OILHALOCARBON 56	1496	CHLOROTRIFLUOROETHYLENE TELOME	HALOCARBON PRODUCTS CORP	1085
			HAKENSACK NJ	
OLIN ACID-STARCH INDICATOR	175	88% SULFAMIC ACID	OLIN WATER SERVICES	0783
			OVERLAND PARK KS 66210	
OLIN BALL POWDER SPI 140	991	NITROCELLULOSE, NITRO	OLIN	0484
		GLYCERINE, GRAPHINE	STAMFORD, CT 06904	
OLIN FLUID BALL PWDR -A-	993	NITROCELLULOSE	OLIN	0784
		2 NITRODIPHENYLAMINE -2NDPA-	STAMFORD, CT 06904	
OLIN FLUID BALL PWDR -B-	992	90% NITROCELLULOSE,8% NITRO-	OLIN	0784
		GLYCERIN,-2-NITRODIPHENYLAMINE	STAMFORD, CT 06904	
OLIN HANVER INDICATOR	176	HYDROXYLAMINE HYDROCHLORIDE	OLIN WATER SERVICES	0582
		10%	OVERLAND PARK KS 66210	547011
OLIN PHENOLPHTHALEIN INDICATOR	172	50% ISOPROPANOL, WATER	OLIN WATER SERVICES	0782
			OVERLAND PARK KS 66210	
OLIN POLY G 600	1001	POLYETHYLENE GLYCOL	OLIN	0479
			STAMFORD, CT 06904	25322683
OLIN POLY-G 1000	999	POLYETHYLENE GLYCOL	OLIN	0681
			STAMFORD, CT 06904	
OLIN POLYSOLVE B	1000	GLYCOL ETHER	OLIN	0479
			STAMFORD, CT 06904	111762
OLIN RESINEW II	170A	CHELATING AGENTS	OLIN WATER SERVICES	0288
			OVERLAND PARK KS	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
OLIN RESINEX II 6198 BOILER TR	170	TETRASODIUM ETHYLENEDIAMINE	OLIN WATER SERVICES	0781
		TETRA-ACETATE 5%	OVERLAND PARK KS 66210	
OLIN STANDARD VERSANATE TEST	178	.1% DISODIUMETHYLENEDIAMINETE-	OLIN WATER SERVICES	0277
		TRAACETATE	OVERLAND PARK KS 66210	
OLIN TRACER MIX I-547	1266A	MIXTURE	OLIN	0688
		1-4-3-E	STAMFORD CT	
OLIN U1011 BOILER TREATMENT	169	25% SODIUM HYDROXIDE	OLIN WATER SERVICES	1276
			OVERLAND PARK KS 66210	
OLIN VERSENATE BUFFER SOL.	171	12% AMMONIUM HYDROXIDE. 7%	OLIN WATER SERVICES	0881
		AMMONIUM CHLORIDE	OVERLAND PARK KS 66210	
OLIN 1000	164A	INORGANIC PHOSPHATES	OLIN WATER SERVICES	0288
		0-0-0-B	OVERLAND PARK. KS	
OLIN 1010	165A	STRONG ALKALI SOLUTION	OLIN WATER SERVICES	0189
		3-0-0-C SARA TOXIC	OVERLAND PARK. KS	
OLIN 1750	166A	POLYGYCOL ETHERS	OLIN WATER SERVICES	0288
		0-0-0-B	OVERLAND PARK. KS	
OLIN 1750 BOILER TREATMENT	166	POLYGLYCOL ETHERS	OLIN WATER SERVICES	0882
			OVERLAND PARK KS 66210	
OLIN 1806	161A	INORGANIC SULFATES	OLIN WATER SERVICES	0288
		0-0-0-C	OVERLAND PARK. KS	14178
OLIN 1851	162A	ALIPHATIC AMINE	OLIN WATER SERVICES	0589
		2-2-0-G	OVERLAND PARK. KS	
OLIN 1851 BOILER TREATMENT	162	CYCLOHEXYLAMINE 30%	OLIN WATER SERVICES	0882
		ALIPHATIC AMINE	OVERLAND PARK KS 66210	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
OLIN 1858	167A	ALIPHATIC AMINES	OLIN WATER SERVICES	0589
		2-2-0-H	OVERLAND PARK, KS	
OLIN 1858 BOILER TREATMENT	167	15% CYCLOHEXYLAMINE	OLIN WATER SERVICES	0280
		15% MORPHOLINE	OVERLAND PARK KS 66210	
OLIN 2015 BOILER TREATMENT	168	SODIUM HYDROXIDE 3%	OLIN WATER SERVICES	0381
			OVERLAND PARK KS 66210	1310732
OLIN 2605	159A	ORGANIC PHOSPHONATE	OLIN WATER SERVICES	0288
		1-0-0-C	OVERLAND PARK, KS	
OLIN 2605 WATER TREATMENT	159	10% AMINOTRISMETHYLPHOSPHONIC	OLIN WATER SERVICES	0482
		ORGANIC PHOSPHATE	OVERLAND PARK KS 66210	
OLIN 3306	160A	ISOTHIAZOLIN	OLIN WATER SERVICES	0188
		3-0-0-H SARA TOXIC	OVERLAND PARK, KS	
OLIN 3306 WATER TREATMENT	160	CHLOROMETHYLISOTHIAZOLIN 1.5%	OLIN WATER SERVICES	0283
		METHYLISOTHIAZOLINONE 0.5%	OVERLAND PARK KS 66210	
OLIN 5026	1434	ANIONIC POLYACRYLATE	OLIN WATER SERVICES	0385
		25% PETROLEUM DISTILLATE	OVERLAND PARK KS 66210	
	1434A	ANIONIC POLYACRYLATE	OLIN WATER SERVICES	0188
		1-2-0-8 OR E	OVERLAND PARK KS	
OLIN 5133	1433	CATIONIC POLYMER	OLIN WATER SERVICES	1284
			OVERLAND PARK KS 66210	
	1433A	CATIONIC POLYMER	OLIN WATER SERVICES	0388
		0-0-0-A SARA	OVERLAND PARK, KS	
OLIN 8010 LONG-RANGE INDICATOR	892	BOGEN'S LONG-RANGE INDICATOR	OLIN WATER SERVICES	0986
		METHANOL	OVERLAND PARK KS 66210	6756

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
OMAMIDE	597		EASTMAN KODAK	
			KINGSPORT. TN 37662	
OMAX 600 SERIES PROPELLANT	1248	AMMONIUM NITRATE-BASED	OLIN	0386
		PROPELLANT MIXTURE	STAMFORD. CT 06904	
OMAX 700 SERIES PROPELLANT	1247	AMMONIUM NITRATE-BASED	OLIN	0385
		PROPELLANT MIXTURE	STAMFORD. CT 06904	
OMNI-KAP	1345	CALCIUMOXIDE. SULFATE AND	OMNI DIVISION	
		CA/AL SILICATE -PROP.-	GREAT MEADOWS.N.J. 07838	
ONCE OVER	1473	AMMONIA. PHOSPHATE.8% CARBITOL	PECKS PROD.-RGH SERVICES-	0286
		2% TRIBUTOXYETHYL MIXTURE	ST. LOUIS. MO 63147	
	1473A	ONCE OVER	PECK'S	0287
		1-0-0-A	ST LOUIS MO	
ONOX FOOT SOLUTION	1073	ZINC CHLORIDE	ONOX CORP.	9999
		BORIC ACID	PALO ALTO CA.	
ONOX SOLUTION	1073A	ZINC CHLORIDE/BORIC ACID	ONOX/JONES HAMILTON	0988
		2-0-0-E	PALO ALTO CA	
OPAQUE STENCIL MARK. INK	553A	BUTYL ALCOHOL/XYLENE	RANDOLPH PRODUCTS CO	0188
		2-4-3-E/Y	CARLSTADT. NJ 07072	
ORION IONALZER STD.	544		ORION RESEARCH INC	
			CAMBRIDGE MA	
ORION SOLUTION STD	543		ORION RESEARCH INC	
			CAMBRIDGE MA	
OXALIC ACID	1596	OXALIC ACIDE	ALDRICH CHEM. CO.	0689
		4-2-3-H-Y	MILWAUKEE WI.	144621

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
OXAMIDE	755		RHEEM	
				471465
	109	OXAMIDE	HUMMEL CHEMICAL	9999
			S.PLAINFIELD, NJ 07080	471465
	109A	OXAMIDE	HUMMEL CHEMICAL	0686
		2-0-0-E	SOUTH PLAINFIELD NJ	471465
OXFORD CLEANER, CONCENTRATE 44	1210	PROP	OXFORD CHEMICAL	0385
		PINK VISCOUS LIQUID	ATLANTA, GA 30366	
OXFORD CRYSTALITE WAX	910		OXFORD CHEMICAL	9999
			ATLANTA, GA 30366	
OXFORD LIFT -CLEANER-	909	-10% GLYCOL ETHER SOLVENTS	OXFORD CHEMICAL	0385
			ATLANTA, GA 30366	
OXFORD LIFT CLEANER	909A	LIFT	OXFORD CHEMICALS	0687
		2-0-0-B	ATLANTA GA	
OXY 1716	1320	ETHENE, CHLORO-HOMOPOLYMER	PVC FABRICATED PRODUCTS	0886
			POTTSTOWN, PA 19464	9002862
OXY 605	1321	ETHENE, CHLORO-HOMOPOLYMER	PVC FABRICATED PRODUCTS	0786
			POTTSTOWN, PA 19464	9002862
OXYGEN COMPRESSED	467	OXYGEN	AIRCO INC	9999
			MURRAY HILL, NJ	7782447
OXYGEN GAS STD .1%	390		ALLTECH ASSOCIATES	
			DEERFIELD IL	7782447
OXYGEN GAS STD 10%	389		ALLTECH ASSOCIATES	
			DEERFIELD IL	7782447

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
OXYPRUF E	712	DIMETHYL PYRAZOLE POLYETHYZENE OXIDE ADDUCT	OLIN STAMFORD, CT 06904	0781
OXYPRUF P	713	DIMETHYL PYRAZOLE POLYPROPYLEN OXIDE ADDUCT	OLIN STAMFORD, CT 06904	0781
OXYPRUF 12	715	PROPOXYLATED HYDRAZINE-12	OLIN STAMFORD, CT 06904	0381
OXYPRUF 20	716	PROPOXYLATED HYDRAZINE-20	OLIN STAMFORD, CT 06904	0381
OXYPRUF 6	714	PROPOXYLATED HYDRAZINE-6	OLIN STAMFORD, CT 06904	0381
OZALID DRY ABSORBER	1224	PHOSPHORIC ACID ABSORBED ON ACTIVATED CARBON	OZALID CORPORATION BINGHAMTON,NY 13902	0780
P-TOLUENESULFONIC ACID	1403A	P-TOLUENESULFONIC ACID 1-0-0-A	EASTMAN KODAK ROCHESTER NY	1888 10415
PACKING ASBESTOS STYLE 230	1227	57% ASBESTOS	PHOENIX GASKET/PACKING CO	
PACKING, STYLE 137	1228	PURCHASE ONLY ON SAF-2 FORM HYDRATED MAGNESIUM SILICATE / POLYTETRAFLUORETHYLENE	MIDDLESEX,NJ 08846 MARLO COMPANY, INC. NEWTOWN, CN 06470	99900000
PAINT ANTI RUST SPRAY 0604	1276	55% ORDERLESS MIN SPIRITS 10% ISOBUTANE, 10% PROPANE	SPRAYON PRODUCTS INC BEDFORD HEIGHTS, OH 44146	0386
PAINT VISTA GREEN FAST DRY	1381	10% XYLENE,20% NAPHTHA, 5% MIN. SPIRITS	PPG INDUSTRIES INC PITTSBURGH, PA 15238	0186
PAINT, #3 WHITE STAMP PAD INK	333A	1-2-0-8	PHILLIPS PROCESS CO ROCHESTER NY	0789

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
PAINT, AEROSOL GILMAN GRAY	1371	ETHOXY ACETATE	FASSE PAINT CO.INC.	0386
		BUTYLALCOHOL. OTHERS	SHEBOYGAN FALLS.WI 53085	
PAINT, F-150 MIL-P-24441/1	1090	15% N-BUTYL ALCOHOL.12% ARO-	SEAGUARD CORP.	9999
		MATIC NAPTHA-EPOXY POLYAMIDE-	PORTSMOUTH.VA 23705	
PAINT, MCR RED LACQ MIL-*	323A		ROCKFORD COATINGS CORP	0785
		3-4-3 SARA	ROCKFORD IL	
PAINT, PR 420 ISOCYANATE	282	12% LEAD SILICO CHROMATE.7%	PRODUCTS RESEARCH & CHEM	0385
		ISOCYANATE. 72% SOLVENTS	GLENDALE. CA 91209	
PAINT,ORIGINAL EQUIPMENT BLACK	1213	40% TOLUENE. 20% 2-BUTANONE.	PPG INDUSTRIES INC	0884
		5% XYLENE	CLEVELAND. OH 44111	
PAPI 94 - POLYMERIC MDI	1118	70% MDI. BAL. POLYMETHYLENE	DOW CHEMICAL U.S.A.	0586
		POLYPHENYL ISOCYANATE	MIDLAND. MI 48674	2644748
PARLON. CHLORINATED RUBBER	105	7% CARBONTETRACHLORIDE	HERCULES INC	0183
			WILMINGTON. DE 19899	
PARQUENCH 60	1126	BORAX/SODIUM NITRATE	PARK CHEMICAL CO.	1185
		OCO 473	DETROIT.MI 48204	
PBNX-5	1014	TETRAMETHYLENETETRANITROMINE	U.S.GOVERNMENT	0484
		5% VITON		
PBXN-5	1419	95%CYCLOTETRAMETHYLENE.TETRANI	HOLSTON DEFENSE CORP.	0586
		TRAMINE-HMX-. 5% VITON	KINGSPORT.TN. 37666	
PENTAERYTHRITOL TRIACRYLATE	1332	PENTAERYTHRITOL TRIACRYLATE	CELANESE CORPORATION	0785
			LOUISVILLE. KY. 40233	3524683
PENTANE	515	PENTANE	EASTMAN KODAK	0874
			ROCHESTER. NY 14650	109660

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PENTANE	515A	PENTANE	EASTMAN KODAK	0886
		2-4-0-G	ROCHESTER NY	109660
	628	PENTANE	FISHER SCIENTIFIC	0180
			FAIR LAWN, NJ 07410	109660
	628A	PENTANE	FISHER SCIENTIFIC	0389
		2-4-0-G	FAIR LAWN, NJ	109660
PENTANEDIONE	521	PENTANEDIONE	UNION CARBIDE	9999
			DANBURY, CT 06817-0001	123546
PENTANONE	626	PENTANONE	EASTMAN KODAK	0979
			ROCHESTER, NY 14650	9622
PENZOIL SM 22	1439A	PETROLEUM LUBRICANT	PENZOIL CO	0389
		1-1-0-B	OIL CITY PA	
PERCHLORIC ACID	531	.85% PERCHLORIC ACID, 97.2%	RICCA CHEM CO	9999
		ACETICACID.2% ACETIC ANHYDRIDE	ARLINGTON TX	
	531A	PERCHLORIC ACID	RICCA CO	0487
		3-0-3-G	ARLINGTON, TX	
PERFLUOROBUTYRIC ACID	623	PERFLUOROBUTYRIC ACID	3M	
			ST. PAUL, MN 55144	375224
PERMABOND 910	1519	METHYL CYANOACRYLATE	PERMABOND	0385
		SUPER GLUE	ENGLEWOOD NJ.	
	1174A	METHYL-2-CYANOACRYLATE	MEASUREMENTS GROUP	0386
		2-2-2-B	RALEIGH NC	137053
PERMAOL P3-855	997A	HYDROXYL TERM POLYTHIOETHER PO	PRODUCTS RES & CHEM	1088
		0-1-0-A	GLENDALE CA	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PERMAPOL P3-828	998A	HYDROXYL TERMINATED POLYTHIO	PRODUCTS RES & CHEM	1088
		0-1-0-A	GLENDALE CA	
PERMAPOL P855	997	POLY THIO ETHER POLYMER	PRODUCTS RESEARCH & CHEM	0983
			GLENDALE, CA 91209	
PETROLANE PROPANE	1275A	PROPANE	PETROLANE	0289
		1-4-1-G	LONG BEACH CA	74986
PETROLATUM	976	PETROLEUM FRACTIONS	FISHER	0780
			FAIR LAWN, NJ	
PETROLATUM STANOLIND	870		STANDARD OIL CO.	
			RICHMOND, CA	800903
PH HYDRON BUFFER	500		MICRO ESSENTIAL LAB.	9999
			BROOKLYN NY	
PHASE STABLEIZER AN	1481	AMMONIUM NITRATE	OLIN ROCKET RESEARCH CORP	0588
		•	REDMAN, WA	6484522
PHENANTHROLINE 1.10	1595	PHENANTHROLINE 1.10	ALDRICH CHEM.CO.	0689
		3-2-2-H-Y	MILWAUKEE WI.	66712
PHENOLIC MOLDING COMPOUND	1166	PHENOL-FORMALDEHYDE RESIN.	BUEHLER LTD.	0587
		AMMONIA	LAKE BLUFF, IL 60044	
PHENOLPHTHALEIN	442	PHENOLPHTHALEIN	MALLINCKRODT CHEMICALS	1280
			ST. LOUIS, MO 63147	77098
	442A	PHENOLPHTHALEIN	MALLINCKRODT	0885
		0-0-0-8 SARA TOXIC	ST LOUIS MO	77098
PHENYLDIETHANOLAMINE -N-	395	N-PHENYLDIETHANOLAMINE	ALDRICH CHEMICAL CO	0388
		ETHANOL,2,2---PHENYLIMINO-DI	MILWAUKEE, WI 53201	120070

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PHENYLMORPHOLINE	283	N-PHENYLMORPHOLINE	MONOMER-POLYMER/DAJAC LAB	
			TREVOSE,PA 19047	92535
	283A	N-PHENYLMORPHOLINE	MONOMER-POLYMER/DAJAC LAB	0789
		0-0-0-A	TREVOSE, PA	92535
	227	PHENYL MORPHOLINE	ANOCO CHEMICALS CO.	0586
			CHICAGO,IL 60601	92535
	509A	PHENYLMORPHOLINE N100	BASF CORP	0686
		2-1-0-D	PARISIPPSSY NJ.	92535
PHENYLMORPHOLINE -N-	383	N-PHENYLMORPHOLINE	EASTMAN KODAK	0985
		4-PHENYLMORPHOLINE-PRACT.-	ROCHESTER, NY 14650	92535
	435	N-PHENYLMORPHOLINE	BASF CORP. CHEMICALS DIV.	0686
		4-PHENYLMORPHOLINE	PARSIPPANY, NJ 07054	92535
PHENYLMORPHOLINE-N	509	PHENYLMORPHOLINE-4	BASF CORP. CHEMICALS DIV.	0686
		PHENYLMORPHOLINE-N,99%	PARSIPPANY, NJ 07054	92535
PHOSPHOMOLYBDIC ACID	965	PHOSPHOMOLYBDIC ACID	FISHER	0780
			FAIR LAWN, NJ	
	965A	PHOSPHOMOLYBDIC ACID	FISHER SCIENTIFIC	0389
		2-2-0-G	FAIR LAWN NJ	11104884
PHOSPHORIC ACID	1552	PHOSPHORIC ACID	HARCROES CHEM CO.	0189
		2-0-0-C	K.C. KANSAS	7664382
	733	PHOSPHORIC ACID	FISHER SCIENTIFIC	0180
			ST. LOUIS, MO	7664382
	858	PHOSPHORIC ACID	ALLIED CHEMICAL	0880
			MORRISTOWN, NJ 07960	10801141

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PHOSPHORIC ACID	1069	85% HYDROGEN PHOSPHATE	GE DATA SHEET SERVICE	0977
				7664382
PHOSPHORIC ACID 75%	140	PHOSPHORIC ACID	THOMPSON-HAYWARD CHEM CO.	0388
			KANSAS CITY KS 66106	7664382
PHOSPHORIC ACID, LIQUID	733A	PHOSPHORIC ACID	FISHER SCIENTIFIC	0789
		2-0-0-G	FAIR LAWN NJ	7664382
PHOSPHORIC ACID, META, CHIP	858A	PHOSPHORIC ACID	GENERAL CHEMICAL	0986
		2-0-0-G	MORRISTOWN NJ	3726786
PICRIC ACID	475	PICRIC ACID	FISHER SCIENTIFIC	0480
			ST. LOUIS, MO	8889
	913	PICRIC ACID	EASTMAN KODAK	1072
			ROCHESTER, NY 14650	8889
PICRIC ACID 30-34% WATER ADDED	913A	PICRIC ACID	EASTMAN KODAK	1086
		2-1-3-E	ROCHESTER NY	8889
PICRIC ACID, 10%+ WATER	475A	PICRIC ACID	FISHER SCIENTIFIC	0789
		2-1-3-E	FAIR LAWN NJ	8889
PIPE JOINT CEMENT	572	20% ISOPROPYL ALCOHOL,	LOCTITE CORPORATION	0683
		4 OTHERS	NEWINGTON, CT 06111	
PIPE JOINT COMPOUND	572A	CLAY,PINE RESIN,ISO.ALCOHOL	PERMATEX INDUST. CORP.	1085
		2-3-0-B	AVON, CT. 06001	
PIPERIDINE	302	PIPERIDINE	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	110894
	302A	PIPERIDINE	FISHER SCIENTIFIC	0789
		2-4-3-G	FAIR LAWN, NJ 06111	110894

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PIPERIDINE	320A	PIPERIDINE	FISHER SCIENTIFIC	0789
		2-4-3-G	FAIR LAWN NJ	110894
PIT STOP HAND CLEANER	1399		LANDMARK CHEMICAL CO.	
			MARION, IL 62959	
PLASTIC MOLD RELEASE X-A835	242A		STONER INC	0988
		2-0-0-E/Y	QUARRYVILLE PA	
PLASTICIZERDOA KODAFLEX	670	DIOCTYL ADIPATE	EASTMAN KODAK	0778
			ROCHESTER, NY 14650	103231
PLASTILEASE MOLD RELEASE	122	ISOPROPYL ALCOHOL 30-40%	RAM CHEMICALS DIVISION	1185
		METHYL ETHYL KETONE 1-5%	GARDENA,CA 90248	
PLASTILEASE 512-B	122A		RAM CHEMICALS DIV	0389
		1-3-1-B SARA TOXIC	GARDENA, CA	
PLASTOLEIN 9360-A	1239A	BISHYDROXYETHYL DIMERATE	QUANTUM/EMERY	0489
		0-1-0-B	CINCINNATI OH	68855781
PLASTOLEIN 9790	1051	AZELATE POLYESTER	EMERY INDUSTRIES INC.	9999
			CINCINNATI, OH	
PLATINUM	1414	PLATINUM	ENGELHART CORP.	
				7440064
	1414A	PLATINUM	ENGELHARD	0587
		1-0-0-E	CARTERET NJ	7440064
PLIOBOND 20	593	-60%METHYLETHYL KETONE,30%SYNT	ASHLAND CHEMICAL	0784
		RUBBER,10%RESIN,5%MINERAL FILL	COLUMBUS, OH 43216	
	593A	NITRILE RUBBER/RESIN IN SOLVEN	ASHLAND CHEMICAL CO.	0889
		3-4-3-E/Y SARA TOXIC	COLUMBUS, OH. 43216	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PLIOBOND 20	311A	NITRILE RUBBER/RESIN SOLVENT	ASHLAND CHEMICAL CO	0589
		3-4-3-D/Y SARA	COLUMBUS OH	
PLIOGRIP 6025	619A	MODIFIED VINYL/PHENOLIC RESIN	ASHLAND CHEMICAL	0489
		2-4-NONE-NONE SARA TOXIC	COLUMBUS OH	
PLURACOL P-3010	404	POLYPROPYLENE GLYCOL 3000	BASF WYANDOTTE CORP.	0180
			WYANDOTTE.MI	25322694
PLUROCOL P-4010	954	POLYPROPYLENE GLYCOL4000	BASF WYANDOTTE CORP.	1080
			WYANDOTTE.MI	
PLY 89 GEL SKIN PROTECTOR	268A	NOIBW	THE MILBURN COMANY	0488
		0-0-0-A	DETROIT MI	
PLY TILE THINNER	352A		MA BRUDER & SONS. INC.	0488
		2-2-0-C	BROOMALL PA	
POLAROID DEVELOPER FLUID	1280	ALKALI METAL HYDROXIDES + 9%	POLAROID CORP.	0286
		MIXTURE	WALTHAMM. MA. 02254	
POLY SCRUB	1099	PROPRIETARY MIXTURE	LANDMARK CHEMICAL CO.	9999
			MARION. IL 62959	
POLY STYRENE	1133A	POLY STYRENE	ALDRICH CHEMICAL	0789
		1-2-0-B/Y	MILWAUKEE WI	9003536
	1133	STYRENE POLYMER	ALDRICH CHEMICAL CO	1285
			MILWAUKEE. WI 53201	9003536
POLY-ETHYLENE GLYCOL-	198	POLYETHYLENE GLYCOL	ALDRICH CHEMICAL CO	1287
			MILWAUKEE. WI 53201	25322683
POLYESTER RESIN	556A	POLYESTER RESIN	WITCO	1188
		1-1-0-C	HOUSTON. TX 77045	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
POLYETHLENE	110	POLYETHYLENE	USI CHEMICAL CO	
			LOUISVILLE KY	900288
POLYETHLENE POWDER	1570	POLYETHLENE POWDER	QUANTUM CHEM CO.	1088
		1-0-0-B	CINCINATTI OH.	
POLYMER PR-1592 PART B	1536	POLYETHER POLYOL POLYMER W/IOL	PROD.RESEARCH CHEM CORP.	1085
		H-1.F-0.R-0.PE-B.	GLENDALE CA.	
POLYMER 1300 X29	804		HYCAR-B.F.GOODRICH CO.	
			CLEVELAND. OH	
POLYMERIC MDI 12975-85%	1208	85% DIPHENYLMETHANE DIISOCYAN.	DOW CHEMICAL U.S.A.	0287
		15% POLYMETHYLENE PHENYL ISOC.	MIDLAND. MI 48674	
POLYSAR EPDM 346	1436	POLYMER ETHYLENE. PROPYLENE.	POLYSAR LIMITED	1185
		DIENE	SARNIA.ONTARIO-CANADA	25038362
POLYSAR EPDM 585	1437	ETHYLENE. PROPYLENE. DIENE.	POLYSAR LIMITED	1185
		POLYMER	SARNIA.ONTARIO-CANADA	25038362
POLYVINYL ACETATE	925A		AIR PRODUCTS	9999
			ALLENTOWN. PA 18105	32070000
POLYVINYL CHLORIDE	974	POLY-VINYL CHLORIDE-	B.F.GOODRICH CHEM GROUP	0185
			CLEVELAND. OH 44131	9002862
	1039	POLYVINYL CHLORDIE	U.S.GOVERNMENT	1275
	100	POLYVINYL CHLORIDE	B.F.GOODRICH CHEM GROUP	
			CLEVELAND. OH 44131	9002862
PORAPAK TYPE N	409	99% ETHYL VINYL BENZENE-DI-	WATERS ASSOC.	1084
		ET.GLYCOL DIMETHACRYLATE	MILFORD.MA	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
PORAPAK TYPE Q	411	99% ET.VINYL BENZENE-DI-	WATERS ASSOC/SUPELCO INC	9999
		COPOLYMER	MILFORD MA / BELLEFONTE P	
PORAPAK TYPE R	410	99% ETHYL VINYL BENZENE-DI-	WATERS ASSOC.	1084
		ME.VINYL PYRROLIDONE	MILFORD.MA	
PORPAK N	409A	ETHYLVINYLBENZENE-DIVINYL-	WATERS ASSOCIATES	1084
		0-1-0-A	MILFORD. MA	9052953
PORTLAND CEMENT-MASONRY	579A	SAME	CONTINENTAL CEMENT CO.	0789
		1-0-1-B	HANNIBAL. MO 63401	65997151
POTASSIUM BROMIDE	371	POTASSIUM BROMIDE	J T BAKER CHEMICAL CO	0686
			PHILLIPSBURG. NJ 08865	7758023
	407	POTASSIUM BROMIDE	FISHER SCIENTIFIC	0780
			FAIR LAWN. NJ 07410	7758023
	407 A	POTASSIUM BROMIDE	FISHER SCIENTIFIC	0789
		1-0-0-E	FAIR LAWN NJ	7758023
	407A	POTASSIUM BROMIDE	FISHER SCIENTIFIC	0789
		1-0-0-E	FAIR LAWN. NJ.	7758023
POTASSIUM CHLORIDE	525	POTASSIUM CHLORIDE	MCB MFG. CHEMISTS	9999
			NORWOOD. OH	7447407
POTASSIUM DICHROMATE	699	POTASSIUM DICHROMATE	FISHER SCIENTIFIC	1283
			FAIR LAWN. NJ 07410	7778509
	699A	POTASSIUM DICHROMATE	FISHER SCIENTIFIC	0289
		1-0-0-E	FAIR LAWN NJ	7778509
POTASSIUM FLOURIDE	1295	POTASSIUM FLUORIDE	J T BAKER CHEMICAL CO	0186
			PHILLIPSBURG. NJ 08865	7789233

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
POTASSIUM FLUORIDE	474	POTASSIUM FLUORIDE	J T BAKER CHEMICAL CO	0883
			PHILLIPSBURG, NJ 08865	7789233
	546	POTASSIUM FLUORIDE	EASTMAN KODAK	1181
			ROCHESTER, NY 14650	7789233
POTASSIUM FLUORIDE, ANHYDROUS	474A	POTASSIUM FLUORIDE	J.T. BAKER	0589
		3-0-0-G SARA TOXIC	PHILLIPSBURG NJ	7789233
	546A	POTASSIUM FLUORIDE	EASTMAN KODAK	0785
		2-0-0-G	ROCHESTER NY	7789233
POTASSIUM HYDROGEN PHTHALATE	1324	POTASSIUM HYDROGEN PHTHALATE	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	877241
POTASSIUM HYDROXIDE	532A	POTASSIM HYDROXIDE	MALLINCKRODT	0489
		3-0-0-G SARA TOXIC	PARIS, KY	1310583
	469	POTASSIUM HYDROXIDE	J T BAKER CHEMICAL CO	0186
			PHILLIPSBURG, NJ 08865	1310583
	469A	POTASSIUM HYDROXIDE	J.T. BAKER CHEM.	0186
			PHILLIPBURG NJ.	1310583
	532	POTASSIUM HYDROXIDE	MALLINCKRODT CHEMICALS	0280
			PARIS, KY 40361	1310583
	718	POTASSIUM HYDROXIDE	FISHER SCIENTIFIC	0280
			FAIR LAWN, NJ 07410	1310583
POTASSIUM MURIATE	1172	POTASSIUM CHLORIDE	E M SCIENCE	1285
			CHERRY HILL, NJ 080340395	7447407
POTASSIUM NITRATE	1032	POTASSIUM NITRATE	U.S.GOVERNMENT	1277
				7757793

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
POTASSIUM NITRATE	I52	POTASSIUM NITRATE	FISHER SCIENTIFIC	0180
			FAIR LAWN, NJ 07410	775779
	152A	POTASSIUM NITRATE	FISHER SCIENTIFIC	0489
		1-0-0-0	FAIR LAWN NJ	775779
	695	POTASSIUM NITRATE	MALLINCKRODT CHEMICALS	0281
			ST. LOUIS, MO 63147	775779
POTASSIUM PERCHLORATE	1079	POTASSIUM PERCHLORATE	BARIUM AND CHEMICALS INC	1177
			STEUBENVILLE, OH	777874
	1189	POTASSIUM PERCHLORATE	HUMMEL CHEMICAL	1085
			S.PLAINFIELD, NJ 07080	777874
	1189A	POTASSIUM PERCHLORATE	HUMMEL	1186
		1-0-2-E	SOUTH PLAINFIELD NJ	777874
	706	POTASSIUM PERCHLORATE	FISHER SCIENTIFIC	0480
			ST. LOUIS, MO	777874
POTASSIUM PERMANGANATE	329	AMPOULE FOR DILUTION IN 1000ML	J T BAKER CHEMICAL CO	0186
		LABORATORY USE ONLY	PHILLIPSBURG, NJ 08865	772264
	329A	POTASSIUM PERMANGANATE	J.T. BAKER	0589
		2-0-3-F SARA TOXIC	PHILLIPSBURG NJ	772264
POTASSIUM PHOSPHATE	434	POTASSIUM PHOSPHATE	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	13845360
POTASSIUM PHOSPHATE DIBASIC	434A	POTASSIUM PHOSPHATE DIBASIC	FISHER SCIENTIFIC	0789
		0-0-0-A	FAIR LAWN NJ	13845360
POTASSIUM THIOCYANATE	1334	POTASSIUM THIOCYANATE	EASTMAN KODAK	0586
			ROCHESTER, NY 14650	33320

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
POTASSIUM THIOCYANATE	1334A	POTASSIUM THIOCYANATE	EASTMAN KODAK	0586
		1-0-0-B	ROCHESTER NY	333200
POTASSIUM. IODIDE/IODATE N/63	174A	POTASSIUM IODIDE & IODATE	TAYLOR TECH	0788
		1-0-0-B	SPARKS. MD.	
POWDER IGNITER -NC-BLACKPOWDER	1531	NSP	HERCULES INC	0589
			RADFORD VA.	
POWER STRIP	545A	WATER BASE DEGREASER/STRIPPER	LANDMARK CHEMICAL CO	0889
		1-0-0-B	MARION. IL 62959	
PR-1547AMBER.BLACK.PT AEB	767A	POLYURETHANE PREPOLYMER	PRODUCTS RESEARCH & CHEM	0189
		2-1-0-G	GLENDALE. CA	5065830
PR-1592 BLACK. PART A	928A	POLYETHER POLYOL COMPOUND	PRODUCTS RESEARCH & CHEM	1185
		1-0-0-B	GLENDALE CA	
PR-1660 PARTS A & B	985A	POLYAMINE CURING AGENT COMPOUN	PRODUCTS RESEARCH & CHEM	0189
		2-1-0-G	GLENDALE CA	
PR-420. PART A	282A	POLYISOCYANATE SOLUTION	PRODUCTS R & C CORP	0888
		2-4-1-B	GLENDALE CA	
PREPREG/TAPE/FABRIC-ERLX-19591	510	EPOXY RESIN/POLYMER	AMOCO PERFORMANCE PRODUCT	1287
			CHICAGO.IL 60601	
PRIMER	1512	PRIMER MIL-P 223322 B	RANDOLPH PRODUCTS	0688
			CARLSTADT. NJ 07072	
PRIMER RED OXIDE DZL 72	325		DITZLER	
PRIMER SS4155	281A	SILICONE PRIMER MIXTURE	GENERAL ELECTRIC	1088
		2-3-3-G	WATERFORD. NY	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PRIMER SS4155 GE	283	26% ETHYL ORTHOSILICATE	GENERAL ELECTRIC	9999
		65% MINERAL SPIRITS	WATERFORD, NY 12188	
PRIMER TLOCQUIC	1159	90%111TRICHLOROETHANE,3%MERCAP	LOCTITE CORPORATION	1185
		TOBENZOTHIAZOLE,1%ISOPROPANOL	NEWINGTON, CT 06111	
PRIMER 3-6060	1533	METHYLISOBUTYLKETONE	DOW CORNING	0989
			MIDLAND MI.	
PRIMER 30MM ELECTRIC	1317	ARTICLE	OLIN	0486
			STAMFORD, CT 06904	
PRIMER-CATALYST-MIL-P-23777D	252	5% XYLENE-12.6% POLYAMID-72%	KEMPEN PAINT CO	0584
		AROMATICS,KETONES,ESTERS,GLYCO	EAST CARONDOLET IL	
PRIMER-EPOXY-MIL-P-23777D	250	-19%POXY,22%STRONIUM CHROMATE	KEMPEN PAINT CO	0584
		BAL,KETONES, ESTERS,AROMATICS	EAST CARONDOLET IL	
PRIMER, M-52 PERCUSSION	1316	ARTICLE	OLIN -MSDS-	0486
			STAMFORD, CT 06904	
PRIMER, SURFACER AP5423	1385	SOLVENTS PIGMENTS	INMONT CORPORATION	1284
			WHITEHOUSE,OH, 43571	
PRIMER,PERCUSSION,COMMERIAL	1033	ARTICLE	U.S.GOVERNMENT	0381
PRIMER,ZINC CHROMATE	193	TT-P-1757 COMP G,TOLUENE,	DUNBAR SALES CO.	0487
		ZINC CHROMATE,MAG.SIL.HYDRATE	BAYONNE, NJ 07002	
PROD.RES. POLYURETHANE PR-1660	929	90% POLYURETHANE PREPOLYMER	PRODUCTS RESEARCH & CHEM	0477
		10% REACTIVE POLYAMINE	GLENDALE, CA 91209	
PROD.RES. PRC PR 1547	767	MOCA CATALYST 7%	PRODUCTS RESEARCH & CHEM	9999
		PURCHASE ONLY ON SAF-2 FORM	BURBANK, CA 91504	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PROD.RES.PR-1592 RESIN-PART A-	928	POLYETHER POLYOL COMPOUND	PRODUCTS RESEARCH & CHEM	1185
		POLYURETHANE PRE POLYMER	GLENDALE. CA 91209	
PRODOPE	573		HERCULES INC	
			WILMINGTON. DE 19899	
PROPANE	261	LIQUEFIED PETROLEUM GAS	FERRELLGAS	0887
			LIBERTY MO 64068	74986
PROPANE.PETROLANE	1275	PROPANE-PARAFFINIC HYDROCARBON	PETROLANE	0488
		LP-GAS.BOTTLED GAS	LONG BEACH.CA 90801	74986
PROPANOL	516A	PROPYL ALCOHOL	FISHER SCIENTIFIC	0789
		1-3-0-B	FAIR LAWN NJ 07410	71238
PROPELLANT	1532	PROPELLANT -DILG-RP-	HERCULES	1284
			RADFORD VA.	
PROPELLANT DMAX 400 SERIES	1245	AMMONIUM NITRATE-BASED	OLIN	0386
		PROPELLANT MIXTURE	STAMFORD. CT 06904	
PROPELLANT DMAX 800 SERIES	1246	AMMONIUM NITRATE-BASED	OLIN	0486
		PROPELLANT MIXTURE	STAMFORD. CT 06904	
PROPELLANT. JA-2	468	PROPELLANT-DOUBLE BASE	HERCULES INC	1285
			RADFORD. VIRGINIA	
PROPELLANT. WC 860	1035		U.S.GOVERNMENT	0776
PROPELLANTN-28	1294	AMMONIUM NITRATE-BASED	OLIN	0486
			STAMFORD. CT 06904	
PROPONAL 2.	336A	PROPONAL 2.	J.T. BAKER	0186
		1-3-1-I	PHILLIPSBURG N.J.	67638

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
PROPYL ALCOHOL	1012	PROPYL ALCOHOL	J T BAKER CHEMICAL CO	0383
			PHILLIPSBURG, NJ 08865	
	516	PROPYL ALCOHOL-M-	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	71238
PROTECH STABILIZER	719		UNITED TECHNOLOGY	
PROTUS 905-23-88-02	1497	ACRYLONITRILE BUTADINE COPOLGM	B.F.GOODRICH CHEM GROUP	0988
			CLEVELAND, OH 44131	
PUTTY ZINC CHROMATE	1192A	ZINC CHROMATE	DUNBAR SALES	1288
		0-0-0-A	BAYONNE NJ	
	1192	60% POLYSULFIDE CRUDE RUBBER	DUNBAR SALES CO.	
		38% PIGMENT, 2% ADDITIVES	BAYONNE, NJ 07002	
PVC HOMOPOLYMER	1273	POLYVINYL CHLORIDE HOMOPOLYMER	PVC/PETROCHEMICAL-BORDEN-	0486
		POWDER	GEISMAR,LA 70734	900286
PVC PRIMER	576		HERCULES INC	
			WILMINGTON, DE 19899	
PYRIDINE	1420	PYRIDINE	ALDRICH CHEMICAL CO	1186
			MILWAUKEE, WI 53201	11086
PYRIDINE, 99.9+% HPLC GRADE	1420A	PYRIDINE	ALDRICH CHEMICAL	0789
		2-3-0-G	MILWAUKEE WI	110861
Q-CEL 200 -STAR-	681	SODIUM BORO SILICATE	P.Q.CORP.	0779
		MICROSPHERES	VALLEY FORGE PA	134409
Q-CEL 200 INORG MICROSPHERES	681A	SODIUM BOROSILICATE MICRO.	PQ CORP	0789
		1-0-0-A	VALLEY FORGE, PA 19482	5081587

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
QUARTZ	902A	SILICA	FISHER SCIENTIFIC	0489
		0-0-0-E	FAIR LAWN NJ	1480860
QUICKLIME	834A	CALCIUM OXIDE	MISSISSIPPI LIME CO	0687
		3-0-1-E	STE GENEVIEVE, MO	1305788
QUINONE DIOXINE WETCAKE	1338	P-QUINONE DIOXINE	SANDOZ CHEMICALS	0686
			CHARLOTTE, NC 28205	105113
Q3-6093RTV ADHESIVE BASE	206A	SAME	DOW CORNING CORP	0789
		1-2-0-A	MIDLAND MI	
Q3-6093RTV ADHESIVE/COR AGT.	201A	SILOXANE	DOW CORNING CORP	0789
		1-2-0-B	MIDLAND MI	
R-45 M RESIN	752	HYDROXYL TERMINATED POLY-	ARCO CHEMICAL CO.	0479
		BUTADIENE	PHILADELPHIA, PA 19102	
RDO SERIES LUBRICANT	1432	HYDROCARBONS -PROP.-	CENTURY HULBURT	1085
			KANSAS CITY, KS 66111	
RELEASE AGENT 20-8185	1146	10% ISOPROPANOL, 90% FREON	BUEHLER LTD.	1285
			LAKE BLUFF, IL 60044	
RESIN BISMALEIMIDE	1591	RESIN BISMALEIMIDE	U.S. POLYMERIC	0789
		2-1-0-D	SANTA ANA CA.	
RESIN 509 & 510 EPOXY	233	BISPHENOL A GLYCIDYL ETHER	CELLANESE SPEC. RESINS	1083
		-.08% EPICHLOROHYDRIN	LOUISVILLE KY	
RESIN ALTAC 382	920	100% PROPROXYLATED BISPHENOLA	ICI AMERICAS	0579
		FUMERATE POLYESTER RESIN	WILMINGTON,DE	
RESIN ALTAC 382FB-4010	919	50% STYRENE-50% PROPOXYLATED	ICI AMERICAS	0981
		BISPHENOL POLYESTER	WILMINGTON,DE	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
RESIN ALTAC 580-05 VINAL ESTER	922	53%VINYLESTER RESIN,47%STYRENE	ICI AMERICAS	0981
		0.2%DIMETHYLANILINE-B-CATECHOL	WILMINGTON,DE	
RESIN BD-45M	751	HYDROXY TERMINATED	ARCO CHEMICAL	0479
		BUTADIENE	HINSDALE IL	
RESIN BUTAREZ CTL	742	POLYBUTADIENE DICARBOXYLIC	PHILLIPS CHEMICAL CO.	9999
		ACID	BORGER, TX	
RESIN BUTVAR B73	537	POLYVINYL BUTYRAL/ACETATE/	MONSANTO	0483
		ALCOHOL	SPRINGFIELD MA	6314865
RESIN BUTVAR B98	535	POLYVINYL BUTYRAL/ACETATE/	MONSANTO	0483
		ALCOHOL	SPRINGFIELD MA	6314865
RESIN CASTOLITE	1151	50% UNSAT.POLYESTER	BUEHLER LTD.	1285
		50% STYRENE MONOMER	LAKE BLUFF, IL 60044	
RESIN CYANATE	1547	RESIN ESR310	HI-TECH POLYMERS INC	0489
		2 2 0 8 R & D USE ONLY	LOUISVILLE KY.	
RESIN EPO-KWICK #20 EPOXY	1141	EPICHLOROHYDRIN-15% ALLYL GLY-	BUEHLER LTD.	0186
		CYDYL ETHER- OTHERS	LAKE BLUFF, IL 60044	
RESIN EPON 4320	1499	BISPHNOL A-EPICHLOROHYDRIN EPO	SHELL CHEMICAL	0388
			HOUSTION, TX	
RESIN EPOXY PREPREG	1543	RESIN EPOXY PREPEG	AMOCO	1288
			CHICAGO	
RESIN EPOXY 0510	810	GLYCIDYLOXY DIGLYCIDYL ANILINE	CIBA-GEIGY	0282
			ANDSLEY NY	
RESIN EPOXY 85517	1458A	RESIN EPOXY 85517	HERCULES	0287
		RTD ONLY 3-2-2-E	WILIMINGTION DE.	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
RESIN FORMREZ CA	665		WITCO CHEMICAL CO CHICAGO, IL	9999
RESIN FORMREZ F17-80	557	POLYESTER	WITCO CHEMICAL GROUP CHICAGO IL	0779
	557A	POLYESTER RESIN	WITCO CHEMICAL CO	0889
		1-1-0-C	HOUSTON, TX	
RESIN FVORMREZ YA67-8	791		WITCO CHEMICAL CO CHICAGO, IL	
RESIN HELOXY WC 8500	1546	RESIN EPOXY ESTER ADDUCT	WILMINGTION CHEM CO WILMINGTION DE.	1285
RESIN HELOXY WC-8006	1545	RESIN EPOXY ESTER ADDUCT	WILMINGTION CHEM CO. WILMINGTION DE.	1285
RESIN PERMAPOL P-820	998	POLY THIO ETHER POLYMER	PRODUCTS RESEARCH & CHEM GLENDALE, CA 91209	0985
RESIN POLY BD AT-C4D	1347	HYDROXYL TER./CYCLOHEXYLAMINE TER. POLYBUTADIENE	ARCO CHEMICAL CO. PHILADELPHIA, PA 19101	0986
RESIN PROD.RES. PR1650	985	90% POLYURETHANE CMPD. 10% REACTIVE POLYAMINE	PRODUCTS RESEARCH & CHEM GLENDALE, CA 91209	0477
RESIN WC901A	1542	RESIN EPOXY ESTER ADDUCT	WILIMATION CHEMICAL CO WILMINGTION DE.	0187 789
RESIN. CREST 3135-A	247	EPOXY	CREST PRODUCTS CORP SANTA ANA CA	9999
RESIN. CREST 3135-B	248	POLYAMIDE	CREST PRODUCTS CORP SANTA ANA CA	9999

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
RESIN, CREST 3135B, 7111	248A	POLYAMIDE	CREST PRODUCTS CO	0789
		0-1-0-B,Y	SANTA ANA, CA	
RESIN, EPON 828	235A	BISPHENOL A/EPICHLOROHYDRIN RE	SHELL	0589
		2-1-0-B, SARA TOXIC	HOUSTON TX	25068389
RESIWELD FE-004 PART A	1285	EPOXY RESIN	H.B. FULLER CO.	0382
			ST. PAUL MN 55108	
RESIWELD FE-004 PART B	1286	POLYAMIDE RESIN	H.B. FULLER CO.	0382
			ST. PAUL MN 55108	
REVERSION ACID	182A	SULFURIC ACID	TAYLOR TECH	0389
		1-0-0-B	SPARKS, MD	
REVOLUTE AMMONIA	1121	30% AMMONIUM HYDROXIDE	BRUNING	0386
			ITASCA,IL, 60143	
ROHM & HAAS DMP-30	1300	98% 2,4,6-TRI-DIMETHYLAMINO-	ROHM & HAAS CO.	0985
		METHYL-PHENOL	PHILADELPHIA,PA, 19105	90722
ROYAL FLUSH	1100A	ACIDIC BOWL CLEANER	LANDMARK CHEMICAL	9999
		0-0-0-B	MARION IL	7647010
	1100	BOWL CLEANER	LANDMARK CHEMICAL CO.	9999
		CONTAINS HCL	MARION, IL 62959	
RRC-4115 OXIDIZER	1417	87% AMMONIUM NITRATE	ROCKET RESEARCH CO.	1186
		14% POTASSIUM PERCHLORATE	MOSES LAKE, WA, 98837	
RUST REMOVER MIRACHEM 250	1538	MIRACHEM 250	MIRACHEM CORP	0887
			TEMPE ARIZONA	
RUSTLICK 631	263	70% PETROLEUM DISTILLATE	RUSTLICK INC	9999
			DANBURY,CT	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
RYKON OIL NO. 68	1168	PARAFFINIC PETROLIUM OIL	AMOCO OIL CO.	0785
		CAS.NO.64742547 & 64741884	CHICAGO, IL 60601	
SAG 47 ANTIFOAM AGENT	240	POLYDIMETHYLSILOXANE-MODIFIED-	UNION CARBIDE CORP	0584
			CHICAGO, IL	67762
SALICYLALDEHYDE	136	98% SALICYLALDEHYDE	ALDRICH CHEMICAL CO	0987
			MILWAUKEE, WI 53201	9802
SALT	1169	SODIUM CHLORIDE	E M SCIENCE	1285
			CHERRY HILL, NJ 080340395	7647
	1120	SODIUM CHLORIDE 0586	FISHER SCIENTIFIC	0586
		INORGANIC SALT	FAIR LAWN, NJ 07410	7647
SANITIZER CLEANER MSA	592	SODIUM CARBONATE 54.7%	MINE SAFETY APPLIANCE CO.	
		TRISODIUM PHOSPHATE 10%	PITTSBURG, PA 15235	
SBS 40 SKIN CREAM	528	0.2% CHLOROXYLENOL	SUGAR BEET PRODUCTS CO	0780
		0.2% ALLANTOIN, 12 OTHERS	SAGINAW MI	
SBS-40 MEDICATED SKIN CREAM	528A	MIXTURE	SBS PRODUCTS/SUGAR BEET	0888
		0-0-0-A	SAGINAW, MI	
SCOTCH-GRIP 3300-L	1412	CHLOROPRENE RUBBER	3M	0186
		PET.DISTILICATE,TOLUENE,XYLENE	ST. PAUL, MN 55144	
SCOTCH-GRIP 1300L	1415A	RUBBER & GASKET ADHESIVE	3M	0489
		2-4-0-G	ST PAUL MN	
SCOTCH-GRIP-R- 1300-L	1415	RUBBER & GASKET ADHESIVE	3M	1185
		MIXTURE ADHESIVE	ST. PAUL, MN 55144	
SCOTCH-WELD ADHESIVE 1838 WH	1527B	EPOXY RESIN	3M	1185
		1-1-0-B	ST PAUL MN	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SCOTHC-WELD EPOXY ADHES.1838 G	1526A	POLYAMIDE RESIN	3M	1185
		1-1-0-B	ST PAUL MN	
SDA 3A ANHY. 200 PROOF	278A	DENATURED ALCOHOL	USINDUSTRIAL CHEM CO	0785
		2-4-3-B TSCA	TUSCOLA IL	6417
SEAL REMOVER WASH OFF	1064	85% METHYLENE CHLORIDE	LABOMAR CHEMICAL CO.	0380
		10% METHANOL	MARION, IL 62959	
SEALANT DUNBAR	1284	95% DIMETHACRYLATE ESTERS,8%	DUNBAR SALES CO.	9999
		ALKYLARYLAMINE..6% METHANOL	BAYONNE, NJ 07002	
SEALANT GOLD BOND	1283	LEAD PEROXIDE-POLYSULFIDE-	DUNBAR SALES CO.	9999
		-PROP.-	BAYONNE, NJ 07002	
SEALANT, FUEL TANK-EC8018	961	10% MER	3M	1081
		90% POLYSULFIDE,RESIN,FILLER	ST. PAUL, MN 55144	
SEALANT,FUEL TANK EC-1239A ACC	962	78% LEADPEROXIDE	3M	1081
		38% PLASTICIZER	ST. PAUL, MN 55144	
SERAGEN NEUTRALIZING SOLUTION	856	METHANOL, WATER	SERAGAN DIAGNOSTICS	9999
			INDIANAPOLIS IN	6756
SHELL TELLUS T OIL 32	1482A	PETROLEUM HYDROCARBON	SHELL OIL	1085
		1-1-0-B/Y SARA	HOUSTON TX	
SILANE A-174	1352	GAMMA-METHACRYLOXYPROPYL-	UNION CARBIDE	1085
		TRIMETHOXYSILANE	DANBURY, CT 06817-0001	2530858
SILASTIC	399A	J RTV SILICONE RUBBER, CA	DOW CORNING CORP.	0889
		1-2-0-B	MIDLAND, MI.	
SILICA	902	SILICON DIOXIDE	FISHER SCIENTIFIC	0680
			FAIR LAWN, NJ 07410	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SILICA GEL	552	SILICIC ACID	ALDRICH CHEMICAL CO	0485
			MILWAUKEE, WI 53201	1343983
SILICA GEL, GRADE 62	552A	METASILICIC ACID	ALDRICH CHEMICAL CO	0789
		2-0-1-B	MILWAUKEE, WI 53201	7631865
SILICONE ANTIFOAM AF 9020	604	POLYSILOXANE	GENERAL ELECTRIC	9999
			WATERFORD, NY 12188	
SILICONE FUSER OIL	1154	POLYDIMETHYLSILOXANE	XEROX CORP.	0385
			ROCHESTER,NY 14644	63148629
SILICONE FUSER OIL,LUBRICANT	1154A	POLYMETHYLSILOXANE	XEROX CORP	0189
		0-0-0-B	ROCHESTER NY	63148629
SILICONE HEAT SINK COMPOUND	539A	POLYSILOXANE/ZINC OXIDE	GC ELECTRONICS	1286
		1-0-0-A	ROCKFORD, IL 61105-1209	
SILICONE HEAT SINK 10-8109	539	70% POLYSILOXANE	G.C.ELECTRONICS	9999
		30% ZINC OXIDE	ROCKFORD IL	
SILICONE LUBRICANT	470		FISHER SCIENTIFIC	
			FAIR LAWN, NJ 07410	
SILICONE REMOVER CEEBEE C105HP	339	20% METHYLENECHLORIDE,10% TOL-	MCGEAN	0883
		UENE & 65% SOLVENT -64742945-	CLEVELAND OH 44113	
SILICONE RUBBER COMP.	1554	SILICONE RUBBER COMP.	G.E.	0886
		1-2-0-B	WATERFORD N.Y.	
SILICONE RUBBER EC 801	260		3M	
			ST. PAUL, MN 55144	
SILOXANE SOLVENT	270A	SILOXANE SOLVENT	ACCUMETRIC INC.	0987
		3-4-0-G	ELIZABETHTOWN KY.	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SILVER NITRATE	438	SILVER NITRATE	MALLINCKRODT CHEMICALS	0889
			ST. LOUIS, MO 63147	7761888
	438A	SILVER NITRATE	MALLINCKRODT	0489
		3-0-0-G SARA TOXIC	ST LOUIS MO	7761888
SILVER NITRATE N/35.5	184A	SILVER NITRATE	TAYLOR TECH	0389
			SPARKS, MD	
SILVER NITRATE 10%	890	SILVER NITRATE	MALLINCKRODT CHEMICALS	
			ST. LOUIS, MO 63147	7761888
SILVER POWDER	614	SILVER	U.S.METAL REFINING CO.	
				7440224
SLIDE NO-RUST AEROSOL	1386A	PETROLEUM DERIVATIVE	PERCY HARMS	0388
		1-2-1-AEY	WHEELING IL	
	1386	TRICHLOR.ME.CHLORIDE.NAPHTHA	PERCY HARMS CORPORATION	1286
			WHEELING, IL. 60090	
SLIPSPRAY DRY LUBRICANT	1423	PET. DISTILLANTE	E.I.DUPONT DE NEMOURS &CO	0677
		150 BUTANE PROPANE	WILMINGTON, DE 19898	
SODA ASH	131	SODIUM CARBONATE	FISHER SCIENTIFIC	0480
			FAIR LAWN, NJ 07410	4971888
SODIUM	457A			
SODIUM ACETATE	433	SODIUM ACETATE	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	1270988
SODIUM ACETATE, ANHYDROUS	433A	SODIUM ACETATE	FISHER SCIENTIFIC	0789
		0-0-0-A	FAIR LAWN NJ	1270988

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SODIUM AZIDE	457	SODIUM AZIDE	FISHER SCIENTIFIC	1083
			FAIRLAWN. NE	26628228
	457B	SODIUM AZIDE	FISHER SCIENTIFIC	0789
		4-1-0-E	FAIR LAWN NJ	26628228
SODIUM BARBITURATE	781	SODIUM BARBITURATE	SANRAK CHEMICALS	9999
			BRONXVILLE. NY	4390163
	781A	SODIUM BARBITURATE	CHEMISCHE FABRIK BERG	0489
		0-0-0-E	LUDENSCHEID. GERMANY	4390163
SODIUM BICARBONATE	462A	BAKING SODA	JT BAKER INC	0589
		0-0-I-A	PHILLIPSBURG. NJ 08865	144558
	462	SODIUM BICARBONATE	J T BAKER CHEMICAL CO	0180
			PHILLIPSBURG. NJ 08865	144558
	724	SODIUM BICARBONATE	FISHER SCIENTIFIC	0886
		INORGANIC SALT	FAIR LAWN. NJ 07410	144558
	724A	SODIUM BICARBONATE	FISHER SCIENTIFIC	0389
		1-0-0-A.E	FAIR LAWN. NJ	144558
SODIUM CARBONAITE	1556	SODIUM CARBONAITE	G.S ROBINS CO.	0486
		2-0-0-B	ST.LOUIS MO.	497198
SODIUM CARBONATE	723	SODIUM CARBONATE	FISHER SCIENTIFIC	0480
			FAIR LAWN. NJ 07410	497198
	723A	SODIUM CARBONATE	FISHER SCIENTIFIC	0389
		0-0-0-A	FAIR LAWN NJ	497198
SODIUM DICHROMATE	1092	SODIUM DI CHROMATE	EASTMAN KODAK	1181
			ROCHESTER. NY 14650	7789120

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SODIUM FLUORIDE,SOLID	600	SODIUM FLUORIDE	FISHER SCIENTIFIC	1087
		INORGANIC SALT	FAIR LAWN, NJ 07410	768149
SODIUM HYDROXIDE	476	SODIUM HYDROXIDE	J T BAKER CHEMICAL CO	0883
			PHILLIPSBURG, NJ 08865	131073
	737	SODIUM HYDROXIDE	FISHER SCIENTIFIC	0883
			FAIR LAWN, NJ 07410	1310732
	737A	SODIUM HYDROXIDE	FISHER SCIENTIFIC	0389
		3-0-1-F	FAIR LAWN NJ	1310732
	112	6-33% SODIUM HYDROXIDE IN	J T BAKER -VW SCIENTIFIC-	0186
		WATER	PHILLIPSBURG, NJ 08865	1310732
SODIUM HYDROXIDE, SOLID	200A	SODIUM HYDROXIDE	EM SCIENCE	0589
		3-0-1-F	GIBBSTOWN, NJ	131073
SODIUM HYDROXIDE,SOLID	200	SODIUM HYDRATE,CAUSTIC SODA	E M SCIENCE	1285
		INORGANIC BASE -ALKALI-	CHERRY HILL, NJ 08034	1310732
SODIUM METASILICATE,NONHYDRATE	635A	SODIUM SILICATE	FISHER SCIENTIFIC	0389
		0-0-0-B	FAIR LAWN NJ	1344093
SODIUM NITRATE	459	SODIUM NITRATE,	MALLINCKRODT CHEMICALS	0680
			ST. LOUIS, MO 63147	7632000
	933A	SODIUM NITRATE	MALLINCKRODT	0885
		1-0-0-E SARA	PARIS KY	763199
SODIUM NITRITE	933	SODIUM NITRITE	MALLINCKRODT CHEMICALS	0780
			PARIS, KY 40361	
SODIUM OXALATE	297	OXALIC ACID, DISODIUM SALT	J T BAKER CHEMICAL CO	0186
			PHILLIPSBURG, NJ 08865	62760

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
SODIUM OXALATE	297A	OXALIC ACID, DISODIUM SALT	J.T. BAKER	0789
		3-0-1-C.Y	PHILLIPSBURG NJ	62760
SODIUM PICRATE	189	SODIUM PICRATE	CHEMTRONICS	0181
			SWANNANOA NC	3324580
SODIUM SILICATE	635	SODIUM SILICATE	FISHER SCIENTIFIC	0789
			FAIR LAWN, NJ 07410	1344095
SODIUM SULFATE	463	SODIUM SULFATE	J T BAKER CHEMICAL CO	9999
			PHILLIPSBURG, NJ 08865	7757826
	463A	SODIUM SULFATE	J.T. BAKER	0589
		1-0-0-E SARA TOXIC	PHILLIPSBURG NJ	7757826
SODIUM SULFIDE	391	SODIUM SULFIDE,HYDRATED-ACID	PPG INDUSTRIES INC	1087
		LIBERATES HYDROGEN SULFIDE	PITTSBURG, PA 15272	1313822
SODIUM SULFIDE FLAKE	1551	SODIUM SULFIDE FLAKE	HYDRITE CHEM CO.	0186
		2-0-0-D	MILWALKEE WI.	1313822
SODIUM TETRAPHENYL BORON	501	SODIUM TETRAPHENYL BORON	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	1436650
	501A	SODIUM TETRAPHENYL BORON	FISHER SCIENTIFIC	0789
		0-0-0-E	FAIR LAWN NJ	1436650
SODIUM VINYL SULFONATE	450	25% SODIUM VINYL SULFONATE	AIR PRODUCTS	1082
		BALANCE WATER	ALLENTOWN, PA 18105	
SOLDER ALLOYS OF TIN,TINSILVER	1610	METAL ALLOY	LITTON/KESTER SOLDER	1288
		0-0-0-A SARA	DES PLAINES IL	
SOLUBLE OIL	1152	35% TRIETHANOLAMINE	BUEHLER LTD.	1285
		OTHERS	LAKE BLUFF, IL 60044	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
SOLVENT BLEND	127A	SOLVENT BLEND	ASHLAND CHEM CO	0388
		2-2-0-F	COLUMBUS OH.	
SOLVENT BLEND MA 115	975	HYDROCARBONS-AROMATIC & ALIPHA	ASHLAND CHEMICAL	0384
		TIC-.ESTER.ALCOHOL & KETONE	COLUMBUS, OH 43216	
SOLVENT 8653	127	11-40% CHLORINATED HYDROCARBON	ASHLAND CHEMICAL	6474288
		-60% ALIPHATIC HYDROCARBON	ST. LOUIS, MO	
SOLVENT FLEXO 648	1343	ACETATES/ALCOHOLS	INDUSTRIAL MARKING EQUIP.	
			RIVIERA BEACH, FL. 33404	
SOLVENT NEU-TRI	254	TRICHLOROETHYLENE	DOW CHEMICAL	1882
		ORDER ONLY ON SAF-2 FORM	MIDLAND, MI 48674	7901
SOLVENT ROSIN M LINE RSK-1	1520	ISOPROPYL ALCOHOL	MEASUREMENTS GROUP INC.	1286
		TOLUENE 108-88-3	RALIEGH, NC 27611	6730
SOLVENT SILOXANE	270	60% NAPHTHA-15% TOLUENE-4%	ACCUMETRIC INC	9999
		BUTANOL-.05% RHODAMINE DYE	ELIZABETHTOWN KY	
SOLVENT STODDARD	825	-95% ALIPHATIC PET. DISTILLATE	ASHLAND CHEMICAL	1084
			ST. LOUIS, MO	6474288
SOLVENT VULCAN, III	132	95.5% 1.1.1 TRICHLOROETHANE	VULCAN CHEMICALS -P.B.& S	1185
		DIETHYLENE ETHER	BIRMINGHAM, AL 35253	71556
SOLVENT 111, GEN & INDUS GRADE	132A	1.1.1 TRICHLOROETHANE	VULCAN CHEMICALS	1088
			BIRMINGHAM, AL	71556
SOLVENT 529-3 66	340A	ALIPHATIC HYDROCARBON	ASHLAND CHEMICAL CO.	0589
		0-2-0-A	COLUMBUS OH	6474296
SOLVENT/CLEANER T-8-INK	1576	PROPOXYETHONOL-2	INDEPEDDENT INK	0788
		3-2-0-G SARA TOXIC	GARDENA CA.	280730

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SOLVENT. B625	337	HYDROCARBONS-AROMATIC & ALIPHA	ASHLAND CHEMICAL	0184
		TIC-.ESTER.ALCOHOL & KETONE	ST. LOUIS. MO	
SOLVENT. CONTACT ADHESIVE	355	87% TRICHLORO ETHANE	FORMICA CORP.	1182
			WAYNE NJ	
SOLVENT. NEU-TRI	254A	TRICHLOROETHENE.1.2-BUTYLENEOXI	DOW CHEMICAL USA	0789
		2-0-0-G SARA TOXIC	MIDLAND MI	7901
SOLVENT. 1040-66	967	100% ALIPHATIC PETROLEUM	ASHLAND CHEMICAL	1080
		DISTILLATES	COLUMBUS. OH 43216	
SOLVENT. 529-366	340	100% ALIPHATIC PETROLEUM	ASHLAND CHEMICAL	0178
		DISTILLATES	ST. LOUIS. MO	8030306
SOLVENT.DALCO SOLV DS-50	126	60%MINERALSPIRITS.10%METHYLENE	DALCO INDUSTRIES.LTD	0586
		CHLORIDE.-30% PERCLOROETHYLENE	SPRING VALLEY. NY 10977	
SPAN 80	645	SORBITAN MONOOLEATE 100%	ICI AMERICAS	1181
			WILMINGTON.DE	1338438
SPAN 80. ALL PRODUCTS	645A	SORBITAN MONOOLEATE	ICI AMERICAS	1185
		0-0-0-A	WILMINGTON DE	1338438
SPARKLEEN	1226	MULTI COMPONENT MIXTURE	CALGON COMMERCIAL DIV.	
		CARBONATES/PHOSPHATES	ST. LOUIS.MO. 63166	
SPRAYON CLEANER -ELEC.-	972	TRICHLOROTRIFLUOROETHANE 95%	SPRAYON PRODUCTS INC	0777
		CARBON DIOXIDE 5%	BEDFORD HEIGHTS. OH 44146	
STABAXOL E-443	1105	-1% O-TOLYL ISOCYANATE	RHEIN-CHEMIE-MOBAY-	1184
			MOGADORE. OH 44260	
STABAXOL M	492	-1% 2.6-DIISOPROPYLPHENYL ISO-	PHEIN-CHEMIE-MOBAY-	1184
		CYANATE-AROMATIC CARBODIIMIDE-	MOGADORE. OH 44260	2162745

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
STARRETT CLEANER	265A		SURRY CHEMICAL INC	0489
		1-1-0-A	MOUNT AIRY NC	
	265	2% DIPROPYLENE GLYCOL MONO	L.S.STARRETT	1284
		METHYLETHER BAL 1% OR LESS	MOUNT AIRY.NC	
STARRETT MI LUBRICANT	264	80% PET. DISTILLATE	L.S.STARRETT	0984
		10% PEROLATUM	CLEVELAND.OH	
STARTING FLUID	1103A	DIETHYL ETHER	MIDCO PRODUCTS	1186
		2-4-1-6	ST LOUIS MO	
	1103	40% DIETHYL ETHER	MIDCO PRODUCTS CO..INC.	9999
		60% HEPTANE	MARYLAND HEIGHTS.MO.63043	
STAT-KON QCF-1008 HI	1221	NYLON.GLASS & CARBON FIBERS	LNP CORPORATION	0486
			MALVERN.PA 19355	
	1221A	NYLON. CARBON FIBERS	ICI ADVANCED MATERIALS	0789
		0-0-0-A SARA	EXTON PA	
STEARIC ACID	210	STEARIC ACID	FISHER SCIENTIFIC	0780
			FAIR LAWN. NJ 07410	5711
	210A	STEARIC ACID	FISHER SCIENTIFIC	0789
		0-1-0-A	FAIR LAWN. NJ	5711
STEEL	1391	IRON PLUS 17 OTHERS	JOSEPH T. RYERSON-INLAND-	1185
			CHICAGO. IL 60608	
STEEL NICKEL BASED ALLOY	1393	IRON PLUS 6 OTHERS	A.M. CASTLE & CO.	1185
			FRANKLIN PARK. IL 60131	
STEEL-ALLOY HR & CR	1427	IRON PLUS 13 OTHERS	A.M. CASTLE & CO.	0486
			FRANKLIN PARK. IL 60131	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
STEEL, ALLOY GRADES & FORGINGS	382	IRON PLUS 9 OTHERS	NATIONAL FORGE COMPANY IRVINE,PA 16329	0487
STEEL, HOT/COLD ROLLED ALLOY	1373	IRON PLUS 22 OTHERS	SKF STEEL, INC. AVON, CT.06001	1185
STEEL, LEADED CARBON	1394	IRON PLUS 10 OTHERS	A.M. CASTLE & CO. FRANKLIN PARK, IL 60131	1185
STEEL, LOW ALLOY GRADES	378	IRON PLUS 6 OTHERS	NATIONAL FORGE COMPANY IRVINE,PA 16329	0487
STEEL,INCONEL	377	-76% NICKEL,-17% CHROMIUM, -8% IRON,1% MANGANESE	NATIONAL FORGE COMPANY IRVINE,PA 16329	0487
STEEL,STAINLESS	380	IRON ,-21% CHROMIUM ,-15% NICKEL, PLUS 6 OTHERS	NATIONAL FORGE COMPANY IRVINE,PA 16329	0487
	1395	IRON PLUS 14 OTHERS	A.M. CASTLE & CO. FRANKLIN PARK, IL 60131	1185
		MSDS CHEMICAL LISTING		
	1390	IRON PLUS 17 OTHERS	JOSEPH T. RYERSON-INLAND- CHICAGO, IL 60608	1185
STEEL,TOOL	376	IRON PLUS 10 OTHERS	NATIONAL FORGE COMPANY IRVINE,PA 16329	0487
STEELS TOOL	1384	IRON PLUS 9 OTHERS	JESSOP STEEL CO. WASHINGTON,PA.15301	1185
STEELS, CARBON/STAINLESS	1363	FERROUS ALLOYS	DECATUR CUSTOM TOOL INC. DECATUR, IL 62521	
STEELS, CARBON, ALLOY & TOOL	1370	IRON PLUS 15 OTHERS	AVONDALE-DANLEY DIE SET - MAYVILLE, WI 53050	1185

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
STODDARD SOLVENT CHICAGO	825A	ALIPHATIC HYDROCARBON	ASHLAND CHEMICAL	0589
		2-2-0-G	COLUMBUS OH	8052413
STONER ECONO PAK B613	1134	61%METHYLENE CHLORIDE,35%	STONER INCORPORATED	9999
		HALON,4%DIMETHYL SILICONE OIL	QUARRYVILLE, PA 17566	
STONER MOLD RELEASE A410	1348	SILICONE OIL/FREONS	STONER INCORPORATED	
			QUARRYVILLE, PA 17566	
STONER MOLD RELEASE A435	1135	62% FREON II,33% HALON,	STONER INCORPORATED	9999
		5% DIMETHYL SILICONE OIL	QUARRYVILLE, PA 17566	
STONER MOLD RELEASE A835	242	97% FREON	STONERS INK CO	9999
		3% DIMETYLSILICONE OIL	QUARRYVILLE, PA 17566	
STONER MOLD RELEASE C146	243	80% FREON TF	STONERS INK CO	9999
		20% FLUOROTELOMER	QUARRYVILLE, PA 17566	
STOP BATH INDICATOR	1490	ACETIC ACID	EASTMAN KODAK	0588
		AQEROUS SOULITION	ROCHESTER, NY 14650	7732185
STRIP SOLVE 20-8135	1142	DICHLOROMETHANE	BUEHLER LTD.	1285
			LAKE BLUFF, IL 60044	
STRONTIUM NITRATE	1037	STRONTIUM NITRATE	U.S.GOVERNMENT	0781
				10042769
	106	STRONTIUM NITRATE	BARIUM AND CHEMICALS INC	0686
			STEUBENVILLE, OH	10042769
	1463	STRONTIUM NITRATE	HUMMEL CHEMICAL	0686
			S.PLAINFIELD, NJ 07080	10042769
	1463A	STRONTIUM NITRATE	HUMMEL	0686
		1-0-0-E	SOUTH PLAINFIELD NJ	10042769

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
STRONTIUM NITRATE	647	STRONTIUM NITRATE	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	10042760
	647A	STRONTIUM NITRATE	FISHER SCIENTIFIC	0289
		1-0-0-E	FAIR LAWN NJ	10042760
STRONTIUM OXALATE	101	STRONTIUM OXALATE	BARIUM AND CHEMICALS INC	
			STEUBENVILLE, OH	814959
	1044	STRONTIUM OXALATE	U.S.GOVERNMENT	0576
				814959
	1087	STRONTIUM OXALATE	HUMMEL CHEMICAL	0685
			S.PLAINFIELD, NJ 07080	814959
	1087A	STRONTIUM OXALATE	HUMMEL	0686
		1-0-0-E	SOUTH PLAINFIELD NJ	814959
STRONTIUM PEROXIDE	1043	STRONTIUM PEROXIDE	U.S.GOVERNMENT	0679
				1314187
	1075	STRONTIUM PEROXIDE	HUMMEL CHEMICAL	9999
			S.PLAINFIELD, NJ 07080	1314187
	1075A	STRONTIUM PEROXIDE	HUMMEL	0686
		H-- F-0 R-3 PE-E	SOUTH PLAINFIELD NJ	1314187
	1086	STRONTIUM PEROXIDE	HUMMEL CHEMICAL	0686
			S.PLAINFIELD, NJ 07080	1314187
	649	STRONTIUM PEROXIDE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE, OH	1314187
	649A	STRONTIUM PEROXIDE	BARIUM & CHEMICALS	0888
		NONE-0-3-E	STEUBENVILLE OHF	1314187

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
STYCAST 3180M PART A RESIN	587	EPOXY	EMERSON AND CUMMINGS	9999
		MINERAL FILLER	CANTON, MA	
STYCAST 3180M PART B RESIN	570	MODIFIED ALIPHATIC AMINE	EMERSON AND CUMMINGS	9999
		HYDRO CARBON	CANTON, MA	
STYCAST 3180M, PART A	587A	EPOXY RESIN,CALCIUM CARBONATE	EMERSON & CUMING, INC.	0389
		2-1-I-B	WOBURN, MA. 01888	
STYCAST 3180M, PART B	570A	ALIPHATIC AMINE BLEND	EMERSON & CUMING, INC.	0389
		2-1-0-G/Y SARA TOXIC	WOBURN, MA 01888	
SUCCINIC ACID	552A	SUCCINIC ACID	ALDRICH CHEMICAL CO	0484
			MILWAUKEE, WI 53201	110156
SULFADS	497	DIPENTAMETHYLENETHIURAM TETRA	VANDERBILT	0282
		SULFIDE	NORWALK, CT	12054
	497A	DIPENTAMETHYLENETHURIAM	R.T. VANDERBILT	1185
		1-0-0-G	NORWALK CT	12054
SULFUR	473	SULFUR	FISHER SCIENTIFIC	0480
			ST. LOUIS, MO	7704349
	473A	SULFUR	FISHER SCIENTIFIC	0789
		1-1-0-E	FAIR LAWN NJ	7704349
SULFURIC ACID	1549	SULFRIC ACID	J.T.BAKER CO.	0986
		3.0.3.K.	PHILLIPSBURG PA.	7664939
	1428	SULFURIC ACID	MCKESSON CHEMICAL CO.	0986
			SAN FRANCISCO, CA 94104	7664939
	1428A	SULFURIC ACID	MCKESSON/VANWATERS,ROGERS	0189
		3-0-3-G/Y SARA	SEATTLE WA	7664939

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
SULFURIC ACID	1559	SULFURIC ACID	ALDRICH CHEM CO	0189
		3-0-3-F	MILWAKEE WI.	7664939
	458	SULFURIC ACID	FISHER	0180
			FAIRLAWN. NE	7664939
	732	SULFURIC ACID	DUPONT	0180
			WILMINGTON.DE	7664939
SULFURIC ACID. 77-100%	732A	SULFURIC ACID	DUPONT	1088
		3-0-2-C/Y SARA TOXIC	WILMINGTON DE	7664939
SUNFLEET SUPER-C 10W	1191	SOLVENT REFINED PARAFFINIC OIL	SUN REFINING & MARKING CO	0983
		BLEND WITH ADDITIVES	PHILADELPHIA. PA 19103	
SUPER CONTREAT CLEANER ETCHER	1067	28% HYDROCHLORIC ACID	LANDMARK CHEMICAL CO.	1282
			MARION. IL 62959	
SUPER FLOSS	1114	DIATOMACEOUS EARTH	JOHNS-MANVILLE CORP	9999
		SILICA	DENVER.CO	
SUPER X WAX STRIPPER	908	8% GLYCOL ETHER.11% ISOPROPYL	OXFORD CHEMICAL	9999
		ALCOHOL.-1% AQUA AMMONIUM	ATLANTA. GA 30366	
SUPER 77 SPRAY ADHESIVE	296A	HEXANE/CYCLOHEXANE/PROPANE	3M	0789
		3-4-0-C/Y SARA TOXIC	ST PAUL MN 55144-1000	
SYLGARD 577 PRI. SIL. ADHESIVE	208A		DOW CORNING CORP	0789
		1-0-0-A	MIDLAND MI	
TAGN	142	TRIAMINOGUANIDINE NITRATE	TELEDYNE MCCORMICK SELPH	9999
			HOLLISTER CA	4000162
TAKTENE 1203 G1	1049	POLYBUTADIENE	POLYSAR	0583
			AKRON. OHIO	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TALC,NON-ASBESTOS FORM T-4	196	TALCUM, NON-ASBESTOS FORM	FISHER SCIENTIFIC	1187
		INORGANIC SALT	FAIR LAWN, NJ 07410	14807960
TAP MAGIC CUTTING FLUID	358A	HYDROCARBON MIXTURE	THE STECO CORP	0389
		1-8-8-A SARA TPXOC	LITTLE ROCK, AR	72203
	358	90% TRICHLOROETHANE, 3% BUTYL	STECO CORP,	0386
		ALCOHOL, 3% DIMETHOXYMEZHANE	LITTLE ROCK, ARK, 72203	
TATANIUM NITRIDE COATING	1364	TATANIUM NITRIDE	DECATUR CUSTOM TOOL INC,	0186
			DECATUR, IL 62521	1346367
TAYLOR 8045 IODIDE/IODATE N/63	174	POTASSIUM IODIDE & IODATE	TAYLOR CHEMICALS, INC,	0885
		INORGANIC SALT SOLUTION	SPARKS, MD 21152	
TAYLOR 8065 SILVER NITRATE	184	SILVER NITRATE N/35.5 0.4%	TAYLOR CHEMICALS, INC,	0885
		INORGANIC SALT SOLUTION	SPARKS, MD 21152	
TAYLOR 8075 SULFURIC ACID .02N	916	DILUTE SULFURIC ACID 0.1%	TAYLOR CHEMICALS, INC,	0885
		DILUTE INORGANIC MINERAL ACID	SPARKS, MD 21152	
TAYLOR 8090 REVERSION ACID	182	SULFURIC ACID 14.7%	TAYLOR CHEMICALS, INC,	0885
		INORGANIC ACID SOLUTION	SPARKS, MD 21152	
TAYLOR 8129 STANNOUS CHLORIDE	897	STANNOUS/POTASSIUM CHLORIDES	TAYLOR CHEMICALS, INC,	0187
		INORGANIC SALTS POWDER	SPARKS, MD 21152	
TAYLOR 8815 MOLYBDATE REAGENT	915	SODIUM MOLYBDATE SOLUTION IN	TAYLOR CHEMICALS, INC,	0885
		WATER -MOLYBDATE CONCENTRATE-	SPARKS, MD 21152	
TAYLOR 8821 PHENOLPHTHALEIN	1004	PHENOLPHTHALEIN INDICATOR	TAYLOR CHEMICALS, INC,	0885
		ISOPROPYL ALCOHOL 42%	SPARKS, MD 21152	
TDI 80-20	276	TOLUENE DIISOCYANATE	OLIN	0284
			STAMFORD, CT 06904	2647162

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TEFLON DRY AEROSOL-SLIP SPRAY-	342	ALIPHATIC HYDROCARBONS 26%	DUPONT-	9999
			WILMINGTON.DE	
TEFLON G-80	759		ALLIED CHEMICAL	
			NORRISTOWN. NJ 07960.	
TEFLON WET LUBRICANT	912	42% ALIPHATIC HYDROCARBONS	DUPONT	9999
		TEFLON	WILMINGTON.DE	
TEGDN	191A	TRIETHYLENE GLYCOL DINITRATE	TROJAN CORP	0789
		2-3-3-B	SPANISH FORK UT	111228
	191	TRIETHYLENEGLYCOL DINITRATE	TROJAN CORPORATION	1082
		-GLYCOL ESTER-	SPANISH FORK. UTAH 84660	111228
TENITE	1178A	CELLULOSE ACETATE	EASTMAN KODAK	1288
		0-0-0-A SARA	KINGSPORT TN	
TENITE. PELLETS	1178	CELLULOSE ACETATE	EASTMAN KODAK	0182
			KINGSPORT. TN 37662	
TEREPHTHALONITRILE	631	1.4-BENZENEDICARBONTRILE	EASTMAN KODAK	1085
			ROCHESTER. NY 14650	623267
TETRA BUTYL AMMONIUM HYDROXIDE	502	25% TETRABUTYLAMMONIUM	J T BAKER CHEMICAL CO	9999
		HYDROXIDE. 75% METHANOL	PHILLIPSBURG. NJ 08865	
TETRABUTYLAMMONIUM HYDROXIDE	1562	TETRABUTYLAMMONIUM HYD.	ALDRICH CHEM CO	0788
		4-4-1-J	MILWAKEE WI.	205249
TETRABUTYLAMMONIUMHYDROXIDE	502A	TETRABUTYLAMMONIUMHYDROXIDE	J.T. BAKER	0589
		3-3-1-C SARA TOXIC	PHILLIPSBURG NJ	
TETRAETHYLENE PENTAMINE.	1327	TETRAETHYLENE PENTAMINE	ALDRICH CHEMICAL CO	0886
		VISCOUS HYGROSCOPIC LIQUID	MILWAUKEE. WI 53201	112572

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TETRAETHYLENEGLYCOLDIACRYLATE	748	TETRAETHYLENEGLYCOLDIACRYLATE	CELANESE CHEMICAL CO	0189
			DALLAS,TX	1783171
TETRAETHYLENEPENTAMINE, TECH	1327A	TETRAETHYLENEPENTAMINE	ALDRICH	0789
		4-1-0-G/T	MILWAUKEE WI	112572
TETRAHYDROFURAN	397	TETRAHYDROFURAN	J T BAKER CHEMICAL CO	1085
			PHILLIPSBURG, NJ 08865	109999
	397B	TETRAHYDROFURAN	JT BAKER CHEM CO	1085
		2-3-2-B/T	PHILLIPSBURG, NJ	109999
	455	TETRAHYDROFURAN	FISHER SCIENTIFIC	0680
			FAIRLAWN, NE	109999
	455A	TETRAHYDROFURAN	FISHER SCIENTIFIC	0789
		2-4-0-G,T	FAIR LAWN NJ	10999
	I501A	TETRAHYIDROFURAN	ALDRICH CHEM CO.	0189
		2-1-1-H	MILWUAKEE WI.	109999
TETRAHYROFURAN	397A	TETRAHYDROFURAN	FISHER SCIENTIFIC	0588
		2-3-0-G SARA TOXIC	PHILLIPSBURG NJ	7727540
TETRAIDDOETHYLENE	444	TETRAIDDOETHYLENE	PFALTZ & BAUER INC	
			STAMFORD CT	
TETRAMETHYL GUANIDINE	692	TETRAMETHYL GUANIDINE	AMERICAN CYANAMID CO.	
			WAYNE, NJ	80700
TETRAMETHYL, BENZENE	1326	1,2,4,5-TETRAMETHYL BENZENE	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	95932
TETRAMETHYLBENZENE	432	TETRAMETHYLBENZENE	ALDRICH CHEMICAL CO	0485
			MILWAUKEE, WI 53201	488233

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TEXACO ACCELERATOR 399 -C5693-	664	80% TRIETHANOLAMINE-20% PIPERA-	TEXACO	0283
		ZINE-10% AMINOETHYL PIPERAZINE	BELLAIRE.TX	
TEXTHANE 221 SERIES	1077		TEXAS URETHANES INC.	0682
		URETHANE FOAM	AUSTIN. TEXAS 78766	
THERMAX -ALL GRADES-	1056A	CARBON BLACK	RT VANDERBILT	0988
		0-0- -B OR E	NORWALK CT	1333864
THERMOCOMP OF SERIES	988	60% GLASS FIBERS	LNP CORPORATION	0186
		10% NYLON	MALVERN.PA 19355	
THF	1501	TETRAHYDROFURAN	ALDRICH CHEMICAL CO	0688
			MILWAUKEE. WI 53201	1099
THINNER ACRYLIC GLOSS	1216	40% 2-PROPANONE-25% XYLENE-	PPG INDUSTRIES INC	0184
		20% ALIPHATIC HYDROCARBON	CLEVELAND. OH 44111	
THINNER HUMISEAL NO. 503	1305	65% TOLUENE. 35% MEK.	HUMISEAL DIVISION	9999
			WOODSIDE. NY 11377	
THINNER LACQUER 2840 SSB	322		HENTZEN CHEM.COATINGS	
THINNER MARKEM M THINNER	1598	DIETHYLENEGLYCOL MONOBUTYL EA.	MARKEM CORP	0686
		2-2-0-C	KEEN N.H.	12417
THINNER MIL-T-81772 KEMPEN	253	100% KETONES. ESTERS.AROMATICS	KEMPEN PAINT CO	0584
			EAST CARONDOLET IL	
THINNER PPG ACRYLIC ENAMEL	1380	45% NAPHTHA-25% TOLUENE-	PPG INDUSTRIES INC	1083
		20% PROPANONE	PITTSBURGH. PA 15238	
THINNER SEAGUARD NO. 130	1453	48% BUTANOL. 52% AROMATIC	SEAGUARD CORP.	1185
		NAPHTHA	PORTMOUTH VA 23701	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
THINNER TT-T-266	1515	THINER DOPE AND LACQUER	RANDOLPH PRODUCTS	0688
			CARLSTADT. NJ 07072	
THINNER XF MARKEN	326	MIXED SOLVENTS	MARKEN CORPORATION	9999
			KEENE. NH 03431	
THINNER 3979S DUPONT	943	2-ETHOXY ETHYL ACETATE	DUPONT	0584
			WILMINGTON.DE	
THINNER. BRUDER 520 SPRAY	352	-30% GLYCOL ETHERS.-31%ESTERS	M.A.BRUDER & SONS	0784
		-26% ALCOHOL.-25% NAPHTHA	BROOMALL.PA 19008	
THINNER. INK 648 FLEXO	1398	ETHYL ALCOHOL/N-PROPYL ACETATE	INDUSTRIAL MARKING EQUIP.	9999
		CLEAR/SOLVENT ODOR -PROP.-	WEST PALM BEACH. FL 33407	
THINNER. MATTHEWS #7	1061	ETHYLENE GLYCOL MONO	MATTHEWS INTERNATIONAL	1084
		BUTYL ETHER 98%	PITTSBURG. PA 15206	
THINNER. POLY MIL-T-81772	253A	MEK. TOLUOL. XYLOL	KEMPEN PAINT	0889
		1-4-0-BEY SARA	EAST CARONDELET. IL	
THIONYL CHLORIDE	452	THIONYL CHLORIDE	ALDRICH CHEMICAL CO	0485
			MILWAUKEE. WI 53201	7719099
THIONYL CHLORIDE. 99+%	452A	THIONYL CHLORIDE	ALDRICH CHEMICAL	0789
		3-0-2-G	MILWAUKEE WI	7719099
THREADLOCKER #279-FOR. #270-	367A	DIMETHACRYLATE ESTER. ETC.	LOCTITE CORP.	0286
		2-2-0-B SARA TOXIC	NEWINGTON. CT	
TIN DIOXIDE	1034	STANNIC OXIDE	U.S.GOVERNMENT	0576
				18282109
TINUVIN P	506	HEXAHYDROXYL METHYL PHENYL	CIBA-GEIGY	0783
		BENSOTRIAZOLE	ANDSLEY NY	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TINUVIN P	506A	2--2*-HYDROXY-5*-METHYLPHENYL-	CIBA-GEIGY	0489
		0-1-0-B	HAWTHORNE, NY	
TITANIUM	1013	TITANIUM	J T BAKER CHEMICAL CO	9999
			PHILLIPSBURG, NJ 08865	7440326
	1425	TITANIUM PLUS 11 OTHERS	A.W. CASTLE & CO.	0486
			FRANKLIN PARK, IL 60131	
TITANIUM ACETYLACETONATE	632	TITANIUM ACETYLACETONATE	KAY-FRIES INC.	0681
			ROCKLEIGH, NJ	17927729
TITANIUM CARBIDE	1366	TITANIUM CARBIDE	DECATUR CUSTOM TOOL INC.	0289
		WITH NICKEL MOLYBDENUM BINDER	DECATUR, IL 62521	
TITANIUM DIOXIDE	640	TITANIUM DIOXIDE	J T BAKER CHEMICAL CO	
			PHILLIPSBURG, NJ 08865	1346367
TITANIUM METAL	1357A	TITANIUM	TITANIUM IND	0785
		0-0-0-B	FAIRFIELD NJ	
	1357	85% TITANIUM	TITANIUM INDUSTRIES	0785
			FAIRFIELD, NJ. 07006	
TITRANT SOLUTION HARDNESS 3	179A	PROPYLENE GLYCOL, WATER	HACH	0688
			AMES IA	
TMETN-METRIOL TRINITRATE	440A	TRIMETHYLOLETHANE TRINITRATE	TROJAN CORPORATION	0789
		1-4-4-B	SPANISH FORK, UT	
	440	1,1,1-TRIMETHYLOLETHANE	TROJAN CORPORATION	
		TRINITRATE -HIGH EXPLOSIVE-	SPANISH FORK, UTAH 84660	
TOLUENE	1211	TOLUENE	E M SCIENCE	0587
		METHYLBENZENE	CHERRY HILL, NJ 08034	108883

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TOLUENE	1211A	TOLUENE	EM SCIENCE	0887
		3-4-0-H	GIBBSTOWN NJ	10888
	488	TOLUENE	J T BAKER CHEMICAL CO	0384
			PHILLIPSBURG, NJ 08865	10888
	488A	TOLUENE	J.T. BAKER	0389
		3-4-0-H SARA TOXIC	PHILLIPSBURG NJ	10888
	519	TOLUENE	ALLIED CHEMICAL	0780
			MORRISTOWN, NJ 07960	10888
	519A	TOLUENE	GENERAL CHEMICAL	1184
		3-4-0-H	MORRISTOWN NJ	10888
	872	TOLUENE	ASHLAND CHEMICAL	1281
			ST. LOUIS, MO	10888
	872A	TOLUENE	ASHLAND CHEMICAL	0589
		3-4-0-H SARA	COLUMBUS OH	10888
TOLUENE DIAMINE	226	TOLUENE DIAMINE	HUMMEL CHEMICAL	
			S.PLAINFIELD, NJ 07080	9589
TOLUENE.2.4.DIAMINE	439	TOLUENE DIAMINE	RESEARCH PLUS,INC	9999
			BAYONNE,NJ 07002	9580
TOLUENEDIAMINE TDA	1003A	TOLUENEDIAMINE	MOBAY/BAYER CORP	0389
		3-1-0-G SARA	PITTSBURGH PA	
TOLUENENEDIAMINE	1003	TOLUENEDIAMINE, MIXED ISOMERS	MOBAY CHEMICAL CORP.	0382
		AROMATIC DIAMINE C7H10N2	PITTSBURGH, PA 15205	
TOLUENESULFONIC ACID	1403	4-METHYLBENZENESULFONIC ACID	EASTMAN KODAK	1084
			ROCHESTER, NY 14650	6192525

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
TOLUENESULFONYL ISOCYANATE	490	TOLUENESULFONYL ISOCYANATE	ALDRICH CHEMICAL CO	0484
			MILWAUKEE, WI 53201	408364
	490A	TOLUENESULFONYL ISOCYANATE	ALDRICH CHEM CO.	1088
		3-2-1-G	MILWAKEE WI.	408364
TOLUIDINE RED EXTRA LT.	953	M-NITRO-P-TOLUIDINE	HARSHAW CHEM CO	0583
		BETA NAPHTHOL	CLEVELAND,OH	
TOLUYLENEDIAMINE-MT-302	1230	M-TOLUENEDIAMINE	MOBAY CHEMICAL CORP.	0886
		PURE DISTILLED FLAKES	PITTSBURGH, PA 15205	9580
TOLYLENE-2,4-DIISOCYANATE	1413	TOLUENE DIISOCYANATE	EASTMAN KODAK	0874
				58484
	1413A	TOLYLENE DIISOCYANATE	EASTMAN KODAK	0987
		4-1-1-G SARA	ROCHESTER NY	58484
TONE M-100 MONOMER	1098		UNION CARBIDE	0884
		MOND ACRYLATE -PROP.-	DANBURY, CT 06817-0001	
TONE POLYOL 0200 SERIES	989	POLYCAPROLACTONE DIOL'S	UNION CARBIDE	0886
		CAPROLACTONE POLYOLS	DANBURY, CT 06817-0001	
TONE POLYOL 0300 SERIES	316	POLYCAPROLACTONE TRIOL-S-	UNION CARBIDE	1185
		CAPROLACTONE POLYOLS	DANBURY, CT 06817-0001	
TONER KODAK SEPIA	1518	SODIUM SULFIDE	EASTMAN KODAK	0780
		PART B	ROCHESTER, NY 14650	
TONER, T-50P	1243	92% STYRENE-ACRYLATE COPOLYMER	TOMOEGAWA PAPER CO.LTD.	9999
		PLUS CARBON BLACK &PIGMENT	TOKYO,JAPAN 104	
TONER, T-56P	1406	92% STYRENE-ACRYLATE COPOLYMER	TOSHIBA CORP.	0586
		8% PIGMENT	SAIWAI-KU,KAWASAKI-JAPAN	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TONER, T-62P	1407	95% STYRENE-ACRYLATE COPOLYMER	TOSHIBA CORP.	0586
		5% CARBON BLACK	SAIWAI-KU,KAWASAKI-JAPAN	
TONER, T-70P-BR & T-70PC-BR	1409	80% STYRENE-ACRYLATE COPOLYMER	TOSHIBA CORP.	0586
		20% PIGMENT	SAIWAI-KU,KAWASAKI-JAPAN	
TONER, T-74PC-BR	1408	79% STYRENE-ACRYLATE COPOLYMER	TOSHIBA CORP.	0586
		21% PIGMENT	SAIWAI-KU,KAWASAKI-JAPAN	
TONER, XEROX	1081	POLYESTER & ADDITIVES	XEROX CORP.	0485
			ROCHESTER,NY 14644	
	1072	STYRENE/N-BUTYLMETHACRYLATE	XEROX CORP.	0481
		COPOLYMER,CARBON BLACK	ROCHESTER,NY 14644	
TOW PREPREG T40/ERL 1908	1534	TOW PREPREG T/40 1908	AMACO PREFORMANCE CO.	1289
			CHIAGO IL.	
TRACER MIX I-136 -5.56-	151	PYROTECHNIC MIX WITH	OLIN	1887
		BINDER	STAMFORD, CT 06904	
TRACER MIX I-547	1266	METAL OXIDIZER	OLIN	0386
		PYROTECHNIC MIX /BINDER	STAMFORD, CT 06904	
TRACER MIX I-548	1267	METAL OXIDIZER	OLIN	0386
		PYROTECHNIC MIX /BINDER	STAMFORD, CT 06904	
	1267A	MIXTURE	OLIN	0688
		1-4-3-E	STAMFORD CT	
TRACER MIX R-256	1263	METAL OXIDIZER	OLIN	0386
		PYROTECHNIC MIX/ BINDER	STAMFORD, CT 06904	
TRACER MIX R-264	1264	METAL OXIDIZER	OLIN	0386
		PYROTECHNIC MIX/ BINDER	STAMFORD, CT 06904	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TRACER MIX R-284	1047	METAL/OXIDANT MIX	U.S.GOVERNMENT	0288
TRACER MIX R-505	1265	METAL OXIDIZER	OLIN	0386
		PYROTECHNIC MIX/BINDER	STAMFORD, CT 06904	
TRACER MIX R-528	149	METAL OXIDIZER	OLIN	0287
		PYROTECHNIC MIX/BINDER	STAMFORD, CT 06904	
TRACER R-256 COMPOSITION	1054	METAL/OXIDANT MIX	U.S.GOVERNMENT	0380
TRACER R-321 COMPOSITION	1053	METAL/OXIDANT MIX	U.S.GOVERNMENT	0978
TRACER TYPE 1	1573	MA.TE. VITON TRACER COMP	PYROTECHNIC SPECIALITES	0289
		3-3-0-8	BYRON GA.	
	1573A	MAGNESIUM/TEFLON/VITON TRACER	PYROTECHNIC/ICI AEROSPACE	0289
		3-3-3-8	BYRON, GA	
TRANSOPTIC POWDER 20-3400-080	1148	95% POLYMETHYLMETHACRYLATE	BUEHLER LTD.	1285
		5% LUBRICANT	LAKE BLUFF, IL 60044	
TRIACETIN	720	GLYCERLY TRIACETATE	UNION CARBIDE CORP	9999
			CHICAGO, IL	102761
TRICHLORETHANE-1.1.1	185	METHYLCHLOROFORM	PPG INDUSTRIES INC	0787
		TRI-ETHANE 366	PITTSBURG, PA 15272	71556
TRICHLORETHYLENE	215A	CHLORINATED HYDROCARBONS	CHEMTECH IND	0189
		2-1-1-G SARA TOXIC	ST LOUIS MO	79016
TRICHLORDETHANE-1.1.1	1430	METHYL CHLOROFORM	MCKESSON CHEMICAL CO.	0886
			SAN FRANCISCO, CA 94104	71556

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TRICHLOROETHYLENE	215	TRICHLOROETHYLENE	CHEMTECH INDUSTRIES	1183
		PURCHASE ONLY ON SAF-2 FORM	ST. LOUIS. MO 63131	79016
TRIETHANE	1085	TRICHLOROETHANE -TRIETHANE-	CHEMTECH INDUSTRIES	0685
			ST. LOUIS. MO 63131	7155
TRIETHANOLAMINE	663	TRIETHANOLAMINE	OLIN	0788
			STAMFORD. CT 06904	102716
TRIETHYLAMINE	503	TRIETHYLAMINE	J T BAKER CHEMICAL CO	9999
			PHILLIPSBURG. NJ 08865	121448
	503A	TRIETHYLAMINE	J.T. BAKER	0589
		2-3-1-G.Y SARA TOXIC	PHILLIPSBURG NJ	12144
TRIETHYLENE GLYCOL	873	TRIETHYLENE GLYCOL	J T BAKER CHEMICAL CO	0478
			PHILLIPSBURG. NJ 08865	112278
TRIFLUORO ETHANOL	1325	2.2.2-TRIFLUOROETHANOL	ALDRICH CHEMICAL CO	0886
			MILWAUKEE. WI 53201	75898
TRIFLUOROACETIC ACID	1331	TRIFLUOROACETIC ACID	ALDRICH CHEMICAL CO	0886
			MILWAUKEE. WI 53201	76052
TRIFLUOROACETIC ACID. 99%	1331A	TRIFLUOROACETIC ACIRD	ALDRICH	0789
		3-0-0-G/Y	MILWAUKEE WI	76052
TRIOXANE	1521	TRIOXANE 1.3.5.	ALDRICH CHEMICAL CO	1288
		RTD USE ONLY	MILWAUKEE. WI 53201	
TRIOXANE 1-3-5-	1527A	TRIOXANE 1.3.5.	ALDRICH CHEM CO.	0189
		3-1-3-G-Y	MILWUAKEE WI.	110883
TRIOXYMETHYLENE	622	TRIOXYMETHYLENE	FISHER SCIENTIFIC	
			FAIR LAWN. NJ 07410	11088

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
TRIPHENYLBISMUTHANE	481A	TRIPHENYLBISMUTHANE	EASTMAN KODAK	0985
		0-0-0-A	ROCHESTER NY	603338
TRIPHENYLBISMUTHINE	481	TRIPHENYLBISMUTHINE	EASTMAN KODAK	0985
			ROCHESTER, NY 14650	603338
TRONAMANG MANGANESE METAL	I124E	MANGANESE	KERR MCGEE	0189
		1-1-2-E	OKAHOMA CITY OK	7439965
TTEGDA	747A	TETRAETHYLENEGLYCOLDIACRYLATE	RADCURE/CELLANESE	0389
		2-1-2-G	LOUISVILLE, KY	17831719
TUFF-KOTE	1289	0.25% 1--3-CHLOROALLY--3,5,7-1	OXFORD CHEMICAL	0885
		AZONIAADAMANTANE CHLORIDE	ATLANTA, GA 30366	408031
TUNGSTEN ACCELERATORS 763-266	1130	TUNGSTEN	LECO CORP.	9999
			ST. JOSEPH, MI 49085	
TUNGSTEN CARBIDE	1365	CEMENTED TUNGSTEN CARBIDE	DECATUR CUSTOM TOOL INC.	
		PRODUCT WITH COBALT BINDER	DECATUR, IL 62521	
TUNGSTEN CARBIDE POWDER	918	TUNGSTEN CARBIDE	LI TUNGSTEN CORP.	9999
			GLEN COVE NY	
TUNGSTEN CARBIDE W/COBALT BIND	1229B	TUNGSTEN CARBIDE	KENNAMETAL	0189
		2-1-0-B	LATROBE PA	1207012
TUNGSTEN CARBIDE/COBALT BINDER	1229	W/CO/TA/TI/NI CARBIDES	KENNAMETAL, INC.	1085
			LATROBE, PA 15650	99900008
TUNGSTEN OXIDE	1601	TUNGSTEN OXIDE	ALDRICH CHEM CO.	0689
		2-0-1-G-Y	MILWAUKEE WI.	1314358
TUNGSTEN POWDER	698	TUNGSTEN	LI TUNGSTEN CORP.	9999
			GLEN COVE NY	7440337

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TUNGSTENCARBIDE	1229A	TUNGSTEN CARBIDE	KENNAMETAL INC.	0187
		2-0-1-8	LATROBE PA.	
TWITCHELL 6240	792		EMERY INDUSTRIES INC.	
			CINCINNATI. OH	
TYZOR GBA ORG. TITANATE 5883PP	1238	METHANOL/ISOPROPYL AK..	E.I.DUPONT	0985
		TITANATE ESTER	WILMINGTON. DE 19898	
TYZOR TBT ORG.TITANATE 5887PP	1236	TITANIUN TETRABUTA BUTOXIDE	E.I.DUPONT	0985
		TITANATE ESTER	WILMINGTON. DE 19898	
TYZOR TE ORG. TITANATE 5886PP	1233	TRIETHANOLAMINE TITANIUM	E.I.DUPONT	1985
		CHELATE	WILMINGTON. DE 19898	
TYZOR TOT ORG.TITANATE 5888PP	1237	TETRA OCTYL TITERNATE	E.I.DUPONT	1185
			WILMINGTON. DE 19898	
TYZOR TOT TITANATE	1237A	TETRA OCTYL TITERNATE	DUPONT	0888
		3-2-1-B&Y SARA	WILMINGTON DE	
TYZOR TPT 5889PP	1232	TETRA ISOPROPYL TINANATE	E.I.DUPONT	1185
			WILMINGTON. DE 19898	
	1232A	TETRAISOPROPYL TITANATE	DUPONT	0689
		1-3-0-B&Y SARA	WILMINGTON DE	
TYZOR 101 TITANATE	1234A	TITANATE ESTER	DUPONT	0888
		0-0-0-A SARA	WILMINGTON DE	
TYZOR 101 5903PP	1234	TITANATE ESTER	E.I.DUPONT	0985
		PROP.	WILMINGTON. DE 19898	
TYZOR 131 TITANATE	1235A	ORGANIC TITANATE	DUPONT	0888
		0-0-0-A SARA	WILMINGTON DE	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
TYZOR 131 5913PP	1235	ORGANIC TITANATE -PROP.-	E.I.DUPONT WILMINGTON, DE 19898	0985
UCON QUENCHANTS A,B,C,HT,RL	1129	POLYALKYLENE GLYCOL W/NITRITE -PROP.-	UNION CARBIDE DANBURY, CT 06817-0001	1085
UNICOLOR E-6-2-4X/STDEV B	1202	10% SODIUM CARBONATE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-1-4X 1ST DEVA	1201	10% DIMEZONE,10% K HYDRO-QUINONE SULFUNATE -PROP.-	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-3-16X REVERSE	1204	10% SODIUM HYDROXIDE 20% PROPIONIC ACID	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-4-4X COL.A	1199	10% POTASSIUM HYDROXIDE 10% SODIUM PHOSPHATE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-5-16X COLB	1200	20% SESQUISULFATE 10% SODIUM BISULFITE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-6-16X STOP	1203	40% ACETIC ACID	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-7-4X BLEACH	1205	10% SODIUM BROMIDE, 50% POTAS-SIUM FERRICYANIDE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-8-4X FIXER	1206	40% AMMONIUM THIOSULFATE, -5% SODIUM BISULFITE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNICOLOR E6-9-16X STAB	1207	10% FORMALDEHYDE	UNICOLOR DIV/PHOTO SYSTEM DEXTER,MI 48130	0981
UNION CARBIDE A-1120 SILANE	471	N-BETA--AMINOETHYL--GAMMA-AMINOPROPYLTRIMETHOXYSILANE	UNION CARBIDE DANBURY, CT 06817-0001	1087 176024

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
UNION CARBIDE A-1130 SILANE	764	PROPYLTRIMETHOXYSILANE/AMINO	UNION CARBIDE	1085
		ORGANOSILANE ESTER	DANBURY, CT 06817-0001	35141301
UNION CARBIDE A-187 SILANE	472	GAMMA-GLYCIDOXYPROPYL-	UNION CARBIDE	1085
		TRIMETHOXYSILANE	DANBURY, CT 06817-0001	2530839
UNIVERSAL FLAIRING PASTE	1214	60% XYLENE,10% 2-BUTANONE,	PPG INDUSTRIES INC.	0185
		5% ISOPROPYL ALCOHOL	CLEVELAND, OH 44111	
UOP 288 ANTIOZONANT	1339	N,N-BIS--1 METHYLHEPTYL-	UOPINC.	0886
		-P-PHENYLENEDIAMINE	DES PLAINS, IL. 60017	103968
	1339A	N,N'-BIS--1-METHYLHEPTYL--P-PH	UOP	0189
		3-1-0-G	DES PLAINES IL	103968
URANIUM	466A	URANIUM	AEROJET ORDNANCE	0789
		2-0-0-F	JONESBOROUGH TN	7440611
URANIUM DEPLETED	905	URANIUM	NUCLEAR METALS	9909
			CONCORD, MA	7440611
URANIUM, DEPLETED	905A	URANIUM	NUCLEAR METALS	0687
		2-0-0-F	CONCORD MA	7440611
	466	URANIUM-98%- MOLYBDENUM-2%.	AEROJET HEAVY METAL CO.	
			JONESBOROUGH, TENN. 37659	
URINAL SCREEN BLOCK #2002	1474	-PROP.-	NILODOR.INC.	0387
			NORTH CANTON, OH	
VALOX RESIN	951	POLYETHYLENE TEREPHTHALATE	GENERAL ELECTRIC	1185
			PITTSFIELD, MA 01201	
VANADIUM -V- OXIDE,99.6+%	400	VANADIUM PENTOXIDEE	ALDRICH CHEMICAL CO	0388
			MILWAUKEE, WI 53201	1314621

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
VANAX	495A	DITHIODIMORPHOLINE	R.T. VANDERBILT	1086
		1-2-0-E	NORWALK CT	10334
VANAX A ACCELERATOR	495	DITHIODIMORPHOLINE	VANDERBILT	0181
			NORWALK CT	10334
VANOX MBPC 2246	931A	2,2'-METHYLENEBIS-4-METHYL-	R.T. VANDERBILT	0489
		0-0-0-B	NORWALK CT	
VANOX 13 ANTI-OXIDANT	498A	POLYALKYLPOLYPHENOLS	R.T. VANDERBILT	0586
		0-0-0-B	NORWALK CT	
VANOX 13 ANTIOXIDANT	498	MODIFIED HINDERED PHENOL	VANDERBILT	0181
		ORGANIC PHOSPHORUS COMPOUND	NORWALK, CT	
VANOX 2246	931	METHYLENEBIS-4-METHYL-6-TERT-	VANDERBILT	9999
		BUTYLPHENOL	NORWALK, CT	
VAPOR SCALE REMOVER NO.1	157	PHOSPHORIC ACID	GARMAN COMPANY	9999
			FENTON, MO 63026	7664382
VERSAMID 140	638		GENERAL MILLS	
VESSEL SOLUTION -B-	874	SULFUR DIOXIDE	SERAGAN DIAGNOSTICS	9999
			INDIANAPOLIS IN	7446095
VIBRACURE 3080	239		UNIROYAL CHEMICAL CO	1273
			NAUGATUCK, CT	
VIBRACURE V-3080	239A	DIOL CURATIVE	UNIROYAL CHEMICAL	1085
		2-1-0-B	MIDDLEBURY CT	
VIBRATHANE B-640	1125A	POLYETHER W/TOLUENEDIISOCYANAT	UNIROYAL CHEMICAL	1085
		2-1-1-G	MIDDLEBURY CT	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
VIBRATHANE B-640	1125	POLYURETHANE WITH TDI	UNIROYAL CHEMICAL CO MIDDLEBURY, CT 06749	1085
VIBRATHANE B635 RESIN	238	REACTION PRODUCT OF A POLYETHER WITH MDI	UNIROYAL CHEMICAL CO MIDDLEBURY, CT 06749	1085
VINAC BEADS	925B	VINAC BEADS 2-2-0-B	AIR PROD INC. ALLENTOWN PA.	0385
VINAC BEADS-PVA POLYMER-	925	POLYVINYL ACETATE	AIR PRODUCTS ALLENTOWN, PA 18105	9999
VIOLET DYE CRYSTAL	441		FISHER SCIENTIFIC FAIR LAWN, NJ 07410	
VITON A FLUOROELASTOMER	611	FLOURINATED SYN.RUBBER	DUPONT WILMINGTON,DE	9999
VITRIDE	693	70% SODIUM -METHOXY-ETHOXY- ALUMINUM NITRIDE IN TOLUENE	HEXCEL SPECIAL CHEMS. ZEELAND MI	1179 227229
W&B CONCENTRATE 5120	1083	PROP.	WHITE AND BAGLEY CO. WORCESTER, MA 01604	0785
W&B COOLANT E-55./TEA SOAP	364A	TRIETHANOLAMINE 1-1-1-B	WHITE & BAGLEY DETROIT MI	0986
W&B GRINDING COOLANT E-55	364	TRIETHANOLAMINE, TEA SOAP, SODIUM NITRITE	WHITE AND BAGLEY CO. WORCESTER, MA 01604	0374
WASP-A-WAY	1290	1,1,1-TRICHLORETHANE KEROSENE SYN.PYRETHRIN,CARBON DIOXIDE	BONNIE CHEM-SPEC EARTH CITY,MO. 63045	9999
WATER SEAL	583		THOMPSON CHEM CO KANSAS CITY KS	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
WD-40 OIL SPRAY	220	-50% PET. DISTILLATE	WD-40 COMPANY	0984
		25% LP GAS. 15% PET.BASE OIL	SAN DIEGO. CA	805241
WD-40	220A	ORGANIC MIXTURE	WD-40 CO	0189
		2-2-0	SAN DIEGO. CA	8052413
	529A	ORGANIC MIXTURE	WD-40	0189
		2-2-0-NONE LISTED	SAN DIEGO.CA	
WD-40 OIL	529	70% PET.DISTILLATE.20% PET.	WD-40 COMPANY	0984
		BASE OIL.-10% MISC.	SAN DIEGO. CA	
WESTON 618/WESTON 619	507	DISTEARYL PENTAERYTHRITOL	BORG WARNER CHEM.	1186
		DIPHOSPHITE.-1% TRIISOPROPANOL	PARKERSBURG.W.VA.26102	
WESTON 618/619	507A	DISTEARYLPENTAERYTHRITOLDIPHOS	GE SPECIALTY CHEMICALS	1186
		3-1-2-H	PARKERSBURG WV	
WHEEL SLIK 4055	299		ROGERS PAINT PRODUCTS	
WHITE DYE	188	CHLOROANTHRAQUINONE	ATLANTIC CHEM CORP	
			NUTLEY. NJ	1380
WOOD PRESERVATIVE M-GARD W-550	216	63% ZINC NAPHTHENATE.27% SOL-	MOONEY CHEMICALS. INC.	0785
		VENTS.10% EMULISIFERS	CLEVELAND. OHIO 44113	
X-COAT 211 RESIN	1117	50% NICKEL.10% CELLOSOLVE-	ELECTRO-KINETIC SYSTEMS.	9999
		ACETATE.20% TOLUENE	TRAINER. PA 19813	
XEROX DEVELOPER	1082	-90% STEEL POWDER	XEROX CORP.	0485
			ROCHESTER.NY 14644	
XEROX TONER EPS 940	1155	STYRENE N-BUTYLMETHACRYLATE	XEROX CORP.	0485
		CARBON BLACK	ROCHESTER.NY 14644	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
XYLENE	1302A	PETROLEUM SOLVENT	EXXON	1188
		1-3-0-G	HOUSTON TX	1330207
	730	XYLENE	MALLINCKRODT CHEMICALS	0284
			ST. LOUIS, MO 63147	1330207
	730A	XYLENE	MALLINCKRODT	0289
		1-3-0-G SARA TOXIC	PARIS KY	1330207
	1302	83% ISO XYLENES	NORTHERN COATINGS & CHEM.	0286
		25% ETHYL BENZENE	MENOMINEE,MI 49858	1330207
YELLOW PROTOPET	310	PETROLATUM USP	WITCO CHEMICAL GROUP	0484
			CHICAGO IL	8009038
YELLOW PROTOPET 2A	310A	PETROLATUM USP	WITCO, SONNEBORN DIV	1186
		0-1-0-A	PETROLIA, PA	
ZEOLITES	190A	MOLECULAR SIEVE	EM SCIENCE	1087
		0-0-0-A	GIBBSTOWN, NJ 08027	
ZETAX	493A	ZINC2-MERCAPTOBENZOTHIAZOIC	R.T. VANDERBILT	0789
		1-0-0-E	NORWALK CT	155044
ZETAX ACCELERATOR	493	ZINC-2-MERCAPTOBENZOTHIAZOLE	VANDERBILT	0283
			NORWALK, CT	155044
ZINC CHROMATE PRIMER	273		KEMPEN PAINT CO	
			EAST CARONDOLET IL	1353065
ZINC DUST	705A	NONPYROPHORIC ZINC DUST	FISHER SCIENTIFIC	0789
		2-2-2-8	FAIR LAWN, NJ 07410	7440666
ZINC OXIDE	728	ZINC OXIDE	FISHER	0980
			FAIR LAWN, NJ	1314132

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ZINC OXIDE	728A	ZINC OXIDE	FISHER SCIENTIFIC	0389
		2-0-0-E	FAIR LAWN NJ	131413
	774	ZINC OXIDE	ACETO CHEMICAL CO. INC.	0878
			FLUSHING, NY 11368	131413
	774A	ZINC OXIDE	ACETO CHEMICAL	1085
		2-0-0-E	FLUSHING NY	131413
ZINC POWDER	705	ZINC	FISHER SCIENTIFIC	0680
			ST. LOUIS, MO	7440666
ZINC STEARATE	104	ZINC STEARATE	FISHER SCIENTIFIC	1182
			FAIR LAWN, NJ 07410	55705
	1046	ZINC STEARATE	U.S.GOVERNMENT	0576
	1078	ZINC STEARATE	J.T.BAKER CHEMICAL CO	1182
			PHILLIPSBURG, NJ 08865	55705
	1078A	ZINC STEARATE	JT BAKER	0589
		1-1-0-E SARA	PHILLIPSBURG NJ	55705
	104A	ZINK STEARATE	FISHER SCIENTIFIC	0789
		1-1-0-E	FAIR LAWN NJ.	55705
ZIRCONIUM	1070	ZIRCONIUM	GE DATA SHEET SERVICE	0980
				744067
ZIRCONIUM SILICON	1097	FERRO SILICON ZIRCONIUM	CHEMALLOY CO. INC.	9999
		ALLOY	BRYN MAWR, PA 19010	
ZIRCONIUM SPONGE	145	-99% ZIRCONIUM	TELEDYNE WAH CHANG ALBANY	0687
			ALBANY OR 97321	744067

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
			A	
ZYTEL NYLON PELLETS 101NC-10	465	POLYHEXAMETHYLENEADIPAMIDE	DUPONT	0676
			WILMINGTON,DE	3213117
ZYTEL NYLON RESINS	465A	POLYHEAMETHYLENE ADIPAMIDE	DUPONT	0589
		0-1-0-A	WILMINGTON DE	3213117
O-NITROANILINE	1312A	O-NITROANILINE	EASTMAN KODAK	0485
		2-2-0-G	ROCHESTER NY	8874
02002 HITECH TF ELEC CONTACT	972A	TRICHLOROTRIFLUOROETHANE	SPRAYON PRODUCTS	1185
		0-0-0-ASARA	BEDFORD HTS OH	
1-CHLORO OCTANE 99%	486A	CHLORO OCTANE	ALDRICH CHEMICAL	0789
		2-2-0-G	MILWAUKEE WI	11185
1-CHLORO-2,4-DINOTROBENZENE	1418A	CHLORODINOTROBENZENE	EASTMAN KODAK/FISHER	0586
		1-1-0-G	ROCHESTER NY	9700
1-HEPTYNE	691A	HEPTYNE	HEICO/WHITTAKER	0788
		1-4-0-B	DELAWARE WATER GAP,PA	62871
1-HEXYNE	688A	1-HEXYNE	HEICO DIV/WHITTAKER CORP	0789
		3-3-1-H	DELAWARE WATER GAP, PA	69302
1-OCTYNE	603A	OCTYNE	HEICO/WHITTAKER CORP	0888
		1-4-0-G	DELAWARE WATER GAP, PA	629050
1,1,1 TRICHLOROETHANE	1085A	METHYL CHLOROFORM	CHEMTECH	0489
		2-1-1-G SARA	ST LOUIS MO	
	1430A	METHYL CHLOROFORM	MCKESSON/VANWATERS,ROGERS	0489
		2-1-0-E SARA	SEATTLE WA	71556
1,2,4,5-TETRAMETHYLBENZENE,98%	1326A	TETRA METHYL BENZENE	ALDRICH	0789
		2-2-0-G/Y	MILWAUKEE WI	9593

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
1234 TETRAMETHYLBENZENE, 95%	432A	1,2,3,4 TETRAMETHYLBENZENE	ALDRICH CHEMICAL	0789
		2-2-0-G,Y	MILWAUKEE WI	488233
1485	1482	PETROLEUM HYDDROCARBON	SHELL OIL	1085
			HOUSTON, TX 77210	
2-ETHYL-1,3-HEXANEDIOL	739A	ETHYLENE GLYCOL	EASTMAN KODAK	0189
		1-1-0-B	ROCHESTER NY	94961
2-PROPANOL	336B	ISOPROPYL ALCOHOL	JT BAKER INC	0589
		1-3-2-C/Y	PHILLIPSBURG NJ	67630
20-8135 STRIP SOLVE	1142A	DICHLOROMETHANE	BUEHLER	0789
		1-0-0-G	LAKE BLUFF IL	
3-PENTANONE	626A	DIETHYL KETONE	EASTMAN KODAK	0986
		0-4-0-A	ROCHESTER NY	96220
3,5-DINITROBENZOYL CHLORIDE,98	1341A	DINITROBENZOYL CHLORIDE	ALDRICH	0789
		1-0-1-G&Y	MILWAUKEE WI	99331
3,5-DINITROSALICYCLIC ACID,98%	1110A	DINITROSALICYCLIC ACID	ALDRICH CHEMICAL	0789
		2-0-0-G&Y	MILWAUKEE WI	609990
3M ACCELERATOR EC-801A	1065	38% FATTY ACID-PLASTICIZER	3M	0381
		78% LEAD PEROXIDE	ST. PAUL, MN 55144	
3M CURATIVE HX752	806	97%PHENYLENEDICARBONYL BIS -2	3M	0480
		METHYL AZIRIDINE--3% BENEZENE	ST. PAUL, MN 55144	
3M CURATIVE HX868	807	97% BENZENETRIYLTRICARBONYL	3M	0480
		TRIS -2 ETHYLAZIRIDINE-	ST. PAUL, MN 55144	
3M CURATIVE HX878	808	100% CYANOETHYLATED POLYAMINE	3M	0780
			ST. PAUL, MN 55144	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
3M CURATIVE HX879	809A		3M	
			ST. PAUL, MN 55144	
3M NEXTEL CERAMIC FIBER 312	952	62% ALUMINA, 14% BORIA, 24% SILICA, 3% BRS-POLYMER	3M ST. PAUL, MN 55144	0384
3M NEXTEL 312 CERAMIC FIBER	952A	3M NEXTEL CERAMIC FIBER	3M	0788
		1-0-0-B	ST PAUL MNF	1278879
4-PHENYLMORPHOLINE	383A	PHENYLMORPHOLINE	EASTMAN KODAK	0985
		0-0-0-A	ROCHESTER NY	92533
4,4'-4--METHYLIDYNETRIS	1336A	METHYLIDYNETRIS	EASTMAN KODAK	0387
		0-0-0-A	ROCHESTER NY	60348
40-6325-008 MICROPOLISH II	1278A	ALUMINUM OXIDE	BUEHLER LTD	0688
		0-0-0-E	LAKE BLUFF IL	134428
40-6353-006 GAMMA MICROPOLISH	1279A	20% ALUMINUM OXIDE	BUEHLER LTD	0688
		0-0-0-E	LAKE BLUFF IL	134428
50 BLACK INK, CODE MARKING	334A		KIWI CODERS CORP	0489
		2-4-3-B SARA TOXIC	WHEELING IL	
55 O-RING LUBRICANT	197A	MOLYBDENUM DISULFIDE	DOW CORNING	0386
		0-1-0-A	MIDLAND, MI	
6-BROMOHEXANOIC ACID 95%	484A	BROMOHEXANOIC ACID	ALDRICH CHEMICAL	0789
		3-2-2-G	MILWAUKEE WI	4224770
73% ORANGE MARKING INK	1017A	LEAD CHROMATE	INDEPENDENT INK	0788
		1-3-0-B SARA	GARDENA CA	1265685
73% YELLOW MARKING INK	996A	INK	INDEPENDENT INK	0788
		1-1-0-A SARA	GARDENA CA	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
732 MULTI-PURPOSE SEALANT-CLEA	195A	R 0-1-0-A	DOW CORNING MIDLAND MI	0789
75731 TEXSOLVE S & S-66	405A	MINERAL SPIRITS 1-2-0-G	TEXACO CHEM/GS ROBINS BELLAIRE, TX 77401	0688 8032-32-4

Form AEC—410
(8-61)

UNITED STATES
ATOMIC ENERGY COMMISSION

This Copy Is For Your Files

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including, Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

Licensee	
1. Name Olin Corporation 2. Address Energy Systems Division East Alton, Illinois 62024	3. License No. SUB-1138 4. Expiration Date August 31, 1977 5. Docket No. 40-8145
6. Source Material Uranium	7. Maximum quantity of source material which licensee may possess at any one time under this license 408 kilograms

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972.

9. Authorized place of use: The licensee's Kingsbury Operations, La Porte, Indiana 46350

For the U.S. ATOMIC ENERGY COMMISSION

Date of issuance AUG 14 1972

Robert A. Lawrence
Materials Branch
Directorate of Licensing

U. S. GOVERNMENT PRINTING OFFICE : 1962 O-632785

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R. W. Hartig
cc. C. Funk

FORM AEC-[illegible] U. S. ATOMIC ENERGY COMMISSION Page 1 of 1 Pages

SOURCE

MATERIAL LICENSE
Supplementary Sheet

License Number SUB-1138

Docket No. 40-8145

Amendment No. 02

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated April 24, 1973, License Number SUB-1138 is amended as follows:

Conditions 8. and 9. are amended to read:

8. Authorize use

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letter dated April 24, 1973.

9. Authorized place of use: The licensee's Kingsbury Operations.
La Porte, Indiana 46350

and

The licensee's plant on the Crab Orchard Wildlife Reservation, Marion, Illinois.

000801

For the U. S. Atomic Energy Commission

Cecil R. Buchanan

by Materials Branch
Division of Materials Licensing
Washington, D. C. 20545

Date May 16 1973

FORM AEC-401/410A U. S. ATOMIC ENERGY COMMISSION Page 1 of 1 Pages

SOURCE
MATERIAL LICENSE
Supplementary Sheet

License Number SUB-1138
Amendment No. 03
Docket No. 40-08145

This Copy Is For Your File

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated June 6, 1973, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 3,080 pounds

030802

For the U. S. Atomic Energy Commission
Frank C Davis
by Materials Branch
Directorate of Licensing
Washington, D. C. 20545

Date JUL 17 1973

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

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Docket or
Reference No. 040-08145

Amendment No. 04

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated December 3, 1975, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 5,443 kilograms

Condition 8. is amended to read:

8. Authorized

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letters dated April 24, 1973, and January 16, 1976.

RECEIVED
FEB 3 1976
P. O. BOYLE

10 569 5

JAN 30 1976

Date

For the U. S. Nuclear Regulatory Commiss

by Radioisotopes Licensing Bra

Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

Docket or
Reference No. 040-08145

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Amendment No. 05

Olin Corporation
Energy Systems Division
East A Illinois 62024

In accordance with letter dated August 23, 1976, as amended August 26, 1976, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 45,854 kilograms

Condition 8. is amended to read:

8. Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letters dated April 24, 1973, January 16, 1976, and August 23, 1976, as amended August 26, 1976.

Wherever the words "Atomic Energy Commission" or "Commission" appear in this license, except where the context of their use refers to a fact or event prior to January 19, 1975, they mean the Nuclear Regulatory Commission created by Public Law 93-438 and Executive Order No. 11834.

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P. O. BOX E

Date SEP 20 1976

For the U. S. Nuclear Regulatory Commission

Martha Bassin

by Radioisotopes Licensing Branch

Division of Fuel Cycle and
Material Safety
Washington, D.C 20555

(6-75)

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

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Docket or
Reference No. 040-08145

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

Amendment No. 06

In accordance with application dated October 17, 1977, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 109,100 kilograms

Condition 8. is amended to read:

8. Authorized use:

Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished components to licensed Department of Defense users.

Conditions 10., 11., and 12. are added:

10. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

11. Licensed material shall be used by, or under the supervision of, John Koropchak.

12. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated July 24, 1972, application received August 1, 1977 signed by James E. Redden, and letters dated April 24, 1973, January 16, 1976, August 23, 1976 and October 17, 1977.

DEC 2 1 1977

Date

For the U. S. Nuclear Regulatory Commission

Carl S Wright

by Radioisotopes Licensing Branc
Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

000805

U. S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 07

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Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Olin Corporation Energy Systems Division	In accordance with application dated July 27, 1977
2. East Alton, Illinois 62024	3. License number SUB-1138 is amended in its entirety to read as follows:
	4. Expiration date November 30, 1982
	5. Docket or Reference No. 040-08145

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium	A. Preformed Depleted Uranium Alloy Munition Components	A. 109,100 kilograms

9. Authorized use

A. Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

CONDITIONS

10. Licensed material shall be used at the licensee facilities located at East Alton and Marion, Illinois.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

003806

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

Docket or Reference No. 040-08145

Amendment No. 07

CONDITIONS

(continued)

12. Licensed material shall be used by, or under the supervision of, John Koropchak.

13. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated July 27, 1977 and letters dated October 17, 1977 and June 13, 1978.

Date JUL 14 1978

For the U. S. Nuclear Regulatory Commission

by Earl G Wright
Radioisotopes Licensing Branch
Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

000807

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	In accordance with application dated July 27, 1977
1. Clir Corporation Energy Systems Division	3. License number SUB-1138 is amended in its entirety to read as follows:
2. East Alton, Illinois 62024	4. Expiration date November 30, 1982
	5. Docket or Reference No. 040-08165

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium	A. Preferred Depleted Uranium Alloy Munition Components	A. 100,100 kilograms

9. Authorized use

A. Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

CONDITIONS

10. Licensed material shall be used at the licensee facilities located at East Alton and Marion, Illinois.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

MATERIALS LICENSE

Supplementary Sheet License Number SUB-1135

CRITICS Docket or Reference No. 040-02145

Amendment No. 07

(continued)

12. Licensed material shall be used by, or under the supervision of, John Porechak.

13. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated July 27, 1977 and letters dated October 17, 1977 and June 13, 1978.

000309

JUL 14 1978

Date

For the U. S. Nuclear Regulatory Commission

Original Signed By
EARL G. WRIGHT

by Radioisotopes Licensing Branch

Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

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This Copy Is For Your File

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public La 438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliar statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licen receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons auth to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission n hereafter in effect and to any conditions specified below.

Licensee	
1. Olin Corporation Energy Systems Division 2. East Alton, Illinois 62024	In accordance with application dated July 27, 1977 3. License number SUB-1138 is amended in entirety to read as follows: 4. Expiration date November 30, 1982 5. Docket or Reference No. 40-08145

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that li may possess at any one under this license
A. Uranium	A. Preformed Depleted Uranium Alloy Munition Components	A. 109,100 kilograms

9. Authorized use

A. Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

CONDITIONS

10. Licensed material shall be used at the licensee facilities located at East Alt and Marion, Illinois.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

(continued)

12. Licensed material shall be used by, or under the supervision of, John Koropchak

13. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated July 27, 1977 and letters dated October 17, 1977 and June 13, 1978.

Date JUL 14 1978

For the U. S. Nuclear Regulatory Commis

by Earl O Wright
Radioisotopes Licensing Br

Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

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U. S. NUCLEAR REGULATORY COMMISSION

Page 1 of 1 Pages

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

Docket or
Reference No. 040-08145

Amendment No. 08

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated October 8, 1979, License Number SUB-1138 is amended as follows:

Subitems 6., 7., 8. and 9. are amended to read:

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium	A. Preformed Depleted Uranium Alloy Munition Components	A. 276,000 Kilograms

9. Authorized use

A. Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

For the U. S. Nuclear Regulatory Commission

Date JUL 14 1980

by Material Licensing Branch

Division of Fuel Cycle
and Material Safety
Washington, D. C. 20555

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(3-80)

U. S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

Docket or
Reference No. 040-08145

Amendment No. 08

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated October 8, 1979, License Number SUB-1138 is amended as follows:

Subitems 6., 7., 8. and 9. are amended to read:

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium	A. Preformed Depleted Uranium Alloy Munition Components	A. 276,000 Kilograms

9. Authorized use

A. Loading, assembling, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

For the U. S. Nuclear Regulatory Commission

by Material Licensing Branch

Division of Fuel Cycle
and Material Safety
Washington, D. C. 20555

Date JUL 14 1980

000813

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138
Docket or Reference number: 040-08145
Amendment No. 09

Olin Corporation
P. O. Box Drawer G
Marion, Illinois 62959

In accordance with letter dated July 15, 1982, License Number SUB-1138 is amended as follows:

Items 6., 7., 8. and 9. are amended to read:

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium 238	A. Performed Depleted Uranium Alloy Munition Components	A. 500,000 kilograms

9. Authorized use

A. Loading, assembling, storage, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

Condition 14. is added:

14. The licensee shall send reports to the Nuclear Regulatory Commission as required by Section 40.64, 10 CFR Part 40.

For the U.S. Nuclear Regulatory Commission

Original Signed By
Bernard Singer for EGW

Date AUG 24 1982

By Material Licensing Branch
Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

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SUB-1138
Docket or Reference number
040-08145

Amendment No. 09

Olin Corporation
P. O. Box Drawer G
Marion, Illinois 62959

In accordance with letter dated July 15, 1982, License Number SUB-1138 is amended as follows:

Items 6., 7., 8. and 9. are amended to read:

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium 238	A. Performed Depleted Uranium Alloy Munition Components	A. 500,000 kilograms

9. Authorized use

A. Loading, assembling, storage, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

Condition 14. is added:

14. The licensee shall send reports to the Nuclear Regulatory Commission as required by Section 40.64, 10 CFR Part 40.

For the U.S. Nuclear Regulatory Commission

Date AUG 24 1982

By Richard Knight for EGW
Material Licensing Branch
Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

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MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

Docket or
Reference No. 040-08145

This Copy Is For Your Files

Amendment No. 05

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated August 23, 1976, as amended August 26, 1976, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 45,854 kilograms

Condition 8. is amended to read:

8. Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letters dated April 24, 1973, January 16, 1976, and August 23, 1976, as amended August 26, 1976.

Wherever the words "Atomic Energy Commission" or "Commission" appear in this license, except where the context of their use refers to a fact or event prior to January 19, 1975, they mean the Nuclear Regulatory Commission created by Public Law 93-438 and Executive Order No. 11834.

RECEIVED
SEP 27 1976
P. O. BOYLE

Date SEP 20 1976

For the U. S. Nuclear Regulatory Commission

Martha Bassin

by Radioisotopes Licensing Branch
Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

License Number SUB-1133

Docket or
Reference No. 040-02145

Amendment No. 05

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated August 23, 1976, as amended August 26, 1976, License number SUB-1133 is amended as follows:

Item 7. is amended to read:

7. 45,334 kilograms

Condition 8. is amended to read:

8. Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letters dated April 24, 1973, January 15, 1976, and August 23, 1976, as amended August 26, 1976.

Wherever the words "Atomic Energy Commission" or "Commission" appear in this license, except where the context of their use refers to a fact or event prior to January 19, 1975, they mean the Nuclear Regulatory Commission created by Public Law 93-438 and Executive Order No. 11834.

RECEIVED
SEP 27 1976
P. O. BOYLE

For the U. S. Nuclear Regulatory Commission
Original Signed By
by Radioisotopes Licensing Branch
Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

Date SEP 20 1976

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6/2

M. R. Sweeney

P. O. Boyle

AEC License

Marion

East Alton

February 3, 1976

J. J. Foster-w/att.
K. E. Gephart-w/att.
K. R. Gravatt-w/att.
J. C. Smith-w/att.

Attached hereto is a copy of amendment no. 04 to our AEC license increasing the quantity limits.

Original Signed By
P. O. BOYLE

P. O. Boyle

ar

Attachment

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MATERIALS LICENSE

Supplementary Sheet

License Number SUB-1138

This Copy Is For Your Files

Docket or
Reference No. 040-08145

Amendment No. 04

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated December 3, 1975, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 5,443 kilograms

Condition 8. is amended to read:

8. Authorized

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letters dated April 24, 1973, and January 16, 1976.

RECEIVED
FEB 3 1976
P. O. BOYLE

Date JAN 30 1976

For the U. S. Nuclear Regulatory Commission

by Radioisotopes Licensing Branch

Division of Materials and Fuel Cycle
Facility Licensing
Washington, D. C. 20555

8/2

M. R. Sweeney

P. O. Boyle

AEC License

Marion

East Alton

July 20, 1973

R. B. Dunn-w/att.
J. J. Foster-w/att.
K. E. Gephart-w/att.
K. R. Gravatt-w/att.
J. C. Smith-w/att.

Attached hereto is a copy of an amendment to our AEC license increasing the quantity limits. Our annual inventory is due on July 30.

Original Signed By
P. O. BOYLE

P. O. Boyle

ar

Attachment

000820

SOURCE
MATERIAL LICENSE
Supplementary Sheet

License Number SUB-1138
Amendment No. 03
Docket No. 40-08145

This Copy Is For Your Files

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated June 6, 1973, License Number SUB-1138 is amended as follows:

Item 7. is amended to read:

7. 3,080 pounds

RECEIVED
JUL 20 1973
SAFETY
U. S. D.

For the U. S. Atomic Energy Commission
Frank C Davis
Materials Branch
Directorate of Licensing
Washington, D. C. 20545

Date JUL 17 1973

EA-140

OLIN-MATHIESON CHEMICAL CORPORATION

MEMORANDUM

To P. O. Boyle

Date 5-25 1973

Attached is copy of Amendment No 2 to AEC Material License Number SUB-1138.

Copies have also been furnished to R W Hartig and R B Dunn

RECEIVED
MAY 29 1973
SAFETY
E.S.D.

FROM [signature]

AVOID ORAL MESSAGES

000822

FORM AEC-191/413A U. S. ATOMIC ENERGY COMMISSION Page 1 of 1 Pages

SOURCE

MATERIAL LICENSE

Supplementary Sheet

License Number SUB-1138

Docket No. 40-8145

Amendment No. 02

[illegible] Is For Your Files

Olin Corporation
Energy Systems Division
East Alton, Illinois 62024

In accordance with letter dated April 24, 1973, License Number SUB-1138 is amended as follows:

Conditions 8. and 9. are amended to read:

8. Authorize use

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972, and letter dated April 24, 1973.

9. Authorized place of use: The licensee's Kingsbury Operations, La Porte, Indiana 46350

and

The licensee's plant on the Crab Orchard Wildlife Reservation, Marion, Illinois.

000823

For the U. S. Atomic Energy Commission

Cecil R. Buchanan

by Materials Branch

Division of Materials Licensing
Washington, D. C. 20545

Date May 16, 1973

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

SEP 18 1972

L:MB:RLL
(40-8145)
SUB-1138, Amendment No. 1

Olin Corporation
Energy Systems Division
ATTN: Mr. Phillip Mickelson
Manager, Manufacturing
Kingsbury Operations
P.O. Box 250
La Porte, Indiana 46350

Gentlemen:

In accordance with your letter dated August 29, 1972, and pursuant to Title 10, Code of Federal Regulations, Part 40, Item 7 of Source Material License No. SUB-1138, dated August 14, 1972, is hereby amended to read as follows:

7. Maximum quantity of source material which licensee may possess at any one time under this license.

1325 kilograms

All other conditions of this license shall remain the same.

FOR THE U. S. ATOMIC ENERGY COMMISSION

Robert L. Layfield
Materials Branch
Directorate of Licensing

RECEIVED
SEP 1 1972
SAFETY
ENG.

Form AEC—410
(1-61)

UNITED STATES
ATOMIC ENERGY COMMISSION

This Copy Is For Your Files

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

Licensee	3. License No.
1. Name Olin Corporation Energy Systems Division	SUB-1138
2. Address East Alton, Illinois 62024	4. Expiration Date August 31, 1977
	5. Docket No. 40-8145

6. Source Material	7. Maximum quantity of source material which licensee may possess at any one time under this license
Uranium	408 kilograms

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

Assembly and ballistic testing of uranium projectiles as described in the licensee's application dated July 24, 1972.

9. Authorized place of use: The licensee's Kingsbury Operations, La Porte, Indiana 46350

For the U.S. ATOMIC ENERGY COMMISSION

Date of issuance AUG 14 1972

Robert L. Layfield
Materials Branch
Directorate of Licensing

* U. S. GOVERNMENT PRINTING OFFICE : 1962 O - 632985

000825

NRC FORM 2
(12-81)
10 CFR 40

U.S NUCLEAR REGULATORY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

APPROVED BY OMB
3150-0019
EXPIRES 12-31-83

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. LICENSE INFORMATION *(Check one)*

- [ ] A. NEW LICENSE
- [X] B. AMENDMENT TO LICENSE NO. SUB-1138
- [ ] C RENEWAL OF LICENSE NO. _____
- [ ] D. PREVIOUS LICENSE NO. _____

2. NAME OF APPLICANT

OLIN CORPORATION

PRINCIPAL BUSINESS ADDRESS

WINCHESTER GROUP
EAST ALTON, ILLINOIS 62024

3 STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED

ORDNANCE PRODUCTS
P.O. DRAWER G
MARION, ILLINOIS 62959

SEE ATTACHED

4. NAME OF PERSON TO BE CONTACTED CONCERNING THIS APPLICATION

G. W. BARTON

TELEPHONE NUMBER *(Of person to be contacted)*

618 (985-8211)

5. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED

Olin Corporation will assemble source material projectiles to provide a complete round of ammunition. Further, a portion of the completed rounds will be ballistically tested.

6 STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE

A. TYPE	B. CHEMICAL FORM	C. PHYSICAL FORM *(Including % U or Th)*	D. MAXIMUM AMOUNT AT ANY ONE TIME *(Kilograms)*
NATURAL URANIUM			
URANIUM DEPLETED IN THE U-235 ISOTOPE	Solid Depleted	Performed Metallic Uranium Shape	500,000 KG
THORIUM *(Isotope)*			

E MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME *(Kilograms)*

7 DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES

SEE ATTACHED

8 LIST THE NAMES AND ATTACH A RESUME OF THE TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE OF APPLICANT'S SUPERVISORY PERSONNEL AND THE PERSON RESPONSIBLE FOR THE RADIATION SAFETY PROGRAM *(or of applicant if an individual).*

SEE ATTACHED

9 DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE A RADIATION DETECTION *(including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. the description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).*

SEE ATTACHED

B METHOD, FREQUENCY AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN A ABOVE, INCLUDING AIR SAMPLING EQUIPMENT *(for film badges, specify method of calibrating and processing, or name supplier)*

SEE ATTACHED

060826

NRC FORM 2 (12-81)

9C. VENTILATION EQUIPMENT WHICH WI E USED IN OPERATIONS WHICH PRODUCE DI FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCA ON OF HOOD AND FILTERS MINIMUM VELOC S MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

SEE ATTACHED

10 DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 7, INCLUDE:
A. SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSIONS, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

SEE ATTACHED

B. EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

SEE ATTACHED

C. DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

SEE ATTACHED

11 WASTE PRODUCTS

A QUANTITY AND TYPE OF RADIOACTIVE WASTE THAT WILL BE GENERATED

☐ NONE WILL BE GENERATED

☒ SEE ATTACHED SUPPLEMENTAL SHEET

B. DETAILED PROCEDURES FOR WASTE DISPOSAL

12. IF PRODUCTS FOR DISTRIBUTION TO GENERAL LICENSEES OR TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

A. PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

B. PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT

C. BETA AND BETA PLUS GAMMA RADIATION LEVELS *(Specify instrument used, date of calibration and calibration techniques used)* AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES

D. METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

CERTIFICATE
(This must be completed by the applicant)

The applicant and any official executing this certificate on behalf of the applicant named in item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true to the best of our knowledge and belief.

APPLICANT'S SIGNATURE	A. Heinz	Nov. 1983
	PRINTED OR TYPED NAME	DATE

Director, Ordnance Products

TITLE OF CERTIFYING OFFICIAL AUTHORIZED TO ACT ON BEHALF OF THE APPLICANT

WARNING: 18 U S C. Section 1001, Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

000827

Amendment Application for Source Material License
SUB - 1138
Amendment #11

ITEM 10(a)

Olin Corporation's Ordnance Products operation at Marion, Illinois is engaged in the load, assembly, and pack of 20MM and 30MM ammunition for the United States and foreign governments. The operation conforms to the requirements and practices of the DOD Safety Manual, 4145.26M in its entirety. The safety practices observed at Ordnance Products are more than adequate to work with depleted uranium material. In addition to normal routines, however, radiation symbol signs are posted in all areas where depleted uranium materials will be stored and handled. Also, all containers utilized for the material will be marked with the appropriate radiation sign, label, or marking.

000836

10 b Emergency Procedures

ITEM 10(b)

Ordnance Products has an emergency evacuation program which ensures the safe exit of all personnel from buildings in the event of an emergency. Notification of emergency conditions exist through strategically placed sirens. Emergency drills are conducted regularly so that all personnel are thoroughly trained in evacuation procedures. Further, all operating areas of the plant are equipped with sprinkler systems to detect and contain fire in order to minimize risk of loss of personnel, material, and facilities.

Procedures have been established and posted regarding "Notices, Instructions, and Reports to Workers; Inspections" and "Standards for Protection against Radiation." (Reference 10CFR Parts 19 and 20.) In addition, Standard Operating Procedures have been developed detailing overall safety precautions to workers. (Reference Safety Procedure 74. Safety Procedure No. 103 details the mandatory action required to be taken by Olin personnel in case of an incident involving any licensed source material.

There are provisions outlined in Safety Procedure No. 1, Emergency Procedure that define Olin Ordnance Products policies and responsibilities to handle an emergency condition. This procedure is consistent with Safety Procedure No. 2, Contingency Plan Arrangements for Emergencies with local authorities.

000837

10 c
Radiation
Survey
Program

ITEM 10(c)

RADIATION SURVEY PROGRAM

Presently, and as previously stated in this application, an extensive program is not conducted at the assembly operation area. However, a periodic survey on a quarterly basis is performed at the production, testing, and shipping areas, to assure compliance with the regulations. A procedure involving a quarterly inspection of DU work areas by smear sampling was developed to determine contamination via airborne material and to determine contamination of work areas by particulates from DU materials. (Reference Safety Procedure No. 94). In addition, when testing and disposal operations are performed, rigid compliance with 10 CFR Part 20 and Olin Standard Operating Procedures is maintained.

Provisions have been made to evaluate all new and changed operations prior to implementation at Olin, Ordnance Products, by contacting the Radiation Safety Officer (John Koropchak) and the Safety & Regulatory Compliance Department. Procedures have been documented that describe the controls at the Ballistic Testing Facility or unrestricted areas, the air sampling program and the monitoring program associated with it.

The person(s) responsible for the radiation safety program and his background is as stated in Item 8 of this application. Presently, no outside consultant is utilized.

000838

Material control provisions are covered in Material Department Standard Operating Procedure 4-2 attached.

Personnel training is provided to each employee, as required, in on-the-job instruction with the review of 10 CFR Parts 19 and 20. Standard Operating Procedures applicable to the operation being performed, and Safety Procedures Nos. 1 and 74.

000809

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 000841 to 000855

Olin

TECHNICAL SYSTEMS OPERATION

ATTENTION - THIS IS AN UNCONTROLLED DOCUMENT WITH RESTRICTED USAGE.
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ISSUE DATE DEC 06 1983 FOR:
CHECK
BID
P.O.

STANDARD OPERATING PROCEDURE

DESCRIPTION: 20MM PHALANX PROJECTILE ASSEMBLY

PRODUCT 20MM S.O.P. NO. 8089007 REVISION D

DEPARTMENT NO. 3455 OPERATION NO. PREPARED BY G. Hillebrenner DATE 1/81

1.0 SAFETY AND HOUSEKEEPING REQUIREMENTS

1.1 Personnel - Operators are required to wear the following protective equipment and adhere to the stated safety rules.

1.1.1 Safety shoes

1.1.2 Safety glasses

1.1.3 Coveralls - long sleeves and flame retardant

1.1.4 Disposable cotton, rubber or plastic gloves shall be worn while handling Depleted Uranium Projectiles, subcaliber.

1.1.5 Each operator shall be assigned a Ring Type Film Badge. Film Badges shall be submitted on a monthly basis for analysis and results recorded.

1.1.6 Upon leaving the work area - personnel shall wash hands, face and safety glasses.

1.2 Housekeeping

1.2.1 Operators are required to keep individual work areas neat and clean.

1.2.2 Material in the staging area shall be kept orderly and neat.

1.2.3 Operators shall place scrap D.U. projectiles, projectile sub-assemblies, or projectile assemblies into packages with individual dividers and label. Scrap shall be placed in a locked storage magazine until transfer to disposal area. Scrap shall be kept in a container with a lid, and a sign marked "Caution Radioactive Material" - "D.U. SCRAP".

1.2.4 Gloves, plastic, rags and other materials contaminated through D.U. exposure or contact, shall be placed in a polyethylene bag in a container with a lid. Handling and marking shall be as 1.2.3.

1.2.5 At the end of each day's work, equipment that has been in contact with D.U. shall be wiped with an oily rag or cloth and the clothes and rags shall be disposed of in the same manner as above.

1.3 Storage

1.3.1 Projectiles or projectile sub-assemblies not in-process shall be stored in a container with a lid and marked "Caution Radioactive Material".

1.3.2 Transfer of projectiles outside of the work area shall be accomplished in a container with a lid and a "Caution Radioactive Material" sign.

1.3.3 Flammable materials shall not be stored in the immediate area of operations involving depleted uranium.

Olin

ORDNANCE PRODUCTS
Marion, Illinois

EMERGENCY PROCEDURE

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DIAL "0" FOR EMERGENCY DISPATCHER

1.0 PURPOSE

The purpose of this procedure is to:

1.) Define Olin Ordnance Product's policies and assign responsibilities to handle an emergency condition.

2.) Provide measures to minimize the effects of an emergency condition.

3.) Provide guidance for the immediate notification to Olin Management in the event of an unusual occurrence.

2.) SCOPE

Provisions outlined in this procedure are applicable to all emergencies or conditions involving personnel and/or property assigned to or under the control of Olin Ordnance Products. This procedure is consistent with Contingency Plan Arrangements for Emergencies with Local Authorities (Safety Procedure #2).

3.0 REFERENCE

General Topic - Required by OSHA, DOD, Illinois Department of Public Health, EPA, AMCR 385-100, and Olin Corporate.

Olin

TECHNICAL SYSTEMS OPERATION

Marion, Illinois

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SAFETY PROCEDURE NO. 93 1 APRIL 1981

TLD (RING BADGES) CONTROL FOR DEPLETED URANIUM

PURPOSE

THE PURPOSE OF THIS PROCEDURE IS INSURE THE SAFETY OF EMPLOYEES EXPOSED TO UNCASED DEPLETED URANIUM (DU) BY MAINTAINING PROPER CONTROL OF RING BADGES IN ORDER THAT VALID MONITORING OF EMPLOYEES CAN BE ACCOMPLISHED.

SCOPE

THE PROVISIONS IN THIS PROCEDURE SHALL REGULATE THE ISSUING AND CONTROLLING OF TLD'S. (RING BADGES)

LOCATIONS AFFECTED

ALL TSO MANUFACTURING AREAS WHERE UNCASED (DU) IS HANDLED.

REFERENCES

DARCOM HANDBOOK 385-1.1-78

OSHA CFR 1910.96

GENERAL INFORMATION

DU . PRESENTS A TWO-FOLD HAZARD. ONE, IS ITS CHEMICAL TOXICITY AND TWO, FROM IONIZING OF ALPHA, BETA AND GAMMA RADIATION EMITTED IN THE PROCESS OF RADIOACTIVE DECAY. OVER-EXPOSURE TO EITHER HAZARD IS RARE AND TLD'S ARE A GOOD MONITORING MEASURE TO INSURE THAT OVER-EXPOSURE DOES NOT OCCUR.

RESPONSIBILITY

IT SHALL BE THE RESPONSIBILITY OF THE GENERAL FOREMAN TO ENSURE THAT ALL EMPLOYEES COVERED BY THIS PROCEDURE ARE ISSUED THERMOLUMINESCENT DOSIMETERS (TLD), COMMONLY REFERRED TO AS RING BADGES. THE SUPERVISOR IN CHARGE OF THE DU AREA SHALL HAVE THE RESPONSIBILITY TO TRAIN AND ENSURE THAT COMPLIANCE TO TLD PROCEDURES ARE FOLLOWED.

SAFETY PROCEDURE NO. 103

April 1983

EMERGENCY RADIATION MISHAP PROCEDURE

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PURPOSE

This procedure will detail the MANDATORY action required to be taken by Olin personnel in case of an incident involving any licensed material.

REFERENCE

10 CFR - Rules and Regulations - United States Nuclear Regulatory Commission

GENERAL

At Olin, Ordnance Products, there are three (3) sources that are licensed by the U. S. Nuclear Regulatory Commission. The three sources are Uranium 238 depleted (1-source) and Barium 133 sealed source (2-sources).

TECHNICAL DATA

	ByProduct, Source, And/Or Special Nuclear Material	Chemical Or Physical Form	Maximum Amount That Can Be Possessed
A.	Uranium 238 License #SUB-1138	Preformed depleted Uranium alloy Munition components	Not to exceed 500,000 kilograms total
B.	Barium 133 License #12-18865-01	Sealed source (Amersham Model No. X.91)	2-sources not to exceed 50 millicuries each

AUTHORIZED USE

A. Uranium 238 - Depleted - for loading, assembling, storage, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed Department of Defense users.

B. Barium - 133 - to be used in I.R.T. Corporation GAU-8/A inspection guage.

SUPERVISION OF MATERIAL REQUIRED BY NRC

A. Uranium 238 Depleted - Licensed material shall be used by, or under the supervision of John Koropchak or John Straddeck.

B. Barium 133 - Licensed material shall be used by, or under the supervision of Jim Oyston, Mary Gravatt or Dave Bunch.

MISHAP OR THEFT OR ATTEMPTED THEFT OF LICENSED MATERIAL

A. Uranium 238 Depleted - If there is an incident "in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of more than 15 pounds of such material at any one time or more than 150 pounds of such material in any calendar year, the following must be done:

Olin

ORDNANCE PRODUCTS

Marion, Illinois

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CONTINGENCY PLAN ARRANGEMENTS FOR EMERGENCIES WITH LOCAL AUTHORITIES

PURPOSE

The purpose of this procedure is to:

1.) Define emergency arrangements agreed to by local police departments, fire departments, hospitals, and state and local emergency response teams in conjunction with Ordnance Products policies.

2.) Define designated primary emergency authorities where more than one police and fire department might respond to an emergency.

3.) Provide measures to minimize the effects of an emergency condition.

4.) Provide guidance to local authorities for the immediate notification of Olin management in the event of an emergency.

SCOPE

Provisions outlined in this procedure are applicable to all emergencies or conditions involving personnel and/or property assigned to or under the control of Ordnance Products when the assistance of a local authority agency is required.

REFERENCE

General Topic - Required by EPA (Public Law 94-580, the "Resource Conservation and Recovery Act") and Olin Corporate.

RESPONSIBILITIES/ARRANGEMENTS

Olin Corporation - Ordnance Products at Marion is a private and secure facility. Confidentiality is requested concerning the Emergency and Contingency Procedures, and in the event of the assistance of an emergency service agency. It is requested that the documents not be photocopied by the emergency service agencies unless it is necessary to photocopy parts of them for internal training purposes within an agency.

The primary authorities are indicated and the arrangements agreed by local authorities are as follows:

Smear samples are taken of the fibrepacks, grinding residue, broken sabots, and discarded pusher plugs to insure that they are not contaminated with D.U. To date, 47 packs of pusher plugs, 309 packs of grinding residue, and 119 packs of sabots have been surveyed and no contamination has been found.

Furthermore, Dr. Meyer, Nuclear Engineering Consultant from the University of Missouri in Columbia, Missouri, analyzed the grinding residue, sabots, and pusher plugs for D.U. contamination. Upon his analysis, the results showed that this waste is not contaminated by radioactivity derived from D.U. used in the 20MM projectile manufacture (see attached).

Clarification No. 3: "Radiation protection surveys, smear samples determining removable vs unremovable contamination." Changes will be made in the operating procedure to incorporate taking direct survey meter readings in place of smear samples prior to the determination that the contamination is removable. Presently, direct survey meter readings are done for the following: i.e. work areas, packages, and vehicles containing radioactive materials and wastes.

Clarification No. 4: "Victoreen, U-700, Model 6B technical data." The Victoreen U-700, Model 6B has been removed from service and is hereby requested to be removed from the present renewable license application. Please add a recent purchased survey meter manufactured by Thermo Electron Corporation, Eberline Model E-520/HO-20 (see attached technical data) to the renewal license application.

If additional information is required by your department, please do not hesitate to contact me.

Very truly yours,

O L I N

J. E. Redden, Vice President
Ordnance Products

/jm

Attachments

cc: J. Koropchak
W. Barton
K. Gravatt

Draft Report

DEPLETED URANIUM CONTAMINATION OF GRINDER WASTE AND DISCARDED SABOTS

To The

TECHNICAL SYSTEMS OPERATION

OLIN CORPORATION

February 22, 1982

Prepared By

Walter Meyer

Nuclear Engineering

University of Missouri-Columbia

Columbia, Missouri 65211

000865

Draft Report

DEPLETED URANIUM CONTAMINATION OF GRINDER WASTE AND DISCARDED SABOTS

0.0 EXECUTIVE SUMMARY

Grinder wastes and broken discarded sabots obtained from the Olin Corporation Technical Systems Operation have been examined for contamination by depleted uranium (D.U.) penetrators. A gamma ray spectrum of a uranium penetrator provided several gamma ray peaks that would identify contamination with D.U. of the grinder wastes or broken sabots (that had had penetrators pressed into them). Samples of these materials were counted for fifteen hours each and no statistically identifiable trace of depleted uranium contamination could be found. It is the present opinion of the author that the grinder wastes and broken sabots are not contaminated by contact with the D.U. penetrators.

1.0 BACKGOUND

At their manufacturing facility located on Crab Orchard wildlife refuge near Marion, Illinois, the Technical Systems Operation of the Olin Corporation fabricates a 20MM projectile using depleted uranium (D.U.). The D.U. penetrator is encapsulated in a plastic sabot. The sabot is subsequently ground to size using a centerless grinding technique. The grinder wastes, consisting of plastic solids and grinder lubricant solution, are collected and stored in plastic bags inside cardboard drums. Other wastes include sabots that rupture when the D.U. penetrater is pressed into them or are otherwise broken. Examination by eye of the inside surfaces of sabots ruptured during penetrator insertion show surface abrasions where the penetration has rubbed against the inside surface.

Preliminary information received from Olin personnel indicated that possibly the grinder wastes and broken sabots were contaminated with D.U. and, therefore, these materials would have to be handled and disposed of as low level radioactive wastes. Mr. G. W. Barton contacted the author to determine the extent of contamination and what the Nuclear Regulator Commission regulations permit in the disposal of such radioactively contaminated materials.*

On December 28, 1981, the author visited the Technical Systems Operation at Crab Orchard Wildlife Refugee to examine the manufacturing process involving the D.U. Preliminary

---

*Letter G.W. Barton, P.E. to W. Meyer, 12/11/1981 (See Appendix A).

examination indicated that the grinder operation should not result in contamination of the grinder wastes with D.U. The grinder did not come into direct contact with the penetrator. Observation of the operation in which the penetrator is pressed into the sabot showed that there was significant abrasion of the sabot by the penetrator D.U. It was initially believed that this would result in some contamination of the sabot by D.U. abrasion from the surface of the penetrator. Therefore, a broken sabot would show the presence of D.U.

The radiation background in the area where the 20MM projectiles containing the D.U. are manufactured was measured with a portable geiger counter equipped scaler (Ludlum Measurements Inc, Model 2200). These measurements showed counts statistically above background but the level of the counts was related to distance from the area where the D.U. penetrators were stored. No contamination particular to the grinding stations or the grinder waste materials could be identified.

2.0 MEASUREMENTS

On December 28, 1981 five samples of grinder waste were obtained along with a number of broken sabots, a used grinding wheel and a D.U. penetrator. These materials were subsequently counted with a 45 cm^3 lithium germanium (GeLi) detector attached to a Nuclear Data 6600 computer based multichannel pulse height analyzer (gamma ray spectrometer. The D.U. penetrator was first counted to obtain an identifying signature for the D.U. Four different energies were selected for the signature that were readily identifiable and widely separated over the range of gamma ray energies found to be present in the D.U. These four energies are listed in the table below and the detailed data follow on the next four pages.

Identifying Energies, Isotopes and Minimum Detectable Count Rates* for D.U. Penetrator

Gamma Ray Energy keV	Isotope	Minimum Detectable Count Rate, cps
111.0	Pa-234	387
182.6	Pa-226	306
766.6	Pa-234 m	87
1001.0	--	79

*Counting time = 15 hours

In this table the minimum detectable count rate is the count rate required to statistically separate the gamma ray energy peak from the background and identify the presence of the peak and, therefore, the existence of a source requi to produce the peak.

With an identifying signature for the D.U. available, the five original samples of grinder waste solids and liquids were counted. The solids and liquids were first separated and counted separately. The entire samples of liquid and solid were used in these counts (about 80 gms of solid and 55 of liquid); thus those counts were likely to detect any contamination that might be present.

About January 14 an additional 15 samples of grinder wastes were received from the Technical Systems Operation. The total volume (liquid and solid) of these samples was about 100 cm^3. The entire volume was counted without separation of the liquid and solids.

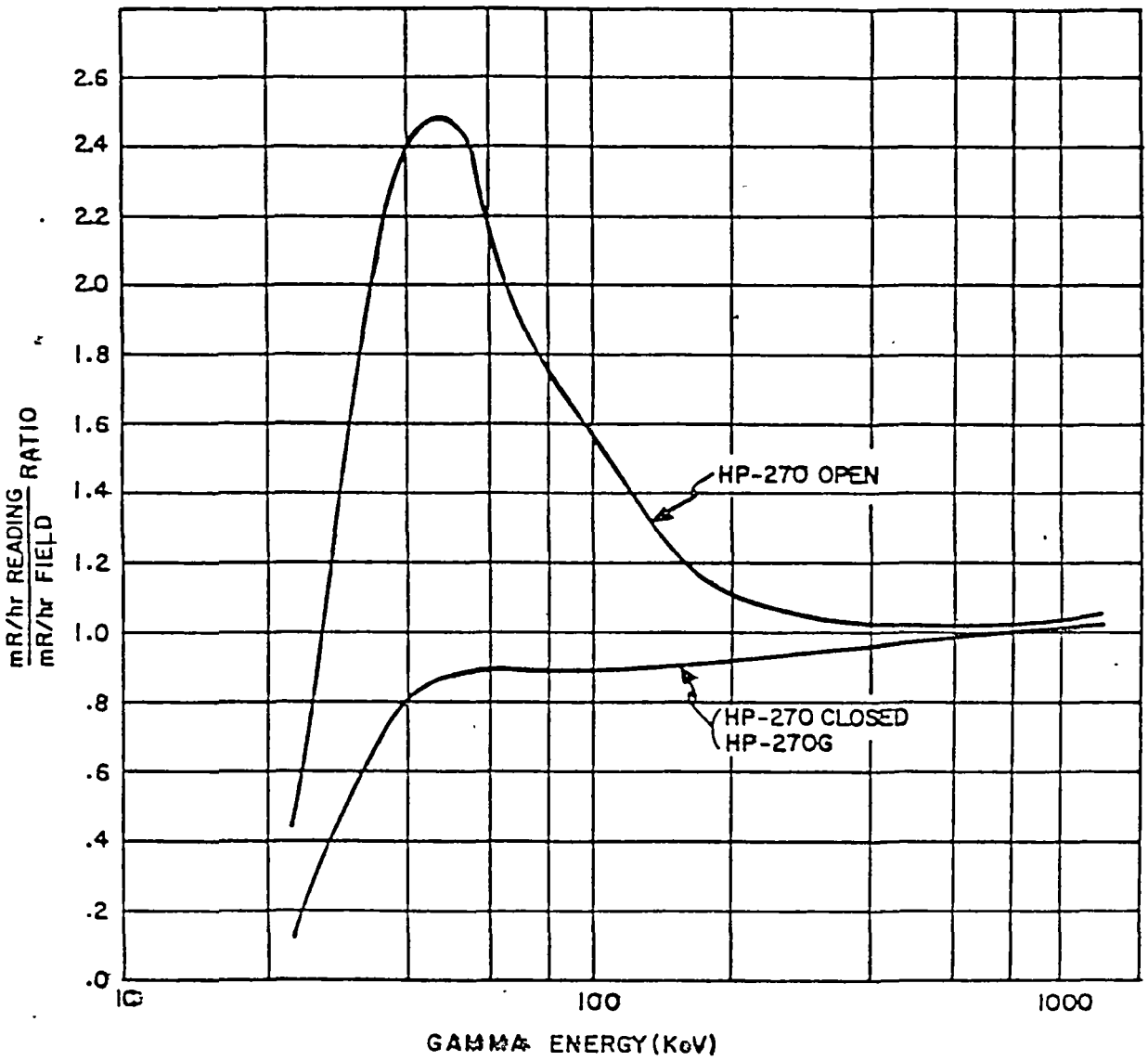
3.0 RESULTS AND CONCLUSIONS

The detailed results obtained with the Nuclear Data gamma ray spectrometer are presented in Appendix B. Examination of those results show no statistically identifiable contamination of the waste with the D.U. The results indicate the presence of several identifiable radioactive sources, specifically cobalt 60, radium 226, bismuth 214 and sium - 40. However, the amounts of these isotopes that are found and the particular isotopes that are identified are consistent with isotopes found in building materials and other sources of background near the GeLi gamma ray detector.

Counting the broken sabots that had been in direct contact with the penetrator also showed no statistically identifiable contamination with D.U. This result was unexpected but the results are unequivocal.

It is thus concluded, based on the samples provided to date, that the grinder wastes and broken sabots are not contaminated by radioactivity derived from the D.U. used in the 20MM projectile manufacture. It would also seem unlikely in general that contamination would occur unless by some accident a penetrator would come into contact with a grinding wheel or some other device that would abrade material from the surface of the penetrator. It appears from the gamma ray spectrometer measurements that the plastic the sabot is currently manufactured from is too soft to effectively remove D.U. from the surface of the penetrator.

The standard Model HP-177C probe on this instrument has been replaced by the Model HP-270. The new HP-270 uses the same G-M tube and provides basically the same performance. The advantage of the HP-270 is an energy compensating shield built into the housing. This provides an energy response within ±20% from 40 KeV to at least 1.25 MeV (see graph below). Other specifications remain similiar to the HP-177C.



Energy Response of HP-270 Hand Probe

eberline

P. O. Box 2108, Santa Fe, New Mexico 87501 (505) 471-3232 TWX: 910-985-0678

REF. NO. 1059

12/12/77

SECTION I
GENERAL

A. PURPOSE AND DESCRIPTION

The Model E-520 Portable Geiger Counter combines the reliability of geiger detectors with new electronic circuits to provide an instrument with outstanding operational characteristics in a small, lightweight package at an economical price. The large, ruggedized meter provides exceptional readability and linearity with a variable response time. Special circuitry yields detector saturation greater than 1000 R/hr. Calibration stability results from temperature compensation and voltage regulation. High efficiency circuits extend the life of the two D cell batteries. A rotary switch combines the functions of power switch, battery check and selection of one of the five sensitivity ranges. The amplifier driven phone output may be used with headset, Speaker Assembly (SK-1) or external pulse counter.

To obtain 5 ranges (0-0.2, 0-2, 0-20, 0-200, and 0-2000 mR/hr) two different detector tubes are utilized, one being located within the case itself for detection of high level gamma radiation in a range of 0 to 2000 mR/hr. A tube sensitive to lower level gamma and beta radiation is located in the hand probe used on the four lower ranges. Discrimination between beta and gamma radiation is made by means of a rotary shield on the probe. Both mR/hr (closed shield) and CPM (open shield) are presented on the meter scale.

Design features include: Pulse amplifier, monolithic integrated circuit trigger, meter driver with variable response time, phone driver, regulated and feedback controlled high voltage supply, and individual calibration controls for each range. A single printed circuit board holds and interconnects most components resulting in a minimum number of solder joints which enhances reliability. The printed circuit board connects to the die cast cover, forming a completely operational instrument with controls and test points exposed for ease of calibration or maintenance. The instrument is splash proof and dust proof and, with its temperature stability, can be used under almost any weather conditions.

B. SPECIFICATIONS

1. FRONT PANEL CONTROLS AND CONNECTIONS

a. RANGE switch: Seven positions; OFF, BATT. CHECK, X.01, X0.1, X1, X10 and X100.

b. Meter: Ruggedized, waterproof, 0-20 microamperes.

c. RESPONSE control.

d. RESET switch

e. PHONE connector.

f. DETECTOR connector.

2. READOUT

a. Range: 5 linear ranges, switch controlled: 0.2, 2.0, 20, 200 and 2000 mR/hr full scale.

b. Meter Scale: 0-20 mR/hr shield closed and 0-24K CPM shield open. BATT. OK limits marked on meter face.

c. Linearity: 0-0.2, 0-2, 0-20 mR/hr ranges, ±8% of full scale nominal. 0-200 mR/hr range ±15% of full scale nominal. 0-2000 mR/hr ±10% of full scale nominal.

d. Response Time: Variable by panel control from 10 seconds to 2 seconds measured to 90% of final value.

e. Phone: One pulse for each event counted. Negative pulse approximately 2.5 volts in amplitude, pulse width determined by range switch position.

f. Saturation Level: Meter will remain at full scale on all ranges in a field of 1000 R/hr.

g. Voltage Coefficient: Reading changes less than 10% with battery voltage from 3.0 to 2.0 volts (new batteries to end point).

3. DETECTORS

a. Internal

GM tube – small, rugged, halogen quenched. Cadmium shield surrounding tube for low energy compensation. Sensitivity approximately 100 CPM per mR/hr for ^{137}Cs.

b. External Probe: (Model HP-270)

(1) GM Tube: Thin wall (30 mg/cm^2) halogen quenched.

000870

(2) Housing: Sliding beta shield and body of ABS plastic. Tin energy compensating shield.

(3) Environmental: Temperature Range -55°C to 75°C, splashproof.

(4) Sensitivity: Approximately 1200 CPM per mR/hr for ^{137}Cs.

(5) Cable: Approximately 3 ft. (0.91 m) long.

c. Energy Response: See figures 1-2 and 1-3.

4. POWER SUPPLY

a. Batteries: Two D size cells held by internal captive holders.

b. Voltage Requirement: 1.6 maximum to 1.0 minimum volts per cell.

c. Life: Variable depending on cell type, age, temperature, etc. Nominal life with new cells at room temperature for each type is:

Carbon-zinc	300 hours
Alkaline	500 hours
Mercury	700 hours
Nickel-Cadmium (single charge)	200 hours

5. ENVIRONMENTAL

a. Weather: Splash proof by use of O-ring seals throughout.

b. Temperature: The instrument is operational from -40°F to +140°F (-40°C to +60°C) with a typical temperature coefficient of reading less than 0.1% per °F (0.18% per °C).

The battery type used limits the low temperature performance because of terminal voltage decrease and internal impedance increase. For prolonged operation at low temperatures the following criteria is suggested:

BATTERY TYPE	USE TO
Mercury	+32°F (0°C)
Carbon-zinc	0°F (-18°C)
Alkaline	-40°F (-40°C)
Nickel-Cadmium	-40°F (-40°C)

6. MECHANICAL

a. Dimensions: Approximately 4 inches wide by 8 inches long by 7-3/8 inches high (10.2 x 20.3 x 18.7 cm), including handle.

b. Weight: Approximately 4-3/8 pounds (2 kg), including carbon-zinc batteries and HP-270 probe.

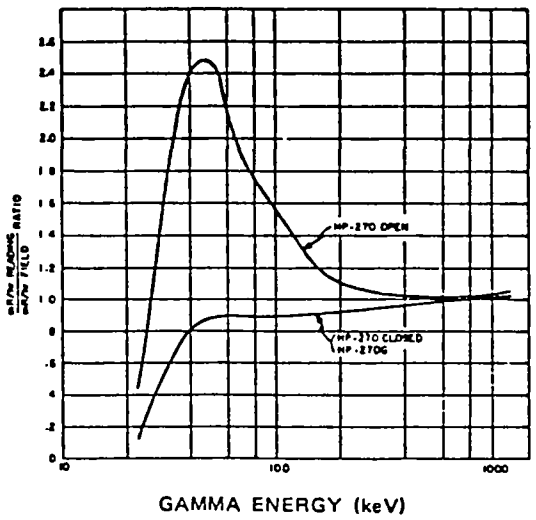


Figure 1-2. Typical Energy Response of HP-270 Hand Probe

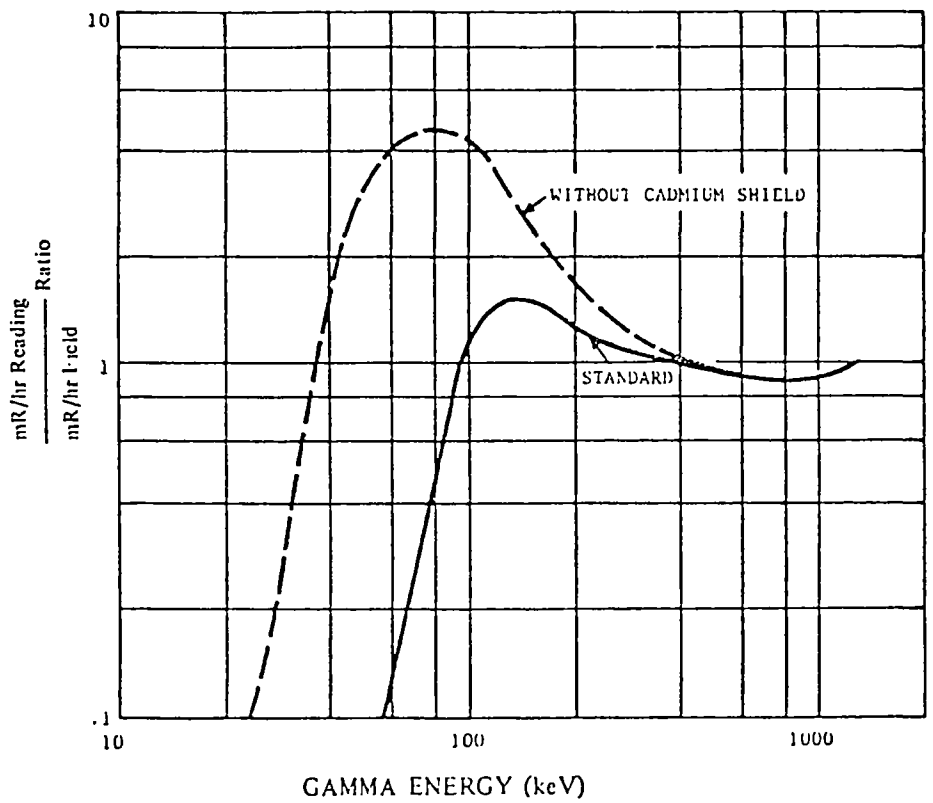


Figure 1-3. Typical Energy Response of Internal Geiger Tube

000872

Eberline

A DIVISION OF Thermo Electron CORPORATION

CERTIFICATION OF CALIBRATION

Instrument E-520/HP-270 Cs-137 EI S/N 156 30 Ci
Cs-137 EI S/N 155 .5 Ci
Serial No. 2859 Cs-137 EI S/N 154 46.88 mCi

Type of Source Eberline MP-1 S/N 493
Fluke DVM 8000A S/N 0790039

Range	Calibration Point	Reading
X100 @ 1500mR/hr	1500 mR/hr ± 5%	1500 mR/hr
X10 @ 150 mR/hr	150 mR/hr ± 5%	150 mR/hr
X1.0 @ 15 mR/hr	15 mR/hr ± 5%	15 mR/hr
Linearity ± 15% of full scale		
X100 @ 500 mR/hr	500 mR/hr	500 mR/hr
X10 @ 50 mR/hr	50 mR/hr	55 mR/hr
MP-1 as per previous		
X0.1 @ 2K cpm	1.15 mR/hr	1.15 mR/hr
X.01 @ 200 cpm	.115 mR/hr	.115 mR/hr
High Voltage	900 ± 25 VDC	903 VDC

The X0.1 and X.01 ranges are calibrated off a reading noted on the X1.0 range with an EIC MP-1 set at 20K cpm.

Calibration sources used have calibration traceable to the National Bureau of Standards.

Date DEC - 3 1982 Signature K.S. Kheloss

No. 003479 B

our telephone conversation, Mr. Koropchak indicated that a new survey meter had been purchased. When identifying this instrument provide the name of the manufacturer, the model number, window thickness, energy dependence and other pertinent radiological information.

Our review of your request will continue upon receipt of the above information. Please reply in duplicate and reference Mail Control No. 21416. If you have any questions, please contact Dr. Howe at Telephone No. (301)427-4228.

Sincerely,

Dr Donna-Beth Howe

Donna-Beth Howe, Ph.D.
Material Licensing Branch
Division of Fuel Cycle and
Material Safety

NRC FORM 2
3-82
10 CFR 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB
3150-0019
EXPIRES 12-31-83

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. LICENSE INFORMATION *(Check one)*

- [ ] A. NEW LICENSE
- [ ] B. AMENDMENT TO LICENSE NO. _____
- [X] C. RENEWAL OF LICENSE NO. SUB-1138
- [ ] D. PREVIOUS LICENSE NO. _____

2. NAME OF APPLICANT

OLIN CORPORATION

PRINCIPAL BUSINESS ADDRESS

WINCHESTER GROUP
EAST ALTON, ILLINOIS 62024

3. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED

ORDNANCE PRODUCTS
P. O. DRAWER G
MARION, ILLINOIS 62959 (SEE ATTACHED)

4. NAME OF PERSON TO BE CONTACTED CONCERNING THIS APPLICATION

JOHN KOROPCHAK

TELEPHONE NUMBER *(Of person to be contacted)*

(618) 985-8211

5. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED

OLIN CORPORATION WILL ASSEMBLE SOURCE MATERIAL PROJECTILES TO PROVIDE A COMPLETE ROUND OF AMMUNITION. FURTHER, A PORTION OF THE COMPLETED ROUNDS WILL BE BALLISTICALLY TESTED.

6. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE

A. TYPE	B. CHEMICAL FORM	C. PHYSICAL FORM *(Including % U or Th)*	D. MAXIMUM AMOUNT AT ANY ONE TIME *(Kilograms)*
NATURAL URANIUM			
URANIUM DEPLETED IN THE U-235 ISOTOPE	SOLID DEPLETED	PREFORMED METALLIC URANIUM SHAPE	500,000 KG
THORIUM *(Isotope)*			

E. MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME *(Kilograms)*

7. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.

SEE ATTACHED

8. LIST THE NAMES AND ATTACH A RESUME OF THE TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE OF APPLICANT'S SUPERVISORY PERSONNEL AND THE PERSON RESPONSIBLE FOR THE RADIATION SAFETY PROGRAM *(or of applicant if an individual).*

SEE ATTACHED

9 DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE:
A. RADIATION DETECTION *(including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate, the description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).*

SEE ATTACHED

B METHOD, FREQUENCY AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN A. ABOVE, INCLUDING AIR SAMPLING EQUIPMENT *(for film badges, specify method of calibrating and processing, or name supplier).*

SEE ATTACHED

000876

9C. VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS. MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

SEE ATTACHED

10. DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 7; INCLUDE:
A. SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSIONS, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

SEE ATTACHED

B. EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

SEE ATTACHED

C. DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

SEE ATTACHED

11. WASTE PRODUCTS

A. QUANTITY AND TYPE OF RADIOACTIVE WASTE THAT WILL BE GENERATED

☐ NONE WILL BE GENERATED

☑ SEE ATTACHED SUPPLEMENTAL SHEET

B. DETAILED PROCEDURES FOR WASTE DISPOSAL

12. IF PRODUCTS FOR DISTRIBUTION TO GENERAL LICENSEES OR TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

A. PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

B. PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

C. BETA AND BETA PLUS GAMMA RADIATION LEVELS *(Specify instrument used, date of calibration and calibration techniques used)* AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

D. METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

13. CERTIFICATE
(This must be completed by the applicant)

The applicant and any official executing this certificate on behalf of the applicant named in item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true to the best of our knowledge and belief.

APPLICANT'S SIGNATURE	PRINTED OR TYPED NAME	DATE
	J. E. REDDEN	10/20/82

VICE-PRESIDENT, ORDNANCE PRODUCTS

TITLE OF CERTIFYING OFFICIAL AUTHORIZED TO ACT ON BEHALF OF THE APPLICANT

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 3

Olin Corporation's Ordnance Products production facility is located in the Crab Orchard National Wildlife Refuge in Williamson County, Illinois. The Refuge is approximately eight miles west of Marion, Illinois on Illinois Route 13 and five miles south on Illinois Route 148.

Ordnance Products Ballistic Testing Facility is located approximately three miles west of Marion, Illinois on Illinois Route 13 and approximately one mile north on Williamson County Road TR 248.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 7

There will be no processing of material by Olin. Olin Corporation will act as a temporary processor while ammunition is being assembled. Personnel come into contact with the depleted uranium penetrator (1) at inspection of the projectiles (penetrator) and (2) at 20MM Phalanx projectile assembly and operate according to Standard Operating Procedures 8089002 and 8089007. Ring badges are used according to procedures to monitor radiation levels. Ring badge control and handling is explained in Standard Operating Procedure No. 8089008.

Test firing of the depleted uranium projectile is performed within an enclosed concrete tunnel (reference Exhibits A, B, C, D, E, and F) and impacted in its original state into a specifically designed "bullet catcher." The following events occur upon receipt of the rounds on a lot sampling basis:

1/. Received and temperature conditioned from +160°F to -65°F.

2/. Test fired in one or both of the enclosed concrete tunnels (Exhibits A, B, C, D, E and F)

3/. Projectile impact occurs at the DU Projectile Catcher; the Catcher is an 8' x 8' x 8' steel box filled with sand. The front fact consists of railroad ties which allow the projectile to penetrate easily, and be stopped by the sand. The cart is mounted on railroad tracks and moved back and forth by a wench system. (Exhibit B)

4/. Recovered sand and/or projectiles are stored at the Ballistics Facility as necessary prior to shipment for disposal at a licensed site (Reference Standard Operating Procedures 90,303 and 90,327).

5/. The depleted uranium contaminated waste will be packaged, transported, and disposed of per Standard Operating Procedure 90,271.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 8

The Radiation Safety Program will be conducted under the supervision of Mr. John Koropchak. Mr. Koropchak has been responsible for all radiographic facilities, procedures, and training at Olin Corporation for the past 16 years. During those 16 years, he has been the Radiation Safety Officer, responsible for assuring that the facility complied with the Illinois Radiation Protection Act. In addition, during 1961-62, he was the Industrial Radiologist and Radiation Safety Officer for the Universal Match Corporation where he was licensed with the Atomic Energy Commission to operate a 50 curie Cobalt 60 Isotope for radiographic purposed. His training in the field of radiography and radiation safety also includes the following:

1/. Attended a 40 hour course on Radioisotope and Radiography at Picker X-Ray, Cleveland, Ohio.

2/. Attended a 40 hour course on Radiography Interpretation at Magnaflux Corporation, Chicago, Illinois.

3/. Attended various seminars held by the Department of Public Health, State of Illinois, and the American Society for Non-Destructive Testing.

4/. Holds a Level III Certificate to MIL-STD-410 for Radiography.

The Safety & Regulatory Compliance Department maintains the Radiation Safety Program under the supervision of Mr. John Koropchak. Mr. John Straddeck, Safety Inspector in the Safety & Regulatory Compliance Department, has been involved with radiation survey's at Olin's Ordnance Products for 19 months. He has attended NIOSH Course 584 in ionizing radiation. He assisted in developing the survey and smear test program (Reference Safety Procedure 94) and assists in monitoring the waste disposal program. Mr. Straddeck maintains a Ludlum Model 2200 rate scaler, a Ludlum Model 18 survey meter, and Ludlum probes 43/2, 44/7, and 44/6. Practical application of experience includes quarterly radiation surveys, monitoring the loading and unloading of transport vehicles carrying radioactive material, and monitoring sources used for gauging all work spaces involved with radioactive material.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 9(b)

Calibration of the instruments specified in Item 9(a) is performed by an outside source (St. Louis Testing Laboratories, Inc., 2810 Clark Avenue, St. Louis, MO 63103) on a yearly basis. However, since 1978 these instruments were placed on a six month interval calibration schedule. St. Louis Testing Laboratories, Inc. license number is 24-00188-02. Reference Exhibit G.

Quantitive instrumentation utilized at Ordnance Products is as follows:

1/. Staplex High Volume Sampler No. 08-600 with 100 micro-particle filter paper (air samples at Ballistic Testing Facility) Filter paper samples are forwarded to Siemens Gammasonics, Inc., 2000 Nuclear Drive, Des Plaines, Illinois 60018 for analysis. (Reference Exhibit H.)

2/. Pocket Dosimeters (Dosimeter Corporation of America) No. 802, Range 0-200 millirem are worn by personnel at the Ballistic Testing Facility during the testing and disposal operations of DU projectiles. Pocket dosimeter Charger Model 909 is utilized for recharging purposes.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 10(a)

Olin Corporation's Ordnance Products operation at Marion, Illinois is engaged in the load, assembly, and pack of 20MM and 30MM ammunition for the United States and foreign governments. The operation conforms to the requirements and practices of the DOD Safety Manual, 4145.26M in its entirety. The safety practices observed at Ordnance Products are more than adequate to work with depleted uranium material. In addition to normal routines, however, radiation symbol signs are posted in all areas where depleted uranium materials will be stored and handled. Also, all containers utilized for the material will be marked with the appropriate radiation sign, label, or marking.

Application for Source Material License
SUB-1138
18 October 1982

ITEM 10(b)

Ordnance Products has an emergency evacuation program which ensures the safe exit of all personnel from buildings in the event of any emergency. Notification of emergency conditions exist through strategically placed sirens. Emergency drills are conducted regularly so that all personnel are thoroughly trained in evacuation procedures. Further, all operating areas of the plant are equipped with sprinkler systems to detect and contain fire in order to minimize risk of loss of personnel, material, and facilities.

Procedures have been established and posted regarding "Notices, Instructions, and Reports to Workers; Inspections" and "Standards for Protection against Radiation." (Reference 10CFR Parts 19 and 20.) In addition, Standard Operating Procedures have been developed detailing overall safety precautions to workers. (Reference Safety Procedure No. 1 and 74.)

ITEM 10(c)

RADIATION SURVEY PROGRAM

Presently, and as previously stated in this application, an extensive program is not conducted at the assembly operation area. However, a periodic survey on a quarterly basis is performed at the production, testing, and shipping areas, to assure compliance with the regulations. A procedure involving a quarterly inspection of DU work areas by smear sampling was developed to determine contamination via airborne material and to determine contamination of work areas by particulates from DU materials. (Reference Safety Procedure No. 94). In addition, when testing and disposal operations are performed, rigid compliance with 10 CFR Part 20 and Olin Standard Operating Procedures is maintained.

Provisions have been made to evaluate all new and changed operations prior to implementation at Olin, Ordnance Products, by contacting the Radiation Safety Officer (John Koropchak) and the Safety & Regulatory Compliance Department. Procedures have been documented that describe the controls at the Ballistic Testing Facility or unrestricted areas, the air sampling program and the monitoring program associated with it.

The person(s) responsible for the radiation safety program and his background is as slated in Item 8 of this application. Presently, no outside consultant is utilized.

Material control provisions are covered in Material Department Standard Operating Procedure 4-2 attached.

Personnel training is provided to each employee, as required, in on-the-job instruction with the review of 10 CFR Parts 19 and 20, Standard Operating Procedures applicable to the operation being performed, and Safety Procedures Nos. 1 and 74.

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 000892 to

000912

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

RECEIVED
SEP 6 1984
J. SCHNEIDERMAN

AUG 28 1984

Olin Corporation
ATTN: A. Heinz, Director
Ordnance Products
P. O. Box Drawer G
Marion, IL 62959

Gentlemen:

Enclosed is Amendment No. 11 to your NRC License No. SUB-1138 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. You must conduct your program involving radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instruction and Reports to Workers; Inspection," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.

2. Possess radioactive material only in the quantity and form indicated in your license.

3. Use radioactive material only for the purpose(s) indicated in your license.

4. Notify NRC in writing of any change in mailing address.

5. Request and obtain appropriate amendment if you plan to change ownership of your organization, change locations of radioactive material, or make any other changes in your facility or program which are contrary to your license conditions or representations made in your license application and any supplemental correspondence with NRC. Any amendment request should be accompanied by the appropriate fee specified in 10 CFR Part 170.

6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

7. Request termination of your license if you plan to permanently discontinue activities involving radioactive material prior to your expiration date.

RECEIVED
SEP 4 1984
A. HEINZ

000913

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions and representations in your license application will result in enforcement action against you in accordance with the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.

If you have any questions or require clarification of any of the above stated information, contact us at (312) 790-5625.

Sincerely,

George W. McCann

Materials Licensing Section

Enclosure: Amendment No. 11

000914

NRC Form 374A (5-84) U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138

Docket or Reference number: 040-08145

Amendment No. 11

Olin Corporation
Ordnance Products
P. O. Box Drawer G
Marion, IL 62959

In accordance with letter dated December 6, 1983, License Number SUB-1138 is amended as follows:

Conditions 12. and 14. are amended to read:

12. Licensed material shall be used by, or under the supervision of, John Koropchak, John Straddeck, N. J. Wilkaitis, Micheal Sweeney, Paul Cannon.

14. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in applications dated October 20, 1982 and November 1983 (received December 12, 1983), letters dated February 23, 1983, December 6, 1983, June 20, 1984, July 23, 1984 and August 15, 1984. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

Condition 15. is added:

15. The Radiation Protection Officer for the activities authorized by this license is John Koropchak.

For the U.S. Nuclear Regulatory Commission

AUG 28 1984

Date _____

By George M. McCann
Materials Licensing Section, Region III

000915

NRC Form 374A (5-84) U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 1 PAGES

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138

Docket or Reference number: 040-08145

Amendment No. 11

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Ordnance Products
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Condition 15. is added:

15. The Radiation Protection Officer for the activities authorized by this license is John Koropchak.

For the U.S. Nuclear Regulatory Commission

Original Signed
By George M. McCann
Materials Licensing Section, Region III

Date August 28, 1984

COPY 5

000916

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 000918
000963

Olin
ORDNANCE

10101 NINTH STREET NORTH, ST. PETERSBURG, FL 33716
TELEPHONE: (813) 578-8100

October 30, 1990
CR-90-305

Mary P. Logan, 5HS-11
U. S. Environmental Protection Agency
Office of Superfund
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

Re: PCB Areas Operable Unit
Crab Orchard National Wildlife Refuge ("Site")
Carterville, Illinois

Dear Ms. Logan:

Please note effective October 3, 1990, my contact address has been changed to :

Olin Corporation
Legal Department
Ordnance Division
10101 9th Street North
St. Petersburg, FL 33716

Attn: C. L. Roslund
Division Counsel

Phone#(813) 578-8102

FAX # (813) 578-8119

Please direct all future Olin correspondence to me at this address.

For OLIN CORPORATION

Sincerely,

Carol L. Roslund

Carol L. Roslund
Division Counsel

CR/pet
001580

c.: John Kelly, Acting Chief
Remedial & Enforcement Response Branch
U.S. EPA, Region 5
230 South Dearborn Street
Chicago, IL 60604

ITEM 9(b)

Calibration of the instruments specified in Item 9(a) is performed by an outside source (St. Louis Testing Laboratories, Inc., 2810 Clark Avenue, St. Louis, Mo. 63103) on a yearly basis. However, since 1978 these instruments were placed on a six month interval calibration schedule. St. Louis Testing Laboratories, Inc. license number is 24-00188-02. Reference Exhibit G.

Quantitive instrumentation utilized at Ordnance Products is as follows:

1. Staplex High Volume Sampler No. 08-600 with 100 micro-particle filter paper (air samples at Ballistic Testing Facility). Filter paper samples are forwarded to Siemens Gammasonics, Inc., 200 Nuclear Drive, Des Plaines, IL. 60018 for analysis. (Reference Exhibit H)
2. Pocket Dosimeters (Dosimeter Corporation of America) No. 802, Range 0-200 millirem are worn by personnel at the Ballistic Testing Facility during the testing and disposal operations of the D.U. projectiles. Pocket dosimeter Charger Model 909 is utilized for recharging purposes.

000834

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138
Docket or Reference number: 040-03145
Amendment No. 10

(continued)

13. The licensee shall send reports to the Nuclear Regulatory Commission as required by Section 40.64, 10 CFR Part 40.

14. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated October 20, 1982; and letter dated February 23, 1983. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

FOR THE U. S. NUCLEAR REGULATORY COMMISSION

MAR 30 1983

Date

By Earl G. Wright
Material Licensing Branch
Division of Fuel Cycle and Material Safety
Washington, D. C. 20555

3/. Ludlum Model 2200 Scaler Ratemeter (or equivalent)

Radiation detection is alpha, beta, and gamma. The range is from 0 - 500,000 counts per minute and is used for monitoring and surveying purposes. This unit is designed to operate with 6-M, proportional, or scintillation detectors.

Olin

P O DRAWER G. MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

20 June 1984

U.S. Nuclear Regulatory Commission
Region III
Material Licensing Section
799 Roosevelt Road
Glen Ellyn, Illinois 60137

ATTENTION: George M. McCann

RE: Source Material License No. SUB-1138

Dear Mr. McCann:

Submitted herewith is supplementary information requested by G.M. McCann for use in processing Amendment Number II to our current license.

Very truly yours,

A. Heinz, Director
Ordnance Products

AH/kc

Enclosures

J. Koropchak
Radiation Safety Officer

The following changes are requested:

1. Deletion of Process

Armor penetration testing which was the reason for Amendment 11 was not implemented. No construction or testing occurred. Proposal was dropped due to hazards involved.

DOCUMENT - Supplemental letter (Amendment 11) from Olin June 20, 1984

ACTION REQUESTED - Delete Sections 7 - Process, 9C - Ventilation Equipment, 10A Safety Features and Procedures and 11A Quantity and Type of Radioactive Waste...

DOCUMENT - Supplemental letter (Amendment 11) from Olin August 15, 1984.

ACTION REQUESTED: - Delete Sections titled Bio-assays and Air Sampling.

2. Equipment Additions

Additional survey meters were purchased along with a multi-channel analyzer with a NaI well detector which is to be used for soil, air and water contamination measurements. A standard source calibrated for gamma and NBS traceable was obtained for use with the analyzer.

DOCUMENT - Supplemental letter (Amendment 11) from Olin June 20, 1984

ACTION REQUESTED: - Add the following equipment to Section 9A Radiation Detection Equipment

EQUIPMENT MAKE	MODEL	NAME	QTY.	RADIATION DETECTED	RANGE
Eberline	ESP-1	Multi-purpose Survey	2	alpha, beta, gamma	
	HP-270	Probe	2	beta, gamma stainless steel window 30mg/cm^2	0-3000 m R/hr.
	AC-3-8	Probe	2	alpha	0-50,000 counts/sec.
	HP-210/L	Probe	2	beta, gamma mica 1.4-2.0 mg/cm^2	0-100,000 counts/sec.
Nucleus Inc.	Quantum 8	Multi-channel Analyzer	1	gamma	0-16,777,215 counts
	NaI 3"x3" well (with Tennelec TC 2903W Lead Shield)	Detector	1	gamma	

Amendment 13
SUB-1138

DOCUMENT - Amendment 12

ACTION REQUESTED - Delete John Straddeck's name. John is no longer employed at Olin.

DOCUMENT - Amendment 10 (References)

ACTION REQUESTED - Approve revised safety procedure number 94 Radiation Measurements - Smear Sampling dated August 1985. This is a major revision. Copy attached.

NOTE: Other referenced procedures are periodically updated. No significant change in the radiation safety program results from these up dates.

PLOT PLAN FOR SAMPLE LOCATIONS

WASTE EXPLOSIVE LIST

This list is a list of explosives which may be generated as waste. It provides information to the scrap operator on packaging, etc. for transport to the thermal treatment facility at the Test Range. As programs are concluded, the waste streams are not removed from the list.

This list changes constantly, as new items are added when different items are manufactured or under research and development. There are presently 183 items identified on the waste list.

This list was sorted by Olin file. It can be sorted different ways and reported different ways. The program contains the availability of additional fields, if needed.

AUTHORIZED EXPLOSIVE WASTE LIST
COMPUTER PROGRAM INFORMATION

COLUMN HEADING	EXPLANATION
OLIN	Olin Code assigned to each waste item. "I" and "R" indicate the thermal treatment device.
WASTE	Waste common name. If oil or water is in parenthesis, oil or water must be added to the waste.
MQTY	Maximum number of items per half gallon container. Generally "R" retort wastes.
MNEW	Maximum net explosive weight in pounds in each inner container. generally "I" wastes.
SHIP: NAME	DOT Proper Shipping Name required on bulk waste label.
HAZCL	DOT Hazard Class.
PACKAGE	DOT approved bulk container.
LABEL	DOT labels required on bulk container.
MARKING	DOT marking required on bulk container by label or stencil. Minimum 1/2 inch high letters. (Or Olin designated marking.)
UN:NA	DOT identification number which must be marked on bulk container if assigned. Generally Class A, B, and C explosives have no identification number.
DOD:CL	DOD hazard classes.
COMP.	DOD storage compatibility group which must be marked on bulk container waste label.
EPA NO.	EPA waste code number which must be marked on operating record form.

PAGE NO. 00001
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
030	1001	HEI SLURRY/FILTERS (WATER)	10		HIGH EXPLOSIVE	CLASS 21C A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
031	1002	HEI POWDER/PELLETS (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
032	1003	HEI BLEND (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
033	1004	HEI CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS 21C A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
034	1005	API MIX #136 (RS41) (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
035	1006	API MIX #68 (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
036	1007	API MIXES #68 & #136 (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
037	1008	API CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS 12H A EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
038	1009	RDX (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C, A 12H EXPLOSIVE	A	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003

PAGE NO. 00002
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
039	I010	RDX CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
040	I011	SODIUM PICRATE (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
041	I012	SODIUM PICRATE CONTAMINATED MTL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
042	I013	TRACER MIX R505 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
043	I014	TRACE IGNITER MIX I-547 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
044	I015	TRACE IGNITER MIX I-548 (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
045	I016	TRACE MIXES (OIL AND/OR WATER)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
046	I017	TRACE CONTAMINATED MATERIAL	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
047	I018	BLACK POWDER (OIL)	0.5		BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
048	1019	BLACK POWDER CONTAMINATED MATL		1	BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003
049	1020	IB-27 IGNITER MIX (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
050	1021	IB-43 IGNITER MIX (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
051	1022	IB-50 IGNITER MIX (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
052	1023	IB-51 IGNITER MIX (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
053	1024	IB-52 IGNITER MIX (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
054	1025	IS-102 IGNITER MIX (OIL)		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
055	1026	IB-52 IGNITER PELLETS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
056	1027	IGN MIX CONTAM MATL (IB-50,51)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
057	1028	FLUID BALL POWDER TYPE A (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
058	1029	FLUID BALL POWDER TYPE B (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003
059	1030	20MM PROPELLANT (OIL OPT)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
060	1031	25MM PROPELLANT (OIL OPT)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
061	1032	30MM PROPELLANT (OIL OPT)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
062	1033	40MM PROPELLANT (OIL OPT)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
063	1034	PROPELLANT CONTAMINATED MATL		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
064	1035	PROPELLANT FLOOR SWEEPINGS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
065	1036	IB-27 ONE # MOTOR PADS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
066	1037	IS-102 ONE # MOTOR PADS (OIL)		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
067	1038	MM IGNITER PADS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

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PAGE NO. 00005
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
068	1039	TRIDENT IGNITER PADS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
069	1040	MXU-4A/A BOOSTER/STNR PADS (OIL)		1.5	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
070	1041	MXU-4A/A GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
071	1042	TRIDENT GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
072	1043	MINUTEMAN GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
073	1044	AN DOUBLE BASE GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
074	1045	N-28 PROPELLANT GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
075	1046	AN AND/OR N-28 PROPELLANT		20	FLAMMABLE SOLID, N.O.S	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
076	1047	ALUMINUM POWDER		2	ALUMINUM, METALLIC, POWDER	FLAMMABLE SOLID	FIBERBD BOX, DRUM	FLAMMABLE SOLID		UN1396	1.4	L	D003
077	1048	MAGNESIUM POWDER		2	MAGNESIUM METAL	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3	L	D003
078	1049	ALUMINUM/MAGNESIUM POWDER		2	MAGNESIUM ALUMINUM POWDER	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3	L	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
079	I050	BARIUM NITRATE	5		BARIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1446	1.4	L	D001
080	I051	POTASSIUM PERCHLORATE	1		POTASSIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1489	1.3	L	D001
081	I052	STRONTIUM NITRATE	5		STRONTIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1507	1.4	L	D001
082	I053	STRONTIUM PEROXIDE	2		STRONTIUM PEROXIDE	OXIDIZER	21C	OXIDIZER		UN1509	1.3	L	D001
083	I054	AMMONIUM NITRATE	5		AMM. NITRATE(NO ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		UN1942	1.3	D	D001
084	I055	AMMONIUM PERCHLORATE	1		AMMONIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1442	1.3	D	D001
085	I056	GUANIDINE NITRATE	5		GUANIDINE NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1467	1.4	L	D001
086	I057	POTASSIUM NITRATE	5		POTASSIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1486	1.4	L	D001
087	I058	AMMONIUM DICHROMATE	5		AMMONIUM DICHROMATE	OXIDIZER	21C	OXIDIZER		UN1439	1.4	L	D001
088	I059	POTASSIUM CHLORATE	1		POTASSIUM CHLORATE	OXIDIZER	21C	OXIDIZER		UN1485	1.3	D	D001
089	I060	ZIRCONIUM HYDRIDE	1		ZIRCONIUM HYDRIDE	FLAMMABLE SOLID	15A, 37A, 21C	FLAM.SD., DANG.WHEN WET		UN1437	1.3	L	D003
090	I061	EMPTY CONTAMINATED CONTAINERS	0.5		AS APPROPRIATE	AS APPROP		AS APPROP	AS APPROPRIATE	APPROP	ANY	ANY	ANY
091	I062	TEGDN CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
092	I063	SMOKE MIX-LUU-10/B	5		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003

PAGE NO. 00008
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
103	I074	50 CAL M17 MIXES/CORNCOB MEAL		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
104	I075	COMP A-4 (OIL)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
158	I076	AN AND/OR N2B PROP CONTAM MATL		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
159	I077	50 CAL PROP CONT MATL(WC860/IMR		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
160	I078	R284CF TRACER COMP (OIL)(50 SLAP		.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
161	I079	R284CF TRACER COMP. CONTAM MATL		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
105	I080	RS 40 (OIL)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
106	I081	ZIRCONIUM PDR (WATER OR ANTIFRZ)		1	ZIRCONIUM METAL, WET	FLAMMABLE SOLID	15A	FLAMMABLE SOLID		UN1358	1.3	L	D001
107	I082	50 CAL MPC PROP/5.56 PROP(WC860)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
108	I083	50 CAL M17 PROP (IMR 50-10)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
109	I084	50 CAL CONTAMINATED MATERIAL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
118	I085	AMMONIUM NITRATE (OC)		5	AMM. NITRATE (ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		NA1942	1.3	D	D001
119	I086	COMP A-4 CONTAMINATED MATERIAL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
120	I087	R-528 TRACE MIX (OIL)(5.56MM)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
121	I088	R-528 TRACE MIX/OIL(VAC)(W DFLR)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
122	I089	I-136 IGNITER MIX (OIL)(5.56)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
123	I090	I-194 IGNITER MIX (OIL)(5.56)		0.5	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.1	G	D003
124	I091	COB MEAL/TRACE & IGN MIX(556)		1.0	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
125	I092	TRACE MIX CONTAMINATED MTL(5.56)		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
126	I093	120MM COMBUSTIBLE CASES/ADAPTOR)		35	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
093	I064	FIRST FIRE-LUU-10/B		5	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
094	I065	LUU-10/B CONTAMINATED MATERIAL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
095	I066	SMOKE CANDLE-LUU10/B		10	SMOKE SIGNAL	CLASS C EXPLOSIVE	15A, 12B	EXPLOSIVE C	SMOKE SIGNALS, HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	C	D003
096	I067	DINITROPHENOXY ETHANOL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
097	I068	NITROCELLULOSE WET		1	NITROCLS,WET W/NO LES THAN 20% WR	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		NA2555	1.3	D	D001
098	I069	I-508 IGN MIX (OIL) M17 TRACER		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
099	I070	R-284 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
100	I071	R-256 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
101	I072	50 CAL M17 TRACER MIXES (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
102	I073	50 CAL M17 TRCR MX OIL/SAWDUST		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003

PAGE NO. 00010
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
127	I094	IGNITER MIX CONTAM. MTL.(5.56)		1	*HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
128	I095	PBXN-5 POWDER/PELLETS (OIL)		0.5	HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
129	I096	PBXN-5 CONTAMINATED MTL		0.5	HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
130	I097	PBXN-5 PWDR/WATER/SWD UST(VAC,OIL		0.5	HIGH EXPLOSIVE	CLASS A EXPLO SIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
139	I098	ZIRCONIUM SPONGE		1.0	FLAMMABLE SOLID, N.O.S.	FLAMM ABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	L	D001
141	I099	120MM PROPELLANT		1	PROPELLANT EXPLOSIVE	CLASS A EXPLO SIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.3	C	D003
142	I100	120MM PROPELLANT CONTAM. MATL.		1	PROPELLANT EXPLOSIVE	CLASS A EXPLO SIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.3	C	D003
143	I101	50 CAL M17 TRACER MXS CONT. MATL		1.0	PROPELLANT EXPLOSIVE	CLASS A EXPLO SIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
144	I102	MTV TRACER PLTS TYPE I (OIL)		1.0	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLO SIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
145	I103	MTV TRACER IGN. PLTS TYPIII(OIL)		1.0	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLO SIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
146	I104	API MIX #68 (OIL,WOODFLR) (VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
147	I105	API MIX #136(OIL, WOODFLR)(VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
148	I106	API OR TRACE MX57ISOPROPYL ALCOH		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
149	I107	WI-2 TRACER MIX (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
150	I108	WI-2 TRACER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
151	I109	CALCIUM RESINATE		1	CALCIUM RESINATE	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		UN1313	1.3	L	D001
152	I110	I-276F IGN MX (OIL) (50 CAL SLAP		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
153	I111	I-276F IGN MIX CONTAM MATL		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
154	I112	BKNO3 IGNITION PELLETS		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	12H, 21C	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
155	I113	SPI-2 IGNITER (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
156	I114	IB-17 IGNITER MIX (OIL)	0.5		*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
157	I115	TMETN CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
163	I116	TEGDN/TMETN CONTAMINATED MATL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
174	I117	SPI-2 IGNITER MIX CONTAM. MATL.	1		*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
175	I118	IB-17 IGNITER MIX CONTAM. MATL.	1		*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
176	I119	I-508 IGNITER MIX CONTAM MATL	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
177	I120	IB-50 IGNITER PELLETS (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
178	I121	IB-51 IGNITER PELLETS (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
179	I122	IGN MIX CONTAM MATL (IB-27,43,52	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID) CLASS B	NONE	1.1	G	D003

PAGE NO. 00013
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
180	I123	IGN MIX CONTAM MATL (IS-102)		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
001	R001	20MM CART. CASES, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
002	R002	20MM PRIMERS(OIL)	1000	0.43	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
003	R003	20MM HEI PROJ W/FUZE	60	2.77	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
004	R004	20MM HEI-T PROJ W/FUZE	60	3.07	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
005	R005	20MM HEIT-SD PROJ W/FUZE	60	3.07	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
006	R006	20MM TP-T PROJECTILES	60	0.28	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	C	D003
007	R007	20MM API PROJECTILES	60	0.64	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
008	R008	20MM API NOSECONES (OIL OPT.)	60	0.64	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A, 12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	G	D003
009	R009	20MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
010	R010	25MM CART. CASES, EMPTY, PRIMED	10	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
011	R011	25MM PRIMERS (OIL)	1000	0.40	*SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
012	R012	25MM HEI PROJECTILES	20	1.42	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
013	R013	25MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
014	R014	30MM CART. CASES, EMPTY, PRIMED	5	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
015	R015	30MM PRIMERS (OIL)	1000	0.36	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
016	R016	30MM HEI PROJECTILES	5	0.63	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
017	R017	30MM IB52 IGN.PEL.&FLASH TUBE-OIL	1000	0.71	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
018	R018	FLASHTUBES (OIL)	1000	0.71	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.3	G	D003
019	R019	30MM M505 FUZES	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1	B	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
020	R020	40MM CART. CASE, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
021	R021	40MM COMPLETE CARTRIDGE	25	0.10	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
022	R022	40MM BASE PLUGS	125	0.09	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	G	D003
023	R023	40MM PRIMERS (OIL)	1000	0.07	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
024	R024	ELECTRIC SQUIBS (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003
025	R025	ELECTRIC MATCHES (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003
026	R026	IGNITERS (OIL)	15	0.20	IGNITERS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	IGNITERS	NONE	1.3	C	D003
027	R027	IGNITER ASSEMBLIES	25	0.30	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003
028	R028	M505 FUZES (R & D)	500	2.39	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
029	R029	PRIMERS (R & D) (OIL)	1000	0.43	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
110	R030	50 CAL M17 TRACER PROJECTILES	150	1.41	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	S	D003
111	R031	50 CAL MPC PROJECTILES	150	0.81	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
112	R032	50 CAL PRIMED CASES	40	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
113	R033	50 CAL M17 TRACER CARTRIDGES	15	0.62	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	C	D003
164	R034	20MM PGU-28/B PROJ (SAPHEI)	60	1.2	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
165	R035	50 CAL MPC CHARGED CORE BODY	60	0.21	*FUZE,DETONATING,CLASS C EXPLOSI	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
166	R036	20MM MP-T-SD CHGD PROJ BDY ASSY	60	0.73	FUZE,DETONATING,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
167	R037	20MM MP-T-SD TRCD PROJ BODY ASSY	60	0.37	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003
168	R038	20MM MP-T-SD CHRGD NOSE ASSY	60	0.42	FUZE,DETONATING,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
169	R039	20MM 28/B CHRGD PROJ BODY ASSY	60	0.78	*FUZE,DETONATING, CLASS C EXPLOS	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
170	R040	20MM 28/B(SAPHEI) CHRGD NOSE ASY	60	0.44	*FUZE,DETONATING,CLASS C EXPLOSI	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.2	B	D003
171	R041	50 CAL SLAP TRACER PROJECTILE	150	0.21	NONEXPLOSIVE AMMUNITION	NONE	ANY	NONE		NONE	1.4	B	D003
172	R042	50 CAL SLAP TRACER CARTRIDGE	15	0.55	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
173	R043	20MM MP-T-SD (XM940) PROJECTILES	60	1.12	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
114	R044	50 CAL MPC CARTRIDGES	15	0.58	AMMO FOR SM ARMS W/EXPLO PROJ	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	AMMUNITION FOR SMALL ARMS WITH EXPLOSIVE PROJECTILE	NONE	1.2	E	D003
115	R045	20MM MPC NOSECONES (OIL OPT.)	60	0.40	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A,12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	G	D003
116	R046	20MM MPC PROJECTILES	60	1.25	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
117	R047	VARIOUS ROUNDS/CARTRIDGES			AS APPROPRIATE				CONTACT REGULATORY COMPLIANCE FOR ASSISTANCE				
131	R048	5.56MM TRACE PROJECTILES	2000	1.37	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	C	D003
132	R049	5.56MM TRACE PRIMED CASES	1000	0.06	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
133	R050	5.56MM CARTRIDGES	1000	4.54	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBREBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	S	D003

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000621

PAGE NO. 00018
06/26/89

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	ON:NA	DOD:CL	COMP	EPA
134	R051	30MM AAH PDM759 FUZES	500	0.4	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLO SIVE	METAL, WOOD, 12H	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.4	D	D003
136	R053	HEDP PROJ W/O FUZE	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLO SIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
137	R054	HEDP SPITBACK LEAD ASSEM (OIL)	50	0.03	BOOSTERS, EXPLOSIVE, CLASS A	CLASS A EXPLO SIVE	WOOD, METAL	EXPLOSIVE A	BOOSTERS (EXPLOSIVE)- HANDLE CAREFULLY	NONE	1.1	D	D003
138	R055	30MM HEDP DETONATORS (OIL)	50	0.01	DETONATORS, CLASS C EXPLOSIVES	CLASS C EXPLO SIVE	15A, 12H	EXPLOSIVE C	DETONATORS-HANDLE CAREFULLY	NONE	1.2	B	D003
140	R056	120MM PRIMERS (OIL)	5	0.09	CANNON PRIMERS	CLASS C EXPLO SIVE	WOOD	NONE	CANNON PRIMERS-HANDLE CAREFULLY	NONE	1.2	B	D003
162	R057	20MM PGU-30/B PROJECTILES	60	0.18	NONEXPLOSIVE AMMONITION	NONE	METAL	NONE		NONE	1.4	C	D003
182	R058	20MM HEI PROJ W/O FUZE	60	2.48	*EXPLOSIVE PROJECTILES	CLASS A EXPLO SIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
183	R059	20MM HEI-T PROJ W/O FUZE	60	2.78	*EXPLOSIVE PROJECTILES	CLASS A EXPLO SIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
184	R060	20MM HEI-T-SD PROJ W/O FUZE	60	2.78	*EXPLOSIVE PROJECTILES	CLASS A EXPLO SIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
135	S052	30MM HEDP PROJ W/FUZE,INERT FUZE	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLO SIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003

AUTHORIZED EXPLOSIVE WASTE LIST
COMPUTER PROGRAM INFORMATION

COLUMN HEADING	EXPLANATION
OLIN	Olin Code assigned to each waste item. "I" and 'R" indicate the thermal treatment device. "S" indicates storage.
WASTE	Waste common name. If oil or water is in parenthesis, oil or water must be added to the waste.
MQTY	Maximum number of items per half gallon container. Generally "R" retort wastes.
MNEW	Maximum net explosive weight in pounds in each inner container. Generally "I" wastes.
SHIP: NAME	DOT Proper Shipping Name required on bulk waste label.
HAZCL	DOT Hazard Class.
PACKAGE	DOT approved bulk container.
LABEL	DOT labels required on bulk container.
MARKING	DOT marking required on bulk container by label or stencil. Minimum 1/2 inch high letters. (Or Olin designated marking.)
UN:NA	DOT identification number which must be marked on bulk container if assigned. Generally Class A, B, and C explosives have no identification number.
DOD:CL	DOD Hazard Classes. (In-process/storage)
COMP.	DOD storage compatibility group which must be marked on bulk container waste label. (In-process/storage)
EPA NO.	EPA waste code number which must be marked on operating record form.

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP;NAME	HAZCL	PACKAGE	LABEL	MARKING	UN;NA	DOD;CL	COMP	EPA
030	I001	HEI SLURRY/FILTERS (WATER)	10		HIGH EXPLOSIVE	CLASS 21C A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
031	I002	HEI POWDER/PELLETS (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
032	I003	HEI BLEND (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
033	I004	HEI CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS 21C A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
034	I005	API MIX #136 (RS41) (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
035	I006	API MIX #68 (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
036	I007	API MIXES #68 & #136 (OIL)	0.5		HIGH EXPLOSIVE	CLASS 12H A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
037	I008	API CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS 12H A EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
038	I009	RDX (OIL)	0.5		HIGH EXPLOSIVE	CLASS 21C, A 12H EXPLO SIVE		EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003

000623

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP;NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
039	I010	RDX CONTAMINATED MATERIAL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
040	I011	SODIUM PICRATE (OIL)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
041	I012	SODIUM PICRATE CONTAMINATED MTL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
042	I013	TRACER MIX R505 (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
043	I014	TRACE IGNITER MIX I-547 (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
044	I015	TRACE IGNITER MIX I-548 (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
045	I016	TRACE MIXES (OIL AND/OR WATER)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
046	I017	TRACE CONTAMINATED MATERIAL		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
047	I018	BLACK POWDER (OIL)	0.5		BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003

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000624

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
048	I019	BLACK POWDER CONTAMINATED MATL	1		BLACK POWDER	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	THIS SIDE UP (ON TOP) BLACK POWDER	NONE	1.1	D	D003
049	I020	IB-27 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
050	I021	IB-43 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1/3	G	D003
051	I022	IB-50 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
052	I023	IB-51 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
053	I024	IB-52 IGNITER MIX (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1/3	C	D003
054	I025	IS-102 IGNITER MIX (OIL)	1		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.1/3	C	D003
055	I026	IB-52 IGNITER PELLETS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1	G	D003
056	I027	IGN MIX CONTAM MATL (IB-50,51)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
057	I028	FLUID BALL POWDER TYPE A (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003

000625

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
058	1029	FLUID BALL POWDER TYPE B (OIL)	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	C	D003
059	1030	20MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
060	1031	25MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
061	1032	30MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
062	1033	40MM PROPELLANT (OIL OPT)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
063	1034	PROPELLANT CONTAMINATED MATL	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
064	1035	PROPELLANT FLOOR SWEEPINGS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
065	1036	IB-27 ONE # MOTOR PADS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
066	1037	IS-102 ONE # MOTOR PADS (OIL)	1		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
067	1038	MM IGNITER PADS (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

000626

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
068	I039	TRIDENT IGNITER PADS (OIL)		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
069	I040	MXU-4A/A BOOSTER/STNR PADS (OIL)		1.5	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
070	I041	MXU-4A/A GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
071	I042	TRIDENT GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
072	I043	MINUTEMAN GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
073	I044	AN DOUBLE BASE GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
074	I045	N-28 PROPELLANT GRAINS		20	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
075	I046	AN AND/OR N-28 PROPELLANT		20	FLAMMABLE SOLID, N.O.S	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
076	I047	ALUMINUM POWDER		2	ALUMINUM, METALLIC, POWDER	FLAMMABLE SOLID	FIBERBD BOX, DRUM	FLAMMABLE SOLID		UN1396	1.4	L	D003
077	I048	MAGNESIUM POWDER		2	MAGNESIUM METAL	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3/4	L	D003
078	I049	ALUMINUM/MAGNESIUM POWDER		2	MAGNESIUM ALUMINUM POWDER	FLAMMABLE SOLID	FIBER DRUM	FLAM.SD., DANG.WHEN WET		UN1869	1.3/4	L	D003

000627

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
079	I050	BARIUM NITRATE	5		BARIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1446	1.4	L	D001
080	I051	POTASSIUM PERCHLORATE	1		POTASSIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1489	1.3/4	D	D001
081	I052	STRONTIUM NITRATE	5		STRONTIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1507	1.3/4	L	D001
082	I053	STRONTIUM PEROXIDE	2		STRONTIUM PEROXIDE	OXIDIZER	21C	OXIDIZER		UN1509	1.3/4	L	D001
083	I054	AMMONIUM NITRATE	5		AMM. NITRATE(NO ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		UN1942	1.3/4	D/L	D001
084	I055	AMMONIUM PERCHLORATE	1		AMMONIUM PERCHLORATE	OXIDIZER	21C	OXIDIZER		UN1442	1.3/4	D/L	D001
085	I056	GUANIDINE NITRATE	5		GUANIDINE NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1467	1.4	L	D001
086	I057	POTASSIUM NITRATE	5		POTASSIUM NITRATE	OXIDIZER	FIBER DRUM	OXIDIZER		UN1486	1.4	L	D001
087	I058	AMMONIUM DICHROMATE	5		AMMONIUM DICHROMATE	OXIDIZER	21C	OXIDIZER		UN1439	1.4	L	D001
088	I059	POTASSIUM CHLORATE	1		POTASSIUM CHLORATE	OXIDIZER	21C	OXIDIZER		UN1485	1.3/4	L	D001
089	I060	ZIRCONIUM HYDRIDE	1		ZIRCONIUM HYDRIDE	FLAMMABLE SOLID	15A, 37A, 21C	FLAM.SD., DANG.WHEN WET		UN1437	1.3/4	L	D003
090	I061	EMPTY CONTAMINATED CONTAINERS	0.5		AS APPROPRIATE	AS APPROP		AS APPROP	AS APPROPRIATE	APPROP	ANY	ANY	ANY
091	I062	TEGDN CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
092	I063	SMOKE MIX-LUU-10/B	5		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003

000328

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
093	I064	FIRST FIRE-LUU-10/B		5	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
094	I065	LUU-10/B CONTAMINATED MATERIAL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
095	I066	SMOKE CANDLE-LUU10/B		10	SMOKE SIGNAL	CLASS C EXPLOSIVE	15A, 12B	EXPLOSIVE C	SMOKE SIGNALS, HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	C	D003
096	I067	DINITROPHENOXY ETHANOL		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
097	I068	NITROCELLULOSE WET		1	NTROCLS,WET W/NO LES THAN 20% WR	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		NA2555	1.3	D	D001
098	I069	I-508 IGN MIX (OIL) M17 TRACER		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
099	I070	R-284 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
100	I071	R-256 TRACER COMP (OIL) M17 TRCR		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
101	I072	50 CAL M17 TRACER MIXES (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
102	I073	50 CAL M17 TRCR MX OIL/SAWDUST		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003

000629

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
103	I074	50 CAL M17 MIXES/CORNCOB MEAL	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
104	I075	COMP A-4 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
158	I076	AN AND/OR N28 PROP CONTAM MATL	20		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001
159	I077	50 CAL PROP CONT MATL(WC860/IMR	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
160	I078	R284CF TRACER COMP (OIL)(50 SLAP	.5	*	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
161	I079	R284CF TRACER COMP. CONTAM MATL	1	*	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
105	I080	RS 40 (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
106	I081	ZIRCONIUM PDR (WATER OR ANTIFRZ)	1		ZIRCONIUM METAL, WET	FLAMMABLE SOLID	15A	FLAMMABLE SOLID		UN1358	1.3/4	L	D001
107	I082	50 CAL MPC PROP/5.56 PROP(WC860)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003
108	I083	50 CAL M17 PROP (IMR 50-10)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	C	D003

000630

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MD/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
109	I084	50 CAL CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
118	I085	AMMONIUM NITRATE (OC)	5		AMM. NITRATE (ORGANIC COATING)	OXIDIZER	FIBER DRUM	OXIDIZER		NA1942	1.3/4	D/L	D001
119	I086	COMP A-4 CONTAMINATED MATERIAL	1		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
120	I087	R-528 TRACE MIX (OIL)(5.56MM)	0.5		#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
121	I088	R-528 TRACE MIX/OIL(VAC)(WDFLR)	0.5		#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
122	I089	I-136 IGNITER MIX (OIL)(5.56)	0.5		#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
123	I090	I-194 IGNITER MIX (OIL)(5.56)	0.5		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.1	G	D003
124	I091	COB MEAL/TRACE & IGN MIX(556)	1		#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
125	I092	TRACE MIX CONTAMINATED MTL(5.56)	1		#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
126	I093	120MM COMBUSTIBLE CASES/ADAPTOR)	35		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D001

000631

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
127	I094	IGNITER MIX CONTAM. MTL.(5.56)	1		*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
128	I095	PBXN-5 POWDER/PELLETS (OIL)	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
129	I096	PBXN-5 CONTAMINATED MTL	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
130	I097	PBXN-5 PWDR/WATER/SWD UST(VAC,OIL	0.5		HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
139	I098	ZIRCONIUM SPONGE/PELLETS	1		FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3/4	L	D001
141	I099	120MM PROPELLANT	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.3	C	D003
142	I100	120MM PROPELLANT CONTAM. MATL.	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.3	C	D003
143	I101	50 CAL M17 TRACER MXS CONT. MATL	1		PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
144	I102	MTV TRACER PLTS TYPE I (OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
145	I103	MTV TRACER IGN. PLTS TYPIII(OIL)	1		PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003

000332

000633

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
146	I104	API #68 OR RS40 (OIL,WDFLR)(VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
147	I105	API MIX #136(OIL, WOODFLR)(VAC)		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
148	I106	API OR TRACE MXS/ISOPROPYL ALCOH		0.5	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	CLASS A EXPLOSIVE	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
149	I107	WI-2 TRACER MIX (OIL)		0.5	#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
150	I108	WI-2 TRACER MIX CONTAM. MATL.		1	#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.3	G	D003
151	I109	CALCIUM RESINATE		1	CALCIUM RESINATE	FLAMMABLE SOLID	15A, 37A	FLAMMABLE SOLID		UN1313	1.3	L	D001
152	I110	I-276F IGN MX (OIL) (50 CAL SLAP		0.5	#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
153	I111	I-276F IGN MIX CONTAM MATL		1	#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
154	I112	BKNO3 IGNITION PELLETS		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	12H, 21C	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.3	G	D003
155	I113	SPI-2 IGNITER (OIL)		0.5	#HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003

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000634

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
156	I114	IB-17 IGNITER MIX (OIL)		0.5	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
157	I115	TMETN CONTAMINATED MATERIAL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
163	I116	TEGDN/TMETN CONTAMINATED MATL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	D	D003
174	I117	SPI-2 IGNITER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
175	I118	IB-17 IGNITER MIX CONTAM. MATL.		1	*HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	C	D003
176	I119	I-508 IGN MIX CONTAM MATL(M17)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
177	I120	IB-50 IGNITER PELLETS (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
178	I121	IB-51 IGNITER PELLETS (OIL)		1	PROPELLANT EXPLOSIVE	CLASS A EXPLOSIVE	21C, 12H	EXPLOSIVE A	PROPELLANT EXPLOSIVES, CLASS A	NONE	1.1	G	D003
179	I122	IGN MIX CONTAM MATL (IB-27,43,52		1	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID) CLASS B	NONE	1.1	G	D003

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000635

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
180	I123	IGN MIX CONTAM MATL (IS-102)		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.3	C	D003
185	I124	BARIUM PEROXIDE		1	BARIUM PEROXIDE	OXIDIZER	21C	OXIDIZER		UN1449	1.3/4	L	D001
186	I125	I-194 IGN MIX CONTAM MATL (5.56)		1	FLAMMABLE SOLID, N.O.S.	FLAMMABLE SOLID	21C	FLAMMABLE SOLID		UN1325	1.1	G	D003
187	I126	RS40 CONTAM MATL		1	HIGH EXPLOSIVE	CLASS A EXPLOSIVE	12H	EXPLOSIVE A	HIGH EXPLOSIVES-DANGEROUS (ON SIDE & TOP) THIS END UP (ON TOP)	NONE	1.1	G	D003
001	R001	20MM CART. CASES, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
002	R002	20MM PRIMERS(OIL)	1000	0.4	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
003	R003	20MM HEI PROJ W/FUZE	60	1.4	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
004	R004	20MM HEI-T PROJ W/FUZE	60	1.6	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
005	R005	20MM HEIT-SD PROJ W/FUZE	60	1.6	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
006	R006	20MM TP-T PROJECTILES	60	0.3	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	G	D003
007	R007	20MM API PROJECTILES	60	0.6	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1/2	D	D003

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
008	R008	20MM API NOSECONES (OIL OPT.)	60	0.6	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A, 12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	G	D003
009	R009	20MM M505 FUZES	500	0.6	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
010	R010	25MM CART. CASES, EMPTY, PRIMED	10	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
011	R011	25MM PRIMERS (OIL)	1000	0.4	*SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
012	R012	25MM HEI PROJECTILES	20	1.4	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
013	R013	25MM M505 FUZES	500	0.6	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
014	R014	30MM CART. CASES, EMPTY, PRIMED	5	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
015	R015	30MM PRIMERS (OIL)	1000	0.3	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
016	R016	30MM HEI PROJECTILES	5	0.6	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
017	R017	30MM 1852 IGN.PEL.&FLASH TUBE-OIL	1000	0.7	PROPELLANT EXPLOSIVE, SOLID	CLASS B EXPLOSIVE	21C, 12H	EXPLOSIVE B	PROPELLANT EXPLOSIVES (SOLID), CLASS B	NONE	1.1/3	C	D003

000636

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
018	R018	FLASHTUBES (OIL)	1000	0.7	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.3	G	D003
019	R019	30MM M505 FUZES	500	0.6	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
020	R020	40MM CART. CASE, EMPTY, PRIMED	25	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
021	R021	40MM COMPLETE CARTRIDGE	25	0.1	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
022	R022	40MM BASE PLUGS	125	0.1	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
023	R023	40MM PRIMERS (OIL)	1000	0.1	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
024	R024	ELECTRIC SQUIBS (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003
025	R025	ELECTRIC MATCHES (OIL)	100	0.01	ELECTRIC SQUIBS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	ELECTRIC SQUIBS	NONE	1.4	S	D003
026	R026	IGNITERS (OIL)	15	0.20	IGNITERS	CLASS C EXPLOSIVE	FIBREBOARD BOX	EXPLOSIVE C	IGNITERS	NONE	1.3	C	D003
027	R027	IGNITER ASSEMBLIES	25	0.30	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003

000634

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000638

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MOTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
028	R028	M505 FUZES (R & D)	500	0.6	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
029	R029	PRIMERS (R & D) (OIL)	1000	0.4	SMALL ARMS PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	SMALL ARMS PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
110	R030	50 CAL M17 TRACER PROJECTILES	150	1.4	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	S	D003
111	R031	50 CAL MPC PROJECTILES	150	0.8	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
112	R032	50 CAL PRIMED CASES	40	0.01	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
113	R033	50 CAL M17 TRACER CARTRIDGES	15	0.6	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	C	D003
164	R034	20MM PGU-28/B PROJ (SAPHEI)	60	1.4	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
165	R035	50 CAL MPC CHARGED CORE BODY	60	0.2	*FUZE,DETONATING,CLASS C EXPLOSI	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
166	R036	20MM MP-T-SD CHGD PROJ BDY ASSY	60	0.7	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
167	R037	20MM MP-T-SD TRCD PROJ BODY ASSY	60	0.4	EXPLOSIVE POWER DEVICE, CLASS C	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	EXPLOSIVE POWER DEVICES, CLASS C-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.4	C	D003

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
168	R038	20MM MP-T-SD CHRGD NOSE ASSY	60	0.4	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	12H, WOOD, METAL	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	B	D003
169	R039	20MM 28/B CHRGD PROJ BODY ASSY	60	0.8	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
170	R040	20MM 28/B(SAPHEI) CHRGD NOSE ASY	60	0.4	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
171	R041	50 CAL SLAP TRACER PROJECTILE	150	0.2	NONEXPLOSIVE AMMUNITION	NONE	ANY	NONE		NONE	1.4	B	D003
172	R042	50 CAL SLAP TRACER CARTRIDGE	15	0.6	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBERBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	B	D003
173	R043	20MM MP-T-SD (XM940) PROJECTILES	60	1.1	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
114	R044	50 CAL MPC CARTRIDGES	15	0.6	AMMO FOR SM ARMS W/EXPLO PROJ	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	AMMUNITION FOR SMALL ARMS WITH EXPLOSIVE PROJECTILE	NONE	1.2	E	D003
115	R045	20MM MPC NOSECONES (OIL OPT.)	60	0.4	*SPECIAL FIREWORKS	CLASS B EXPLOSIVE	15A,12B	EXPLOSIVE B	SPECIAL FIREWORKS-HANDLE CAREFULLY-KEEP FIRE AWAY	NONE	1.3	B	D003
116	R046	20MM MPC PROJECTILES	60	1.3	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
117	R047	VARIOUS ROUNDS/CARTRIDGES			AS APPROPRIATE				CONTACT REGULATORY COMPLIANCE FOR ASSISTANCE				

000639

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AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
131	R048	5.56MM TRACE PROJECTILES	2000	1.6	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	S	D003
132	R049	5.56MM TRACE PRIMED CASES	1000	0.1	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	B	D003
133	R050	5.56MM CARTRIDGES	1000	4.5	SMALL ARMS AMMUNITION	CLASS C EXPLOSIVE	METAL, WOOD, FIBREBD	NONE	SMALL ARMS AMMUNITION	NONE	1.4	S	D003
134	R051	30MM AAH PDM759 FUZES	500	0.4	FUZE,DETONATING ,CLASS C EXPLOSIV	CLASS C EXPLOSIVE	METAL, WOOD, 12H	EXPLOSIVE C	DETONATING FUZES, CLASS C EXPLOSIVES-HANDLE CAREFULLY	NONE	1.1/4	D	D003
136	R053	HEDP PROJ W/O FUZE	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003
137	R054	HEDP SPITBACK LEAD ASSEM (OIL)	50	0.03	BOOSTERS, EXPLOSIVE, CLASS A	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	BOOSTERS (EXPLOSIVE)-HANDLE CAREFULLY	NONE	1.1	D	D003
138	R055	30MM HEDP DETONATORS (OIL)	50	0.01	DETONATORS, CLASS A EXPLOSIVES	CLASS A EXPLOSIVE	15A, 12H	EXPLOSIVE A	DETONATORS-HANDLE CAREFULLY	NONE	1.1	B	D003
140	R056	120MM PRIMERS (OIL)	5	0.09	CANNON PRIMERS	CLASS C EXPLOSIVE	WOOD	NONE	CANNON PRIMERS-HANDLE CAREFULLY	NONE	1.4	B	D003
162	R057	20MM PGU-30/B PROJECTILES	60	0.2	NONEXPLOSIVE AMMUNITION	NONE	METAL	NONE		NONE	1.4	G	D003
182	R058	20MM HEI PROJ W/O FUZE	60	1.3	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
183	R059	20MM HEI-T PROJ W/O FUZE	60	1.5	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003

000040

AUTHORIZED EXPLOSIVE WASTES-OLIN/MO/RC

FILE	OLIN	WASTE	MQTY	MNEW	SHIP:NAME	HAZCL	PACKAGE	LABEL	MARKING	UN:NA	DOD:CL	COMP	EPA
184	R060	20MM HEI-T-SD PROJ W/O FUZE	60	1.5	*EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	WOOD, METAL	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.2	D	D003
135	S052	30MM HEDP PROJ W/FUZE, INERT FUZE	5	0.3	EXPLOSIVE PROJECTILES	CLASS A EXPLOSIVE	METAL, WOOD	EXPLOSIVE A	EXPLOSIVE PROJECTILES	NONE	1.1	D	D003

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TIME 08.34.

ORDNANCE PRODUCTS - MARION
CHEMICAL MASTER LISTING
TRADE NAME SEQUENCE

PROCESSED 09/08/89
PAGE 001

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
GRAPHITE BISMALEIMIDE V-390	1537	BISMALEIMIDE	U.S. POLYMERIC	1086
			SANTA ANTA CA.	
DEV REPLENISHER-B-INDRUSTREX	917	90% ACETIC ACID- 10% PHENYL	EASTMAN KODAK	0183
		SUBSTITUTED HETEROCYCLE	ROCHESTER, NY 14650	
CAMPHENE, 95%	1329A	CAMPHENE	ALDRICH	0789
		3-3-0-G	MILWAUKEE WI	579404
2-BUTANOL 99%	489A	BUTANOL	ALDRICH CHEMICAL	0789
		0-3-1-E	MILWAUKEE WI	1489879
CAMPHOR, 99%	1330A	CAMPHOR	ALDRICH	0789
		2-2-0-E	MILWAUKEE WI	46449
#4 BLACK INK, CODE MARKING	346A		KIWI CODERS CORP.	0489
		3-4-3-B/Y SARA TOXIC	WHEELING IL.	
#48 INK CONDITIONER	324A	ETHANOL, N-BUTYL ALCOHOL	KIWI CODERS CORP	0288
		2-3-0-B/Y SARA TOXIC	WHEELING, IL 60090	
A-1-A DELAY POWDER	192	65%ZIRCONIUM-25%IRONOXIDE-10%	PYROTECHNIC SPECIALTIES	9999
		SURFACE FLOSS -SIO2-	BYRON, GA	7440677
A-105 PRIMER	270B	SILOXANE SOLVENT	ACCUMETRIC, INC	0987
		2-4-3-B/Y	ELIZABETHTOWN KY	
AAA QUENCH OIL -H-1-	1127A	MINERAL OIL	PARK CHEMICAL	0789
		0-1-0-A	DETROIT MI	8012951
ABS CEMENT	574A	SOLVENT PIPE CEMENT	BLACK SWAN CO.	0889
		3-3-3-K	CHICAGO, IL. 60651	
ACCELERATOR ETHYL TUADS	496	TETRAETHYLTHIURAM DISULFIDE	VANDERBILT	0680
			NORWALK, CT	97778

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
ACETIC ACID	1564	ACETIC ACID	ALDRICH CHEM CO.	0588
		4-2-2-J	MILWAKEE WI.	6419
ACETIC ACID GLACIAL	1505	ACETIC ACID GLACIAL	MALLINCKRODT CHEMICALS	0787
			PARIS. KY 40361	6419
ACETIC ACID GLACIAL	1506	ACETIC ACID GLACIAL	ALDRICH CHEMICAL CO.	0786
			STAMFORD. CT	6419
ACETIC ACID. GLACIAL	370A	ACETIC ACID	J.T. BAKER	0589
		2-2-2-G SARA TOXIC	PHILLIPSBURG. NJ	6419
	736A	ACETIC ACID GLACIAL	GENERAL CHEMICAL	0986
		2-2-1-G	MORRISTOWN NJ	6419
	453	ACETIC ACID. GLACIAL	FISHER SCIENTIFIC	0288
			FAIR LAWN. NJ 07410	6419
	736	ACETIC ACID. GLACIAL	ALLIED CHEMICAL	0380
			MORRISTOWN. NJ 07960	6419
	839A	ACETIC ACID. GLACIAL	MALLINCKRODT	0787
		2-2-1-G SARA	PARIS KY	6419
	839	GLACIAL ACETIC ACID	MALLINCKRODT CHEMICALS	1088
			ST. LOUIS. MO 63147	108241
ACETIC ACID. 99.8%	1505A	ACETIC ACID	ALDRICH	0789
		4-2-2-J	MILWAUKEE WI	6419
ACETIC ACID.GLACIAL	369	ACETIC ACID	E M SCIENCE	0587
			CHERRY HILL. NJ 08034	6419
	370	ACETIC ACID.GLACIAL	J T BAKER CHEMICAL CO	0186
			PHILLIPSBURG. NJ 08865	6419

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ACETIC ANHYDRIDE	487	ACETIC ANHYDRIDE	ALDRICH CHEMICAL CO	0484
			MILWAUKEE, WI 53201	108247
	487A	ACETIC ANHYDRIDE	ALDRICH CHEM CO.	0588
		4-2-2-W	MILWAUKEE WI.	108247
	512	ACETIC ANHYDRIDE	FISHER SCIENTIFIC	0585
			FAIR LAWN, NJ 07410	108247
ACETONE	213	ACETONE	DOW CHEMICAL U.S.A.	0585
			MIDLAND, MI 48674	67641
	338	ACETONE	ULRICH CHEMICAL	0779
			EVANSVILLE IN	67641
	426	ACETONE	FISHER SCIENTIFIC	0481
			FAIR LAWN, NJ 07410	67641
	426A	ACETONE	FISHER SCIENTIFIC	0789
		1-4-1-G	FAIR LAWN NJ	67641
ACETONE SYNTHETIC	213A	ACETONE SYNTHETIC	DOW CHEM CO.	0888
		2-4-0-B	MIDLAND MI.	67641
ACETONE, SYNTHETIC	2213A	ACETONE	DOW CHEMICAL USA	0789
		1-4-1-G SARA TOXIC	MIDLAND MI	6764
ACETONE, 2-PROPANONE	338A	ACETONE	GEORGIA GULF/ULRICH	0589
		1-4-1-G	ATLANTA, GA 30348	67641
ACETONITRILE	1181	ACETONITRILE	J T BAKER CHEMICAL CO	0985
			PHILLIPSBURG, NJ 08865	75058
	1181A	ACETONITRILE	J.T. BAKER	0987
		2-3-2-B-Y	PHILLIPSBURGE N.J.	75058

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
ACETONITRILE	1181B	ACETONITRILE	JT BAKER	0589
		4-3-1-G SARA	PHILLIPSBURG NJ	75058
	428A	ACETONITRILE	FISHER SCIENTIFIC	0789
		4-3-1-G	FAIR LAWN NJ	75058
	624	ACETONITRILE	EASTMAN KODAK	0188
			ROCHESTER. NY 14650	75058
	624A	ACETONITRILE	EASTMAN KODAK	1288
		4-3-1-G	ROCHESTER NY	75058
ACETYLENE	944	ACETYLENE	SCOTT ENV TECH	0684
			PLUMSTEADVILLE.PA	
	944A	ACETYLENE	SCOTT SPECIALTY GASES	9999
		2-4-3-A	PLUMSTEADVILLE. PA	74862
ACRYLONITRILE	1497A	ACRYLONITRILE	B.F. GOODRICH	0988
		1-1-0-B	CLEVELAND OH.	
ACTIVMETALCRETE DIAMITE EPOXY	942	POLYETHYLENE POLYAMINE	METALCRETE MFG CO	9999
		POLYETHYLENE FATTY ACID	CLEVELAND.OH	
ADHESIVE ARMSTRONG -A-2-	1292	EPOXY RESIN -PROP.-	ARMSTRONG PRODUCTS CO.	0585
			WARSAW.IN. 46580	
ADHESIVE BLACK MAX	1277	85% ETHYL CYANOACRYLATE	LOCTITE CORPORATION	1185
		12% ETHYLENE CO POLY RUBBER	NEWINGTON. CT 06111	
ADHESIVE COMPOUND MIL-A 82484	547	ADHESIVE COMPOUND MIL-A 82484	RANDOLPH PRODUCTS	0588
		TYPE I	CARLSTADT. NJ 07072	
ADHESIVE SCOTCH GRIP 847	1241	64% ACETONE. 36% MIXTURE	3M	1185
		RUBBER/GASKET ADHESIVE	ST. PAUL. MN 55144	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ADHESIVE STICKFAST	1093		DINGRAPH BRADLEY CORP. HERRIN. IL 62948	0282
ADHESIVE/SEALANT 242.ANAEROBIC	183A	N/A	LOCTITE CORP NEWINGTON CT	1185
ADHESIVE/SEALANT 262	231A	MIXTURE 0-2-0-B SARA	LOCTITE NEWINGTON CT	1185
ADHESIVE/SEALANT 290.ANAEROBIC	285A	MIXTURE 0-2-0-BSARA TOXIC	LOCTITE CORP NEWINGTON KY	1185
ADHESIVE/SEALANTLOCTITE 290	285	4% HYDROPEROXIDE.-1% DIALKYL- TOLUIDINES. 95% OTHERS	LOCTITE CORPORATION NEWINGTON. CT 06111	0982
ADHESIVE. CREST 3135-A	2478	BISPHENOLA/ EPIHYDROCHLORIN 1-1-0-C	CREST PRODUCTS SANTA ANA CA	0789
ADHESIVE. MBOND-200	812		M-LINE ACCESSORIES	9999
ADHESIVE. N-6065	320B	SYNTHETIC RESIN 1-0-0-A OR B	H.B. FULLER VADNAIS HEIGHTS. MN	1288
ADHESIVE. N6505	320	VINYL ACETATE MONOMER -0.5% FORMALDEHYDE 0.4%	H.B.FULLER ST LOUIS MO	0484
ADHESIVE. PLIOBOND PB20-30	311	80% METHYL ETHYL KETONE NITRILE RUBBER RESIN SOLUTION	GOODYEAR COMPANY ST. MARY. OH	0781
ADHESIVE. PLIOGRIP AX370922	619		GOODYEAR COMPANY ST. MARY. OH	9999
ADHESIVE. SCOTCH GRIP EC801	620	3% PET.BASE SOLVENT.97%POLY- SULFIDE.RUBBER.RESINS.& FILLER	3M ST. PAUL. MN 55144	0781

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ADHESIVE. SPRAY 77	296	34% HEXANE- 11% CYCLOHEXANE-	3M	0483
		55% OTHERS	ST. PAUL. MN 55144	
ADHESIVE.CELLULOSE NITRATE	581		KEMPEN PAINT CO	
			EAST CARONDOLET IL	
ADHESIVE.COMPOUND -V-7861-	104E	30% NITROCELLULOSE.30% ALCOHOL	RANDOLPH PRODUCTS	1084
		-20% ACETATE.30% KETONES	CARLSTADT. NJ 07072	
ADHESIVE.FORMICA 100	354	86% TRICHLOROETHANE	FORMICA CORP.	0183
			WAYNE NJ	
ADHESIVE.GENERAL TRIM 88080	290	50% METHYLENE CHLORIDE	3M	1681
		40% PROPANE	ST. PAUL. MN 55144	
ADHESIVE.LACQUER.	547A	MIL 82484	RANDOLPH PRODUCTS	0986
		2-4-0-H	CARLSTADT NJ	
ADHESIVE.RED CELLULOSE NITRATE	321		GEO WOODSTOCK & CO	
ADHISIVEPLIOGRIP 6025	618	-60%METHANOL.-30%TOLUENE.-30%	ASHLAND CHEMICAL	0884
		ISOPROPANOL.-30%RESIN +OTHERSN	COLUMBUS. OH 43216	
ADIPIC ACID	478	ADIPIC ACID	ALDRICH CHEMICAL CO	0484
			MILWAUKEE. WI 53201	12404
ADIPONITRILE	621	ADIPONITRILE	EASTMAN KODAK	0773
			ROCHESTER. NY 14650	11169
ADIPRENE L-100	249A	POLYETHER.TOLUENE DIISOCYANATE	UNIROYAL CHEMICAL	1085
		2-1-0-B	MIDDLEBURY CT	
ADIPRENE. L100	249	POLYURETHANE. REACTION PROD.	UNIROYAL CHEMICAL CO	1183
		OF POLYETHER & TDI	MIDDLEBURY. CT 06749	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
AEROSOL OT SOLUTION	613A	AEROSOL OT SOLUTION	FISHER SCIENTIFIC	0389
		3-0-0-G	FAIR LAWN NJ	
AERSOL OT SOLUTION	613	GLYCOL ETHER	FISHER SCIENTIFIC	0983
			FAIR LAWN, NJ 07410	
AGEFLEX AGE	303A	ALLY GLYCIDYL ETHER	CPS CHEMICAL CO	1088
		1-2-1F	OLD BRIDGE, NJ 08857	106923
	303	ALLYL GLYCIDYLETHER	CPS CHEMICAL CO	9999
			OLD BRIDGE NJ	
AGERITE WHITE	930	95% DI-B-NAPHTHL-P-PHENYLENE	VANDERBILT	0284
		DIAMINE	NORWALK, CT	
AGERITE WHITE,RODFORM,WHITE	930A	ORGANIC SECONDARY AMINE	RT VANDERBILT	0789
		1-0-1-E	NORWALK CT	
AIR, COMPRESSED	448	AIR	AIRCO INC	9999
			MURRAY HILL, NJ	
ALCOHOL	1494	ALCOHOL	ALDRICH CHEMICAL CO	1287
		DENATURED	MILWAUKEE, WI 53201	64175
	3510	ETHYL ALCHOL		
ALCOHOL ANHYDROUS ISOPROPYL	1555	ALCOHOL ANHYDROUS ISOPROPYL	G.S. ROBINS CO.	9999
		2-4-0-G	ST.LOUIS MO.	67639
ALCOHOL ETHYL HPLC GRADE	1565	ALCOHOL ETHYL	ALDRICH CHEM CO.	0588
		4-4-0-J	MILWAKEE WI.	64175
ALCOHOL METHYL	1493A	ALCOHOL METHYL	ALDRICH CHEM CO.	1088
		4-4-1-H	MILWAUKEE WI.	67561

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ALCOHOL METHYL	425	METHYL ALCOHOL	J T BAKER CHEMICAL CO	1085
			PHILIPSBURG, NJ 08865	6756
ALIQUAT 336	686	METHYL TRICAPRYL AMMONIUM	HENKEL	0481
		CHLORIDE	MINNEAPOLIS MN	
ALPHA MICROPOLISH #40-6352	1136	20% ALUMINUM OXIDE..5D1150PROP	BUEHLER LTD.	0186
		ANOLAMINE .5 CARBOXY POLY.	LAKE BLUFF, IL 60044	
ALPHA MICROPOLISH #40-6354	1137	20% ALUMINUM OXIDE..5D1150 PRO	BUEHLER LTD.	1285
		PANOAMINE. .5 CARBOXY POLY.	LAKE BLUFF, IL 60044	
ALPHA-53-2	798		AMERICAN PETROLATUM	
ALUM	833	ALUMINUM SULFATE	ALLIED CHEMICAL	0682
			MORRISTOWN, NJ 07960	10043013
ALUMINA-BROWN-	1417	ALUMINUM OXIDE	SINCLAIR ABRASIVES&EQUIP.	1185
			MORTON GROVE,IL. 60053	
ALUMINAS, ACTIVATED	1318A	ALUMINUM OXIDE	INDUSTREX DIV	0589
		0-0-0-E SARA	BAUXITE AR	
ALUMINUM ALLOY	1389	ALUMINUM & 11 OTHERS	JOSEPH T. RYERSON-INLAND-	1185
			CHICAGO, IL 60608	
ALUMINUM ALLOYS 1XXX THRU 7XXX	1392	ALUMINUM PLUS 11 OTHERS	A.M. CASTLE & CO.	1185
		MSDS CHEMICAL LISTING	FRANKLIN PARK, IL 60131	
ALUMINUM CASTINGS	1372	ALUMINUM PLUS 18 OTHERS	WOODLAND FOUNDRY,INC.	0985
			WOODLAND, WI 53099	
ALUMINUM NITRIDE	654	ALUMINUM NITRIDE	CERAC INC.	9999
			MILWAUKEE, WI	24304005

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ALUMINUM OXIDE, BROWN	1411A	ALUMINUM OXIDE	WASHINGTON MILLS	0289
		0-0-0-E SARA	NIAGRA FALLS, NY	134428
ALUMINUM PASTE	1123	60% ALUMINUM FLAKE,35% MINERAL	ALCAN	1185
		SPIRITS, -5% STEARIC ACID	UNION,N.J. 07083	
ALUMINUM POWDER	154	ALUMINUM	REYNOLDS ALUMINUM	0184
			SHAWNEE MISSION KA	7429905
	601	ALUMINUN	FISHER SCIENTIFIC	0180
			FAIR LAWN, NJ 07410	7429905
	1006A	ALUMINUM POWDER	ALCAN TOYO AMERICAN INC.	0588
		1-1-0-G	JOLIET IL.	7429905
ALUMINUM PWDR ALCAN101	1006	ALUMINUM	ALCAN ALUMINUM CORP	9999
			ELIZABETH,NJ	7429905
ALUMINUM, ATOMIZED	1355	ALUMINUM POWDER -ALL GRADES-	ATOMIZED METAL POWDERS	0784
			FLEMINGTON, NJ. 08822	7429905
ALUMINUM, METALLIC, POWDER	601A	ALUMINUM POWDER	FISHER SCIENTIFIC	0789
		0-3-0-E	FAIR LAWN NJ	7429905
AMINOGUANIDINE BICARBONATE	429	AMINOGUANIDINE BICARBONATE	FISHER SCIENTIFIC	
			FAIR LAWN, NJ 07410	2582305
AMMONIA PLUS SOLUTION	1225	AMMONIUM HYDROXIDE SOLUTION	OZALID CORPORATION	0780
		25% AMMONIA	BINGHAMTON,NY 13902	9900008
AMMONIUM CARBONATE	384	CARBONIC ACID,AMMONIUM SALT	FISHER SCIENTIFIC	1187
			FAIR LAWN, NJ 07410	5068764
AMMONIUM CHLORIDE	1025	AMMONIUM CHLORIDE	MALLINCKRODT CHEMICALS	0785
			ST. LOUIS, MO 63147	12125029

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
AMMONIUM CHLORIDE	1156	AMMONIUM CHLORIDE	REND LAKE CHEMICAL-DUPONT	1085
			MT. VERNON. ILL	121250
	141	AMMONIUM CHLORIDE	J T BAKER CHEMICAL CO	1186
			PHILLIPSBURG. NJ 08865	121250
	141A	AMMONIUM CHLORIDE	J.T. BAKER	0589
			PHILLIPSBURG. NJ	121250
	1025A	AMMONIUM MURIATE	MALLINCKRODT	0489
	1-0-0-E SARA		PARIS KY	121250
AMMONIUM HYDROXIDE	838	AMMONIUM HYDROXIDE	ALLIED CHEMICAL	0481
			MORRISTOWN. NJ 07960	133621
	838A	AMMONIUM HYDROXIDE	GENERAL CHEMICAL	1086
	2-0-0-C SARA TOXIC		PARSIPPANY NJ	133621
	934	AMMONIUM HYDROXIDE	MALLINCKRODT CHEMICALS	0280
			PARIS. KY 40361	
	934A	AMMONIUM HYDROXIDE	MALLINCKRODT	0489
	2-0-0-C SARA		PARIS KY	133621
AMMONIUM METAVANADATE	1177	AMMONIUM METAVANADATE	KERR-MCGEE CHEMICAL CORP.	0785
			OKLAHOMA CITY. OKLA.73125	708355
	1177A	AMMONIUM METAVANADATE	KERR MCGEE	0189
	2-0-0-E		OKLAHOMA CITY OK	780355
AMMONIUM NITRATE	1007A	AMMO-NITE PRILLS	AIR PRODUCTS	0887
	2-3-0-S		ALLENTOWN PA.	
	1007	AMMONIUM NITRATE	AIR PRODUCTS	0682
			ALLENTOWN. PA 18105	648452

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
AMMONIUM NITRATE	223	APACHE-PRILLS- APACHE GRAINED	APACHE POWDER COMPANY	1187
			BENSON. AZ 85602	6484522
AMMONIUM NITRATE COATED	120	AMMONIUM NITRATE	USS AGRI-CHEMICALS	0580
			ATLANTA GA	6484522
AMMONIUM NITRATE FERTILIZER.E2	1109	AMMONIUM NITRATE	EL DORADO CHEMICAL CO.	1182
		WITH ADDITIVE	ST. LOUIS. MO.	6484522
AMMONIUM NITRATE PRILLED	223-A	- 98% AMMONIUM NITRATE	HERCULES INC	0980
		- 1% TALC-NONASBESTIFORM-	WILMINGTON. DE 19899	6484522
AMMONIUM NITRATE/NICKEL OXIDE	308	AMMONIUM NITRATE.NICKEL OXIDE	HERCULES INC	0786
		PHASE STABILIZED -PSAN-	WILMINGTON. DE 19894	
AMMONIUM NITRATE. GRAINED	348	AMMONIUM NITRATE	IRECO INCORPORATED	
			SALT LAKE CITY.UTAH 84114	
	348A	AMMONIUM NITRATE	IRECO	0488
		0-1-1-E	SALT LAKE CITY. UT	
AMMONIUM OXALATE	1161A	AMMONIUM OXALATE	GENERAL CHEMICAL	1184
		1-0-0-E SARA	MORRISTOWN NJ	6009703
	786A	AMMONIUM OXALATE	HUMMEL CHEM CO.	0686
		1-0-0-E	SOUTH PLAINFIELD NJ.	6009703
	786	ETHANEDIOIC ACID.DIAMMONIUM	HUMMEL CHEMICAL	9999
		SALT	S.PLAINFIELD. NJ 07080	1113388
AMMONIUM OXALATE.GRANULAR	1161	AMMONIUM OXALATE	ALLIED CHEMICAL	0182
			MORRISTOWN. NJ 07960	6009703
AMMONIUM OXALATE.MONOHYDRATE	274	AMMONIUM OXALATE.MONOHYDRATE	HELCO DIV.WHITTAKER CORP.	0985
			DELAWARE WATERGAP.PA18327	6009703

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
AMMONIUM PERCHLORATE	1319	AMMONIUM PERCHLORATE	ALDRICH CHEMICAL CO	0486
			MILWAUKEE, WI 53201	7790989
	1319A	AMMONIUM PERCHLORATE	ALDRICH	0789
		1-0-4-G	MILWAUKEE WI	7790989
	150	AMMONIUM PERCHLORATE	KERR-MCGEE CHEMICAL CORP.	0685
			OKLAHOMA CITY, OKLA.73125	7790989
	150A	AMMONIUM PERCHLORATE	KERR-MCGEE	0685
		1-0-4-G	OKLAHOMA CITY, OK	7790989
AMMONIUM PEROXYDISULFAT	385	AMMONIUM PERSULFATE	FISHER SCIENTIFIC	1187
			FAIR LAWN, NJ 07410	7727540
AMMONIUM PERSULFATE	385A	AMMONNIUM PEROXYDISULFATE	FISHER SCIENTIFIC	1288
		1-0-1-E	FAIR LAWN NJ	7727540
AMMONIUM SULFATE	1088	AMMONIUM SULFATE	MALLINCKRODT CHEMICALS	0880
			PARIS, KY 40361	7783202
	1088A	AMMONIUM SULFATE	MALLINCKRODT	0289
		2-0-0-E SARA	PARIS KY	7783202
	666	AMMONIUM SULFATE	FISHER SCIENTIFIC	0480
			ST. LOUIS, MO	7783202
	666A	AMMONIUM SULFATE	FISHER SCIENTIFIC	0489
		2-0-0-E	FAIR LAWN NJ	7783202
AMMONIUM HYDROXIDE	541	AMMONIUM HYDROXIDE	FISHER SCIENTIFIC	1187
		INORGANIC BASE	FAIR LAWN, NJ 07410	1336216
AMOCO ERLX-1959 EPOXY T650/42	393	GRAPHITE FIBER/EPOXY PREPREG	AMOCO PERFORMANCE PRODUCT	1287
		TAPE	CHICAGO, IL 60601	7440440

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
AMOCO SG 89-1 PREPREG TAPE	394	GRAPHITE FIBER/EPOXY PREPREG TAPE	AMOCO PERFORMANCE PRODUCT CHICAGO.IL 60601	0487 7440440
AMONIUM NITRATE	223-B	APACHE PAN-PRILLS-.APACHE GAN -GRAINED-	APACHE POWDER COMPANY BENSON. AZ 85602	1187 6484522
AMOVIS LUBRICANT 88-X	353A	PARAFFINIC PETROLEUM OIL 0-1-0-B	AMOCO OIL CO CHICAGO. IL 60601	0889 6474201
ANHYDRIDE	1486	ISOPRENE DISUCCINIC ANHYDRIDE	MILLIKEN CHEMICAL INMAN. SC	0287
ANHYDRONE	113I	MAGNESIUM PERCHLORATE	LECO CORP. ST. JOSEPH. MI 49085	9999 1346595
ANTI-SEIZE LUBRICANT 767-64	1460	MINERAL OIL.COPPER.GRAPHITE. ALUMINUM & SILICON DIOXIDE	LOCTITE CORPORATION NEWINGTON. CT 06111	1185
ANTIFOG LIQUID -SIGHT-SAVER-	266A	ISOPROPANOL 0-2-0-NONE	BAUSCH & LOMB -DOW CHEM- ROCHESTER NY	0687
ANTIOXIDANT 2246	743	PHENOL FAMILY	AMERICAN CYANAMID CO. WAYNE. NJ	0976
ANTIOXIDANT 2246 POWDER	743A	METHYLENEBIS 0-0-0-A	AMERICAN CYANAMID CO. WAYNE. NJ	0988
AQUA AMMONIA	1222	AMMONIUM HYDROXIDE WATER	G.S. ROBBINS & COMPANY ST. LOUIS.MO. 63102	
	1222A	AMMONIUM HYDROXIDE SOLUTION 2-0-0-G	GS ROBINS	0685 1336216
AQUA SAFE	1513		BVULIN CO. INC. INDINAPOLIS IN.	0887

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ATOMIZED POWDER	154A	ALUMINUM.SILICONE.IRON	REYNOLDS METALS CO	1188
		0-3-0-E	RICHMOND VA	7429905
B 653	127B	SOLVENT BLEND	ASHLAND CHEMICAL	0589
		2-2-0-F SARA	COLUMBUS. OH	
BALANCED ELECTROLYTE SOLUTION	848		MATHESON	
			JOLIET. IL	
BALL POWDER WC200-800-SOLIN	994	NITRO CELLUCOSE.NITROGLYCERINE	OLIN	0884
		ADDITIVES	STAMFORD. CT 06904	
BARBITURIC ACID	209	BARBITURIC ACID	EASTMAN KODAK	1176
			KINGSPORT. TN 37662	6752
	209A	BARBITURIC ACID	EASTMAN KODAK	0287
		0-0-0-B	ROCHESTER NY	6752
BARIUM CHLORIDE. DIHYDRATE	1422A	BARIUM CHLORIDE. DIHYDRATE	JT BAKER	0589
		2-0-0-G SARA	PHILLIPSBURG NJ	1032627
BARIUM CHLORIDE.DIHYDRATE	1422	BARIUM DICHLORIDE DIHYDRATE	J T BAKER CHEMICAL CO	1085
			PHILLIPSBURG. NJ 08865	1032627
BARIUM NITRATE	119	BARIUM NITRATE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE. OH	1002231
	119A	BARIUM NITRATE	BARIUM CHEM CO.	1288
		3-0-0-G	STEUBENVILLE OH.	1002231
BARIUM PEROXIDE	1038	BARIUM PEROXIDE	U.S.GOVERNMENT	0679
				1304296
	608	BARIUM PEROXIDE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE. OH	1304296

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
BARIUM PEROXIDE	608A	BARIUM PEROXIDE	BARIUM & CHEMICALS	0189
		3-0-1-B SARA TOXIC	STEUBENVILLE, OH	1304296
BECKMAN ELECTRODE FILLINGS SOL	841	30% POTASSIUM CHLORIDE	BECKMAN INSTRUMENTS	9999
		70% WATER	FULLERTON, CA	
BECKMAN KCL SOLUTION	842	POTASSIUM CHLORIDE 30%	BECKMAN INSTRUMENTS	9999
			FULLERTON, CA	7447407
BENZENE	514	BENZENE	FISHER SCIENTIFIC	0881
		PURCHASE ONLY ON SAF-2 FORM	FAIR LAWN, NJ 07410	71432
	514A	BENZENE	FISHER SCIENTIFIC	0189
		3-3-1-K	FAIR LAWN NJ	71432
BENZOIC ACID	530	BENZOIC ACID	ALDRICH CHEMICAL CO	0485
			MILWAUKEE, WI 53201	65850
BETAISOPROPYLNAPHTHALENE	653	BETAISOPROPYLNAPHTHALENE	AMERICAN CYANAMID CO.	0577
			WAYNE, NJ	2027170
BLACK LUCASV90 B N1	1435	70% 1,1,1-TRICHLOROETHANE	SHERWIN-WILLIAMS CO.	0984
			CLEVELAND, OH 44115	
BLACK POWDER	1416	POTASSIUM NITRATE CHARCOAL	GOEX, INC.-BELIN PLANT-	0385
		SULFUR	MOOSIC, PA 18507	
BLEACH NORYL RESIN	948	POLYARYL ETHER	GENERAL ELECTRIC	1185
		ORGANIC THERMOPLASTICS	SELKIRK, NY 12158	
BLEACH, NOVEL WASH	1472	SODIUM HYPOCHLORITE/WATER	NOVEL WASH-R&H SERVICES-	0686
			CARTERVILLE, IL. 62918	7681529
BOGENS LONGRANGE PH INDICATOR	892A	METHANOL	OLIN WATER SERVICES	0986
		1-0-0-G	OVERLAND PARK KS	67561

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
BOILER TREATMENTOLIN 1868	161	SODIUM SULFITE 20%	OLIN WATER SERVICES	1083
		INORGANIC SULFITES	OVERLAND PARK KS 66210	
BOILER TREATMENTOLIN1000	164	INORGANIC PHOSPHATE	OLIN WATER SERVICES	0782
			OVERLAND PARK KS 66210	
BOILER TREATMENT1010OLIN	165	SODIUM HYDROXIDE 35%	OLIN WATER SERVICES	1179
		STRONG ALKALI SOLUTION	OVERLAND PARK KS 66210	
BORIC ACID	298	BORACIC ACID	J T BAKER CHEMICAL CO	0186
			PHILLIPSBURG. NJ 08865	10043353
	298A	BORACIC ACID	J.T. BAKER	0589
		2-0-0-C.Y	PHILLIPSBURG NJ	10043353
BORON	1550	BORON	KERR-MCGEE	0885
		0-0-0-B	OKLA. CITY OK.	7440428
BORON SB ELEMENTAL	118	90-92% BORON	SB CHEMICALS LTD	0487
			FRANKLIN PARK.IL. 60131	7440428
BORON. AMORPHOUS	145-A	BORON	SHARPE CHEMICALS CO	
			BURBANK CA	7440428
	843	BORON	KERR-MCGEE CHEMICAL CORP.	0885
			OKLAHOMA CITY. OKLA.73125	7440428
BORON. SB ELEMENTAL	118A	BORON	SB CHEMICALS	0789
			FRANKLIN PARK. IL	7440428
BORON. TRONA ELEMENTAL	843A	BORON. AMORPHOUS	KERR-MCGEE	0885
		0-0-0-E SARA	OKLAHOMA CITY OK	7440428
BRASS	1426	COPPER ZINC TIN LEAD	A.M. CASTLE & CO.	0486
			FRANKLIN PARK. IL 60131	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
BRAYCOTE 236	295	PETROLATUM	BRAY OIL CO IRVINE CA	0879
BROMCRESOL GREEN INDICATOR	1005	90% ETHANOL 6% METHANOL	HACH-DWS- AMES,IOWA	1282
BROMOHEXANOIC ACID	486	BROMOHEXANOIC ACID	ALDRICH CHEMICAL CO MILWAUKEE, WI 53201	0484 4224700
BRONZE	1396	SILICON, LEADED & ALUMINUM BRONZE	A.M. CASTLE & CO. FRANKLIN PARK, IL 60131	1185
BROWN LACQUER -MIL-L-7178H-	251	16% NITROCELLULOSE,50%-ALCOHOL KETONES,ESTERS,& AROMATICS-	KEMPEN PAINT CO EAST CARONDOLET IL	0584
BRUNING REVOLUTE AMMONIA	979	29% AMMONIUM HYDROXIDE WATER-	AM BRUNING ITASCA,IL	9999
BUCKEYE SP40-A	1052	OIL-WATER EMULSION	BUCKEYE LUBRICANTS BEDFORD, OHIO	9999
BUEHLER SILICONE MOLD RELEASE	1145	3% SILICONE, 40% FREON, 57% METHYLENE CHLORIDE	BUEHLER LTD. LAKE BLUFF, IL 60044	1285
BULLET,F/CTG,CAL.50,TRACER M17	1042	ARTICLE	U.S.GOVERNMENT	0979
BUTANEDIOL	772A	BUTANEDIOL 2-2-0-8	GAF CHEMICALS WAYNE NJ	0288 110634
	772	MALEIC ACID	GAF CHEMICALS CORPORATION WAYNE,NJ 07470	0786 110634
BUTANOL	489	BUTANOL	ALDRICH CHEMICAL CO MILWAUKEE, WI 53201	0484 71363

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
BUTAREZCTLTYPESI.II.HTL.NONFUN	742A	POLYBUTADIENEDICARBOXYLICACID	PHILLIPS 66 CO	1288
		0-0-0-A	BARTLESVILLE. OK	68441510
BUTENDIOIC ACID--Z-	1346	MALEIC ACID	CHEMICAL DYNAMICS CORP.	0985
		HYDROXYL.ALIPHATIC	SO. PLAINFIELD. NJ 07080	11916
BUTVAR B76	423	POLYVINYL BUTYRAL/ACETATE/	MONSANTO	0483
		ALCOHOL	NEW YORK NY	6314865
BUTVAR B90	536	POLYVINYL BUTYRAL/ACETATE/	MONSANTO	0483
		ALCOHOL	SPRINGFIELD MA	6314865
BUTYL ACETATE	725	BUTYL ACETATE	UNION CARBIDE CORP	0581
			CHICAGO. IL	12386
BUTYL EIGHT	499A	A DITHIOCARBAMATE IN PROPYL CE	RT VANDERBILT CO. INC.	0589
		3-4-3-6	NORWALK. CT 06855	280730
BUTYL TITANATE	816	BUTYL TITANATE	KAY-FRIES INC.	0878
			ROCKLEIGH. NJ	559370
BUTYL 8 ACCELERATOR	499	ACT.DITHIO CARBAMATE PRODUCT	VANDERBILT	0283
		SOLVENT	NORWALK. CT	
CAB-O-SIL. COLLOIDAL SILICA	1008	SILICON DIOXIDE AMORPHOUS	CABOT CORP	0185
			TUSCOLA.IL 61953	7631869
CADMIUM PLATING	1361	CADIUM	MUSICK PLATING INC.	0486
			EAST ST. LOUIS. IL 62207	
CALCIUM CARBONATE	1170	CALCIUM CARBONATE	E M SCIENCE	1285
			CHERRY HILL. NJ 08034	47134
	1170A	CALCIUM CARBONATE	EM SCIENCE	0788
		0-0-0-A	GIBBSTOWN NJ	47134

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CALCIUM RESINATE	104S	CALCIUM RESINATE	U.S.GOVERNMENT	0877
	107A	CALCIUM RESINATE	BARIUM & CHEMICALS	0789
		O-O-1-A OR E	STUEBENVILLE. OH	9007130
CALCIUM RESINATE FUSED	108	56% CALCIUM RESINATE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE. OH	
CALCIUM RESINATE PPTD	125	76% CALCIUM RESINATE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE. OH	
CALCIUM STEARATE	102	CALCIUM STEARATE	WITCO CHEMICAL CO.	1186
			HOUSTON TX 77045	1592230
	102A	CALCIUM STEARATE	WITCO ORGANICS	1088
		O-O-O-A.	HOUSTON TX.	1592300
	124	CALCIUM STEARATE	BARIUM AND CHEMICALS INC	9999
			STEUBENVILLE. OH	1592230
CALICUM CARBONATE	1553	CALICUM CARBONATE	GLASTIC CO.	0886
		1-O-O-B	CLEAVLAND OHIO	
CAMIE A1000 DRY CHEMICAL	368A	TRICHLOROETHANE. ETC.	CAMIE-CAMPBELL. INC.	0988
		2-4-3-B SARA TOXIC	ST. LOUIS. MO.	
CAMIE 666 MOLD RELEASE	343	SILICONE	CAMIE-CAMPBELL	9999
			ST. LOUIS. MO	
CAMIE 666 SILICONE LUBRICANT	343A		CAMIE-CAMPBELL. INC.	0988
		3-2-O-E/Y SARA TOXIC	ST. LOUIS. MO	
CAMPHENE	1329	CAMPHENE	ALDRICH CHEMICAL CO	0886
			MILWAUKEE. WI 53201	5794047

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
CAMPHOR	1330	CAMPHOR	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	464499
CAN MIX NO.4 GAS STD	392	BUTENE 19PPM	ALLTECH ASSOCIATES	
			DEERFIELD IL	2516767
CAPTAX ACCELERATOR	496	MERCAPTOBENZOTHIAZOLE	VANDERBILT	1082
			NORWALK, CT	149304
CAPTAX/MBT	494A	2-MERCAPTOBENZOTHIAZOLE	R.T. VANDERBILT	0687
		1-0-0-8	NORWALK CT	149304
CARBIDE TIPPED/CUTTING TOOLS	1186	CR/CO/W/TA CARBIDES	PETERSON TOOL CO. INC.	0186
			NASHVILLE, TN 37210	
CARBIMET #30-5108/5178	1140	SILICON CARBIDE	BUEHLER LTD.	0186
			LAKE BLUFF, IL 60044	
CARBOHYDRAZIDE	707	1,3 DIAMINOUREA	OLIN	0481
			STAMFORD, CT 06904	497187
	711	1,3 DIAMINOUREA	OLIN	0481
			STAMFORD, CT 06904	497187
CARBON BLACK	780	CARBON	THERMAX	9999
				133386
	1351	CARBON BLACK	DEGUSSA CORP-WALSH&ASSOC-	0186
		CARBON	TETERBORO, NJ 07608	133386
CARBON BLACK -BLACK PEARLS-	1464	CARBON	CABOT CORPORATION	1085
		AMORPHOUS BLACK SOLID	BOSTON MA 02110	133386
CARBON BLACK -S-160-	1080	CARBON BLACK	DEGUSSA CORPORATION	9999
			TETERBORO, NJ 07608	133386

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CARBON BLACK -THERMAX-	1056	CARBON BLACK	R.T.VANDERBILT	0675
			NORWALK CT.	
CARBON BLACK -THERMAXFLO-	1057	CARBON BLACK	R.T.VANDERBILT	0683
			NORWALK CT.	1333864
CARBON BLACK N-110	758	CARBON	ASHLAND CHEMICAL	0784
			ST. LOUIS. MO	1333864
	758A	CARBON	ASHLAND CHEMICAL CO	0989
		1-1-0-E	COLUMBUS. OH 43216	1333864
CARBON BLACK RAVEN 1035 DENS.	205	CARBON	COLUMBIAN CHEMICALS CO	0280
			TULSA OK	1333864
CARBON BLACK-RAVEN 22-	926	CARBON	COLUMBIAN CHEMICALS CO	0280
			TULSA OK	
CARBON BLACK. PRINTEX 140-U	1084	CARBON BLACK	DEGUSSA CORPORATION	0572
			TETERBORO. NJ 07608	
CARBON EPOXY PREPREGS	534A	CARBON EPOXY PRERPREGS	HERCULES INC	0487
		2-2-1-B	WILIMINGTON DE	
CARBON FIBERS	1567	FORTAFIL 3-C- 50 K OTT	FORTAFIL FIBERS	0589
		1-0-0-B	ASHVILLE N/C.	7782425
CARBONANYLMETHYLETHYL SULFIDE	675	CARBONANYLMETHYLETHYL SULFIDE	R.B.STEEL	9999
CARBONIC ACID	384A	AMMONIUM CARBONATE	FISHER SCIENTIFIC	0789.
		1-0-0-E SARA TOXIC	FAIR LAWN NJK	506876
CARBOWAX 20M 10%	415		ALLTECH ASSOCIATES	
			DEERFIELD IL	25322688

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CARBOXYLAMINE RESIN TERMINATED	803		HYCAR-B.F.GOODRICH CO.	
			CLEVELAND. OH	
CASTOLIT HARDENER20	1147	50% METHYLETHYL KETONE PEROXID	BUEHLER LTD.	1285
		50% DMP	LAKE BLUFF. IL 60044	
CATA-CHEK 828	655A	DIBUTYL TIN DILAURATE	BEDFORD CHEM/FERRO CORP	0189
		1-1-0-G	WALTON HILLS. OH	77581
CATACHEK 820	655	DIBUTYLTIN DILAURATE	FERRO CHEM.DIV.	0182
		19% TIN	JACKSON. MI	77581
CATALYST M-BOND 200	1523	TRIXCORDETHANE 1-1-1	MEASUREMENTS GROUP INC.	1286
			RALIEGH. NC 27611	71556
CATALYST 15	571	POLYAMIDE	EMERSON AND CUMMINGS	0981
		1% PIGMENT	CANTON. MA	
CATALYST 15 BLACK	571A	POLYAMIDE BLEND	EMERSON & CUMING. INC.	0189
		1-1-0-B	WOBURN. MA 01888	
CATALYST. FASCAT 4200	554	DIBUTYLTIN DIACETATE -98%	M&T CHEMICALS INC.	
			RAHWAY. NJ 07065	106733
CATALYST. FASCAT 4202	555	DIBUTYLTIN DILAURATE-95%	M&T CHEMICALS INC.	0887
			RAHWAY. NJ 07065	77581
CAUSTIC SODA -ASCARITE-	1128	SODIUM HYDROXIDE/CLAY	LECO CORP.	9999
			ST. JOSEPH. MI 49085	
CAUSTIC SODA. LIQUID	1429	SODIUM HYDROXIDE	MCKESSON CHEMICAL CO.	1086
			SAN FRANCISCO. CA 94104	1310732
CEEBEE SILICONE REMV C-105 HF	339A	PETRO. SOLVENT/METHY. CHLORIDE	MC GEAN ROHCO. INC	0889
		2-2-0-G	DOWNEY. CO 90241	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CELCON C401 PELLETS	775	ACETAL COPOLYMER	CELANESE ENG. RESINS	0983
			CHATHAM.NJ	
CELLULOSE ACETATE	224	CELLULOSE ACETATE	EASTMAN KODAK	0185
			KINGSPORT. TN 37662	9004357
CELLULOSE ACETATE ESTERS	224A	CELLULOSE ACETATE	EASTMAN KODAK	0185
		0-0-0-A	KINGSPORT TN	9004357
CEMENT ABS	574	75% METHYL ETHYL KETONE	BLACK SWAN CO.	9999
		25% RESINS & ADDITIVES	CHICAGO IL	
CEMENT GRIP LIQUID	971	99%METHYLMETHACRYLATE.-.1%HYDRO	RANSOM & RANDOLPH	1185
		QUINONE.1%DIMETHYL-8-TOLUIDINE	MAUMEE.OH 43537	
CEMENT GRIP POWDER	1167	POLYMETHYLMETHACRYLATE	RANSOM & RANDOLPH	1185
		5% BENZOYL PEROXIDE	MAUMEE.OH 43537	
CEMENT. GRIP-LIQUID	561	99% METHYL METHACRYLATE	L.D.CAULK CO.	9999
		1% DIMETHYL-P-TOLUIDINE	MILFORD.DE	
CEMENT. GRIP-POWDER	561A	METHYL METHACRYLATE	L.D.CAULK CO.	9999
			MILFORD.DE	
CEMENT. PIPE WELD ON	575		IPS	
CEMENTED CARBIDE/COBALT BINDER	1180	CHROMIUM. W. TA CARBIDES	BRONSON & BRATTON INC.	1285
			HINSDALE. IL. 60521	
CERIC AMMONIUM NITRATE	629	CERIC AMMONIUM NITRATE	FISHER SCIENTIFIC	1283
			FAIR LAWN. NJ 07410	1677421
	629A	CERIC AMMONIUM NITRATE	FISHER SCIENTIFIC	0789
		1-0-0-E	FAIR LAWN NJ	1677421

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
CHALK -RED-	133	CALCIUM CARBONATE	4	47134
CHARCOAL	903A	CHARCOAL LUMP	IMPERIAL PROD CORP	0688
		1-2-0-B	ST. LOUIS MO.	
CHARCOAL. LUMP	903	CHARCOAL	IMPERIAL PRODUCTS CORP.	9999
			ST. LOUIS. MO. 63146	16291966
CHEMLOK 252	765A	POLYURETHANE ELASTOMER ADHESIV	LORD CHEMICALS DIV	0389
		2-1-B-G SARA		
	765	50%TRICHLOROETHANE.35% TOL-	LORD CHEM CO.	0283
		UENE.MONOCHLORTOLUENE.PERCLENE	ERIE.PA 16512	
CHINESE BLUE A1835 CP	793	C.I. PIGMENT BLUE 27	CIBA-GEIGY	0681
		C.I. NO. 77510	HAWTHORNE. NY 10532	
CHLORIDE 2 INDICATOR	177A	POTASSIUM CHROMATE.SODIUM BICA	HACH	0788
			AMES IA	
CHLORO-6-HYDROXYHEXANE	479	CHLORO-6-HYDROXYHEXANE	ALDRICH CHEMICAL CO	0485
			MILWAUKEE. WI 53201	2009838
CHLORO. DINITROBENZE	1418	DINITRO CHLORO BENZENE	FISHER SCIENTIFIC	0986
			FAIR LAWN. NJ 07410	97007
CHLOROBENZENE	625	CHLOROBENZENE	FISHER SCIENTIFIC	0780
			FAIR LAWN. NJ 07410	10890
	625A	CHLOROBENZENE	FISHER SCIENTIFIC	0789.
		2-3-0-G	FAIR LAWN NJ	10890
CHLOROBUTANOL	1071	CHLOROBUTANOL	COLUMBIA ORG. CHEM.	9999
			COLUMBIA SC	6001645

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CHLOROFORM	427C	CHLOROFORM	FISHER SCIENTIFIC	1283
			FAIR LAWN, NJ 07410	6766
	427A	CHLOROFORM	FISHER SCIENTIFIC	0789
		3-0-0-G	FAIR LAWN NJ	67663
CHLOROOCTANE	486	CHLOROOCTANE	ALDRICH CHEMICAL CO	0485
			MILWAUKEE, WI 53201	111853
CHLOROTHENE	277A	SM SOLVENT	DOW CHEMICAL	0589
		2-2-1-B/Y SARA	MIDLAND MI	71556
CHLOROTHENE SM	1875	95.5% 1.1.1-TRICHLOROETHANE	MEASUREMENTS GROUP INC.	1084
			RALIEGH, NC 27611	71556
CHLOROTHENE VG	277	96.4% TRICHLOROETHANE	DOW CHEMICAL	0583
			MIDLAND, MI 48674	71556
CHROME PLATING	1358	CHROMIUM	MUSICK PLATING INC.	0486
			EAST ST. LOUIS, IL 62207	
CHROMERGE -R-	524A	CHROMIC ACID	MANOSTAT CORP	0186
		3-0-2-F	NEW YORK, NY	1333820
CHROMIC ACID	627	CHROMIUM TRIOXIDE	MALLINCKRODT CHEMICALS	0880
			ST. LOUIS, MO 63147	1111574
CHROMIUM OCTOATE	789	CHROMIUM OCTOATE	SHEPHERD CHEMICAL CO.	0783
			CINCINNATI, OH	20195237
CHROMIUM OCTOATE LIQUID, 5.5%	789A	CHROM.2-ETHYLHEXOATE MIXTURE	THE SHEPERD CHEMICAL CO	0989
		2-2-0-ESARA TOXIC	CINCINNATI, OH 45212	
CHROMIUM OXIDE	785	CHROMIUM OXIDE	PFIZER CHEMICAL DIV.	0180
			NEW YORK, NY 10017	1308389

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
CHROMIUM OXIDE	785A	CHROMIUM OXIDE	PFIZER PIGMENTS	[illegible]
		1-0-0-E	NEW YORK NY	1308389
CHROMIUM TRIOXIDE	602	CHROMIUM TRIOXIDE	FISHER SCIENTIFIC	1283
			FAIR LAWN, NJ 07410	1333820
	602A	CHROMIUM TRIOXIDE	FISHER SCIENTIFIC	[illegible]
		3-0-3-E	FAIR LAWN NJ	1333820
	627A	CHROMIUM TRIOXIDE	MALLINCKRODT	0685
		3-0-3-E SARA TOXIC	PARIS KY	11115740
CHROMOSORB 102	412		WATERS ASSOC/SUPELCO INC	
			MILFORD MA / BELLEFONTE P	
CHROMOSORB 104	413		WATERS ASSOC/SUPELCO INC	
			MILFORD MA / BELLEFONTE P	
CIBA TONING BLUE X712 CP	795	C.I. PIGMENT BLUE 27	CIBA-GEIGY	0880
		C.I. NO. 77510	HAWTHORNE, NY 10532	
CIMCOOL 250 COOLANT	1106	PROPRIETARY	MILACRON MARKETING CO.	9999
		N/A	CINCINNATI,OH 45209	
CIRCO LIGHT RED OIL	744A	NAPHTHENIC DISTILLATE	SUN REFINING & MKTG	0885
		0-1-0-A	PHILADELPHIA PA	65742343
CITROFLEX 4	595	TRIBUTYL CITRATE	MORFLEX CHEM CO.	1283
			GREENSBORO, NC 27403	77949
CITROFLEX A-2	228A	ACETYLTRIETHYL CITRATE	MORFLEX CHEMICAL	0189
		0-0-0-A		77894
CITROFLEX A-4	594A	ACETYLTRI-N-BUTYL CITRATE	MORFLEX INC	0189
		1-2-0-B	GREENSBORO NC	77905

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
CITROFLEX A2	228	ACETYL TRIETHYL CITRATE	MORFLEX CHEM CO.	1185
			GREENSBORO. NC 27403	7789
CITROFLEX A4	594	ACETYL TRIBUTYL CITRATE	MORFLEX CHEM CO.	1283
			GREENSBORO. NC 27403	7790
CITROFLEX 2	275	TRIETHYL CITRATE	MORFLEX CHEM CO.	1283
			GREENSBORO. NC 27403	7793
CITROFLEXA-2	2288	ACETYLTRIETHYL CITRATE	MORFLEX INC	0189
		1-0-0-8	GREENSBORO NC	7789
CLEANER & THINNER 628	1298	GLYCOL ETHER & ALCOHOL MIXTURE	INDUSTRIAL MARKING EQUIP.	9999
		BLEND OF SOLVENTS	WEST PALM BEACH. FL 33407	
CLEANER/DEGREASER LEXITE	359		NATIONAL CHEMSEARCH	
CLEANER. BLUE LABEL	569	CLEANER. BLUE LABEL	BANITE INC.	
CLEANER. CHROMERGE	524	CHROMIC ACID SOLUTION	MANOSTAT	9999
			NEW YORK NY	
CLEANER. CYLINDER HEAD SPRAY	365	CLEANER. CYLINDER HEAD SPRAY 9	GAF CORP.	
			NEW YORK NY	
CLEANER. EASY CARE BOWL	1165	9.5% HYDROCHLORIC ACID.	SKASOL CORP.	9999
		DETERGENTS	WEBSTER GROVES.MO.63119	
CLEANER. ELECTROLYTE	259		LECTROETCH	9999
			EAST CLEVELAND. OH 44112	
CLEANER. GLASS M-60	1466	2-PROPANOL.2-BUTOXYETHANOL	HYSAN CORP.-R&H SERVICES-	1085
		PROPELLANT-C3-C4 ALKANE BLEND	CHICAGO. IL 60609	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
CLEANER. MARKEM #320	344	50% ISOPROPYL ALCOHOL 50% ETHYL ACETATE	MARKEM CORPORATION KEENE. NH 03431	0188
CLEANER. MEAN GEORGE	1066	ALKALINE CLEANER	LANDMARK CHEMICAL CO. MARION. IL 62959	9999
CLEANER. METONE	540	90% SILICON DIOXIDE	INDUSTRIAL SOAP CO. ST.LOUIS MO	9999
CLEANER. ONE PASS DISINFECTANT	538	CLEANER. ONE PASS DISINFECTANT	LANDMARK CHEMICAL CO. MARION. IL 62959	
CLEANER. ONE-PASS FOAMING DISI	538A	DISINFECTANT 0-0-0-A	LANDMARK CHEMICAL CO MARION. IL	0789
CLEANER. POWER STRIP	545	ALKALINE CLEANER MONOETHANOLAMINE-5%	LANDMARK CHEMICAL CO. MARION. IL 62959	
CLEANER. SIGHT-SAVER	266	10% ISOPROPYL ALCOHOL	DOW CORNING MIDLAND. MI 48686	0181
CLEANER.MARKEM #501	366	5% CRESOL-PHENOL-47.5% ALCOHOL + H2O-ORDER ONLY ON SAF-2 FORM	MARKEM CORPORATION KEENE. NH 03431	9999
CLEANING SOULTION 16-3400	1608	METHYL ETHYL KETONE 2-4-0-A-Y SARA TOXIC	VIDEO JET SYSTEMS ELK GROVE VILLAGE IL.	1085
CLOBBER DRAIN CLEANER	155	93% SULFURIC ACID	HERCULES CHEMICAL CO. NEW YORK. NY 10011	9999
CMD 8401	1544	AMINE MODIFIED AROMATIC	INTEREZ INC LOUISVILL KY	0787
COATING BLUE METALIC	1462	53% VMP NAPHTHA-4.5% TOLUOL- 6% MAGNESIUM SILICATE	W C RICHARDS CO. BLUE ISLAND. IL 60406	0587

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
COATING CONDUCTIVE	1529	ELECTRODAG 418	ACHESON COLLOIDS PORT HURON MI.	0119
COMPOSITION A-4 -RDX-	1074	97% CYCLOTRIMETHYLELETRINITRA- MINE -RDX- 0978	TROJAN DIV. IMC SPANISH FORK UT.	0978
COMPOSITION A4	1226	97% CYCLOTRIMETHYLENETRINITRA- MINE -RDX- 0978	EXPRO -VALLEYFIELD- VALLEYFIELD.QUE.CANADA	0978 121824
CONDUCTIVE COATING	1529A	CONDUCTIVE COATING 2-4-0-C	ACHESON COLLIDS CO. PORT HURON MI.	0688
CONDUTRED FLOOR COATING	589	C9-C11 PARAFFINS.CYCLOPARAFFIN & AROMATICS PLUS SOLVENTS	ROCK-TRED CORPORATION SKOKIE. IL 60076	1286
CONDUTRED-BLACK	580A	CG-C11 PARAFFINS.CYCLOPARAFFIN 2-3-0-B	ROCK-TRED CORP. SKOKIE. IL. 60076	0889
COPE POLYESTER RESIN/COPES 112	815	40% STYRENE 60% VEHICLE	COPE PLASTICS/KOPPERS GODFREY.IL	0671
COPPER BASE ALLOYS	1367A	COPPER BASE ALLOYS 2-0-0-E	BRONTEL/BEARING BRONZE CLEVELAND OH	0789
	1367	COPPER. CHROMIUM. LEAD	BEARING BRONZE CO. CLEVELAND. OH. 44105	1185
COPPER CHLORIDE	1603	COPPER CHLORIDE 3-0-3-G SARA TOXIC	ALDRICH CHEM CO. MILWAUKEE WI.	0689 7758894
COPPER CHROMITE CATALYST E-105	963	47% CHROMIUM TRIOXIDE. 47% COPPER OXIDE	MALLINCKRODT CHEMICALS ERIE. PA 16503	9999
COPPER PLATING	1360	COPPER	MUSICK PLATING INC. EAST ST. LOUIS. IL 62207	0486

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
COPPER-CR & HR	1424	COPPER - .1% LEAD	A.M. CASTLE METALS	0486
			FRANKLIN PARK, IL 60131	7440508
CORK ACID	549A	SUBERIC ACID	AMERICAN TOKYO KASEI,INC	0886
		2-1-0-C/Y	PORTLAND, OR 97203	505486
CREST 3135	247A	CREST 3135	CREST PROD INC.	0888
		1-1-0-B	SANTANA CA.	
CRYSTALITE CROSS-LINKED	910A	POLISHING COMPOUND	OXFORD CHEMICALS	0387
		1-0-0-A	ATLANTA GA	
CURATIVE, 3M HX868	807A	BENZENETRIYLTRICARBONYL	3M	0789
		1-2-0-B SARA	ST PAUL MN	772273
CYANOGUANIDINE	660	CYANOGUANIDINE	EASTMAN KODAK	1176
			ROCHESTER, NY 14650	461585
	660A	CYANOGUANIDINE	EASTMAN KODAK	0885
		0-0-0-A	ROCHESTER NY	461585
CYCLOHEXANE	511	CYCLOHEXANA	FISHER SCIENTIFIC	0985
			FAIR LAWN, NJ 07410	110827
	511A	CYCLOHEXANE	CHEMICAL DYNAMICS	0588
		3-1-0-G	PLAINFIELD NJ.	1314900
CYCLOHEXANE OMITCIS 1.2	5118	CIS 1-2 CYCLOHEXANEDICARBOLIC	CHEMICAL DYNAMICS CORP.	0588
			SO. PLAINFIELD, NJ 07080	1314900
C4508-8 6-CHLORO-1-HEXANOL,	479A		ALDRICH CHEMICAL CO.	0789
		3-2-1-G	MILWAUKEE, WI 53201	2009830
DALCO DES-107	374	66% FREON 113, 24.4% ALIPHATIC	DALCO INDUSTRIES,LTD	0586
		HYDROCARBON,9.6% ACETONE	SPRING VALLEY, NY 10977	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DALCO SOLVE DS-50	126A	SOLVENT DEGREASER	DALCO IND	0189
		2-2-1-B OR G. Y SARA TOXIC	SPRING VALLEY. NY	
DALIC CLEANING/DEOXIDIZING SOL	1448	SODIUM HYDROXIDE SOLUTION	SIFCO SELECTIVE PLATING	1185
		-PROP-	CLEVELAND. OH. 44131	
DALIC NICKEL PLATING SOL.	1447	CHELATED NICKEL SULFATE/NICKEL	SIFCO SELECTIVE PLATING	1185
		CARBONATE SOL -PROP-	CLEVELAND. OH. 44131	
DALIC NO. 1 ETCHING SOLUTION	1449	SULFURIC ACID -PROP-	SIFCO SELECTIVE PLATING	1185
			CLEVELAND. OH. 44131	
DBL BASE SMOKELESS POWDER	994A	BALL POWDER PROPELLANT	OLIN	0286
		2-3-4-B	STAMFORD CT	
DDI 1410 DIISOCYANATE	667	ALIPHATIC DIISOCYANATE	HENKEL CORPORATION	0188
			LA GRANGE.IL 60525	68239069
DECATUR GRINDING WHEELS	1362	NITRIDES	DECATUR CUSTOM TOOL.INC.	1185
			DECATUR.IL 62525 -NORTON-	
DEGREASER FTF 1 MILD	1524	CARBON DIOXIDE TRICHLOROTRIFFL	RAWN CO. INC.	1086
			SPOONER WI.	
DEGREASER. PD 632	186	90% PETRO. DISTILLATES. 3%	OLIN	0680
		BUTOXYETHANOL.-7% ETHANOLAMINE	STAMFORD. CT 06904	
DESMODUR N-100	955	ALIPHATIC ISOCYANATE	MOBAY CHEMICAL CORP.	0181
			PITTSBURGH. PA 15205	
DESMODUR BL 3175	116	BLOCKED POLYISOCYANATE	MOBAY CHEMICAL CORP.	0686
			PITTSBURGH. PA 15205	
DESMODUR H	139	1.6-HEXAMETHYLENE DIISOCYANATE	MOBAY CHEMICAL CORP.	0485
		HDI	PITTSBURGH. PA 15205	822060

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DESMODUR N-100	955B	ALIPHATIC POLYISOCYANATE	MOBAY/BAYER	0787
		2-1-0-C SARA	PITTSBURGH PA	
DESMODUR N100	955A	DESMODUER N-100	MOBAY CORP	0687
		2-0-1-C	PITT. PA.	28182812
DESMODUR W	137A	ALIPHATIC DIISOCYANATE	MOBAY/BAYER	0589
		1-1-0-G	PITTSBURGH PA	512430
	137	DICYCLOHEXYLMETHANE-4.4	MOBAY CHEMICAL CORP.	0986
		DIISOCYANATE	PITTSBURGH. PA 15205	512430
DETDA	1405	DIETHYLTOLUENEDIAMINE	ETHYL CORP.CHEMICAL GROUP	1285
			BATON ROUGE.LA 70801	6847998
DEV STARTERKODAK X-OMAT	830	10-15% ACETIC ACID	EASTMAN KODAK	1275
		WATER	ROCHESTER. NY 14650	
DEV/REP -A-KODAK RP X-OMAT	1194	25% SULFITE. 10% HYDROQUINONE.	EASTMAN KODAK	0185
		5% POTASSIUM HYDROXIDE	ROCHESTER. NY 14650	
DEVELOPER DEKOTOL	1492	SO.CA.SO.SU. HYD-P-MET.SU.SO.T	EASTMAN KODAK	0686
		SINGLE POWDER	ROCHESTER. NY 14650	
DEXIL 300 3%	414		ALLTECH ASSOCIATES	
			DEERFIELD IL	
DEXTER CURING AGENT L3.2 EA946	964	29% MDA.29% DIAMINOANISOLE.29%	DEXTER CORPORATION	0284
		PHENYLENEDIAMINE.16% DNP.	PITTSBURG. CA 94565	
DEXTER EPOXY RESIN EA 946-A-	983	97% EPOXY RESIN	DEXTER CORPORATION	0184
			PITTSBURG. CA 94565	
DIACETONE ALCOHOL	659	HYDROXYMETHYLPENTANON	EASTMAN KODAK	0780
			ROCHESTER. NY 14650	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DIACETONE ALCOHOL	659A	HYDROXYMETHYLPENTANONE	EASTMAN KODAK	1287
		2-2-0-G	ROCHESTER NY	
DIALLYL PHTHALATE	1149	45% DIALLYL PHTHALATE	BUEHLER LTD.	1285
		45% CASI OTHERS	LAKE BLUFF, IL 60044	
DIAMINO PROPANE 1.3	1540	PROPANEDIAMINE	BASF CORP	0888
			PARSIPPNY NJ.	109762
DIAMITE EPOXY FLOORING	941A	LIQUID EPOXY RESIN	METALCRETE	0788
		2-1-0-B/Y	CLEVELAND OH	
DIAMITE EPOXY FLOORING COLOR	942A	POLYETHYLENE POLYAMINE ADDUCT	METALCRETE	0788
		2-1-0-B/Y	CLEVELAND OH	
DIBUTYL PHTHALATE	301	PHTHALIC ACID, DIBUTYL ESTER	ALDRICH CHEMICAL CO	1287
			MILWAUKEE, WI 53201	84742
DIBUTYL TIN DILAURATE	656	DIBUTYL TIN DILAURATE	FERRO CHEM.DIV.	0285
			JACKSON, MI	7758
DIBUTYLAMINE	1328	DIBUTYLAMINE	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	111922
DIBUTYLIN DIACETATE	504A	DIBUTYLIN DIACETATE	EASTMAN KODAK	0986
		1-1-0-G	ROCHESTER NY	1067338
DIBUTYLTIN DIACETATE	504	DIBUTYLTIN DIACETATE	EASTMAN KODAK	0281
			ROCHESTER, NY 14650	1067338
DIESEL FUEL	1016	PET. DISTILLATE	SHELL OIL	1282
			HOUSTON, TX 77210	
DIETHYLENE GLYCOL	1560	DIETHYLENE GLYCOL	ALDRICH CHEM CO.	0588
		2-1-1-G	MILWAKEE WI.	111465

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DIETHYLENE GLYCOL	1566	DIETHYLENE GLYCOL	ALDRICH CHEM CO.	0788
		2-1-1-G	MILWAKEE WI.	111466
	1507	2-2-OXY--BIS--ETHNOL	OLIN	0188
			OCEAN. NY	[illegible]
DIHYDRAZINE SULFATE	708	DIHYDRAZINE SULFATE	OLIN	[illegible]
			STAMFORD. CT 06904	1346480
DIISOCYANATOHEXANE	814	DIISOCYANATOHEXANE	ALDRICH CHEMICAL CO	0484
			MILWAUKEE. WI 53201	822066
DIISOCYANATOHEXANE	814A	DIISOCYANATOHEXANE	ALDRICH CHEMICAL	0789
		2-1-2-H	MILWAUKEE WI	822066
DIISOPROPYLNAPHTHALENE	694	DIISOPROPYLNAPHTHALENE	MALLINCKRODT CHEMICALS	9999
			ST. LOUIS. MO 63147	38640629
DIMETHYL HEXYNEDIOL	461	DIMETHYL HEXYNEDIOL	AIR PRODUCTS	0583
			ALLENTOWN. PA 18105	142301
DIMETHYL PHTHALATE	300	PHTHALIC ACID. DIMETHYL ESTER	ALDRICH CHEMICAL CO	1287
			MILWAUKEE. WI 53201	13113
DIMETHYL SULFOXIDE	456	DIMETHYL SULFOXIDE	FISHER SCIENTIFIC	1081
			FAIRLAWN. NE	67685
	456A	DIMETHYL SULFOXIDE	FISHER SCIENTIFIC	0789
		2-1-0-G	FAIR LAWN NJ	67685
DIMETHYL-ETHYLENE-DIAMINE	493	DIMETHYL-ETHYLENE-DIAMINE	ALDRICH CHEMICAL CO	0485
		X	MILWAUKEE. WI 53201	108009
DIMETHYL-N-ETHYLETHYLENE DIA.	1340	N.N-DIMETHYL-N--ETHYL/ETHYL-	ALDRICH CHEMICAL CO	0886
		NEDIAMINE	MILWAUKEE. WI 53201	123831

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DIMETHYLFORMAMIDE	1111	99% N,N-DIMETHYLFORMAMIDE	ALDRICH CHEMICAL CO	1086
			MILWAUKEE, WI 53201	68122
DINITRO BENZOYL CHLORIDE	1341	3,5-DINITROBENZOYL CHLORIDE	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	99332
DINITRO CHLORO BENZENE	438	CHLORO2,4DINITROBENZENE	EASTMAN KODAK	0574
		-DNCB-	ROCHESTER, NY 14650	9700
	464	DINITRO CHLORO BENZENE	SODYECO	0777
		-DNCB-	CHARLOTTE NC	97807
DINITRO TOLUENE	986	DINITRO TOLUENE	OLIN	0581
			STANFORD, CT 06904	
DINITROBENZOIC ACID	1231	3,5-DINTROBENZOIC ACID ,	SALSBURY LABORATORIES,INC	0586
		METHYL ESTER	CHARLES CITY, IOWA 50616	2702581
	1119	99% 3,5-DINITROBENZOIC ACID	ALDRICH CHEMICAL CO	1185
			MILWAUKEE, WI 53201	9934
DINITROSALICYLIC ACID	1110	98% 3,5-DINITROSALICYLIC ACID	ALDRICH CHEMICAL CO	0985
		3,5	MILWAUKEE, WI 53201	60999
	1112	98% 3,5-DINITROSALICYLIC ACID	ALDRICH CHEMICAL CO	0886
			MILWAUKEE, WI 53201	60999
DIOCTYL PHTHALATE,98%	305	PHTHALIC ACID,	ALDRICH CHEMICAL CO	1287
		BIS-2-ETHYLHEXYL-ESTER	MILWAUKEE, WI 53201	11781
DIPHENYLAMINE	319A	DIPHENLAMINE -DPA-	EASTMAN KODAK	1087
		2-1-0-E	ROCHESTER NY	12239
DIPHENYLAMINE -DPA-	319	N-PHENYLBENZENAMINE	EASTMAN KODAK	1087
			ROCHESTER, NY 14650	12239

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DISODIUM SALT OF EDTA.	1594	ETHYLENEDIAMINETETRAACETIC ACI	ALDRICH CHEM CO.	0689
		3-1-2-H-Y	MILWAUKEE WI.	6381926
DITTO DIRECT PROCESS FLUID	328	METHANOL	DITTO	
DNCB 42	404A	2.4 DINITROCHLOROBENZENE	SANDOZ CHEMICALS	0589
		3-1-4-B	CHARLOTTE NC 28205	9700
DNPE	430A	DINITRO PHENOXY ETHANOL DRY	SANDOZCHEMICALS	0189
		1-1-1-B	CHARLOTTE. NC	
	1322A	DINITROPHENOXYETHANOL	HUMMEL	0686
		1-1-1-B	SOUTH PLAINFIELD NJ	283160
	225-A	DINITROPHENOXYETHANOL	HUMMEL CHEMICAL	9999
			S.PLAINFIELD. NJ 07080	283160
	430	DINITROPHENOXYETHANOL	SANDOZ CHEMICALS	0288
		DNPE	CHARLOTTE. NC 28205	
	1322	2.-2.4-DINITROPHENOXY-ETHANOL-	HUMMEL CHEMICAL	0986
			S.PLAINFIELD. NJ 07080	
DOALL RUST PREVENTIVE MIST	1445	67% MINERAL SAL OIL	DOALL CO.	0885
		10% PROPANE. ISOBUTANE	DES PLAINES. IL. 60016	
DOPE & LACQUER THINNER	1515A	TT-T-266	RANDOLPH PRODUCTS	0688
		3-4-0-G/Y	CARLSTADT NJ	
DOW CORNING DC 510 FLUID	936	SILICONE	DOW CORNING	0484
			MIDLAND. MI 48686	
DOW CORNING DC 738 RIV SEALANT	935	SILICONE	DOW CORNING	0484
			MIDLAND. MI 48686	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
DOW CORNING 03-6093 RTV	200	ADHESIVE BASE -SILICONE-	DOW CORNING	1087
			MIDLAND, MI 48686	
	201	ADHESIVE SILICONE CATALYST	DOW CORNING	1087
		CURING AGENT	MIDLAND, MI 48686	
DOW CORNING SILASTIC E RTV	1318	SILICONE RUBBER CURING AGENT	DOW CORNING	0985
		SILICONE	MIDLAND, MI 48686	
DOW CORNING SILASTIC J RTV	399	SILCONE RUBBER CURING AGENT	DOW CORNING	0985
		SILCONE	MIDLAND, MI 48686	
DOW CORNING SYLGARD 577	208	PRIMERLESS SILICONE ADHESIVE CA	DOW CORNING	1087
		SILICONE	MIDLAND, MI 48686	
DOW CORNING X5-8022 PT A	1443	LIQUID SILICONE RUBBER	DOW CORNING	0286
			MIDLAND, MI 48686	
DOW CORNING X5-8022 PT B	1444	LIQUID SILICONE RUBBER	DOW CORNING	0186
			MIDLAND, MI 48686	
DOW CORNING X5-8027 PT A	1441	LIQUID SILCONE RUBBER	DOW CORNING	0286
			MIDLAND, MI 48686	
DOW CORNING X5-8027 PT B	1442	LIQUID SILICONE RUBBER	DOW CORNING	0286
			MIDLAND, MI 48686	
DOW CORNING 111 COMPOUND	241A	COMPOUND GREASE	DOW CORNING	0985
		0-1-0-A	MIDLAND MI	
DOW CORNING 3140 RTV COATING	199A	SILICONE ELASTOMER	DOW CORNING	1084
		0-1-0-A	MIDLAND MI	
DOW CORNING 3140 RTV SEALANT	199		DOW CORNING	0683
		SILCONE	MIDLAND, MI 48686	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
DOW CORNING 4 ELECTRICAL INSUL	286A	PASTE/COMPOUND	DOW CORNING	0389
		0-1-0-A	MIDLAND MI	
DOW CORNING 510 FLUID	936A	SILICONE	DOW CORNING	0686
		H-/. F-1. R-0. PE-A	SAGINAW MI	63148527
DOW CORNING 7 SILICONE COMPOND	1349	SILICONE GREASE	DOW CORNING	0785
			MIDLAND. MI 48686	
DOW CORNING 732 RTV SEALANT	195	5% ACETOXYSILANE	DOW CORNING	0481
		SILASTIC -R-	MIDLAND. MI 48686	
DOW CORNING 93-104 ABLATIVE B	684A	93-104 ABLATIVE BASE	DOW CORNING	1085
		0-1-0-A	MIDLAND MI	
DOW SOLV	138		DOW CHEMICAL	9999
			MIDLAND. MI 48674	
DOWANOL EPH -GLYCOL ETHER-	230	90% ET.GLYCOLPHENYL ETHER	DOW CHEMICAL	0185
		10% DIETHYLENE GLYC.PHENY.ETH.	MIDLAND. MI 48674	
DOWCORN 734RTV SELF LEV ADH CL	272A	COMBUSTIBLE LIQUID	DOW CORNING	0985
		0-2-0-B	MIDLAND MI	
DOWCORNING GN METAL ASSEM SPRA	347A	MIXTURE/MOLYCOTE -G-	DOW CORNING	0789
		0-1-0-G SARA TOXIC	MIDLAND MI	
DOWCORNING 111 GREASE	241		DOW CORNING	0281
			MIDLAND. MI 48686	
DOWCORNING 1200 PRIME COAT	294	80% NAPHTHA. 5% ORGANOSILANE	DOW CORNING	0384
			MIDLAND. MI 48686	
DOWCORNING 1200 PRIME COAT CLE	294A	NAPHTHA SOLUTION	DOW CORNING	0388
		1-4-0-G	MIDLAND MI	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DOWCORNING 4 DIELECTRC	286	SILICONE	DOW CORNING	0181
			MIDLAND. MI 48686	
DOWCORNING 734 RTV ADHES/SEALA	272	5% ACETOXYSILANE	DOW CORNING	0983
			MIDLAND. MI 48686	
DOWCORNING 9-1300 CURING AGENT	685A	9-1300 CURING AGENT	DOW CORNING	1085
		0-1-0-A	MIDLAND MI	
DOWCORNING 9-3076 SEALANT	312	SILICONE	DOW CORNING	0581
			MIDLAND. MI 48686	
DOWCORNING 9-3076-2 CATALYST	313	SILICONE	DOW CORNING	0681
			MIDLAND. MI 48686	
DOWCORNING 9-3104 ABLATIVE MAT	684	SILICONE	DOW CORNING	0581
			MIDLAND. MI 48686	
DOWCORNING 9-3104 CURING AGENT	685	SILICONE	DOW CORNING	0581
			MIDLAND. MI 48686	
DOWCORNING 93-076 AERO SEALANT	312A	SILICONE	DOW CORNING	0187
		0-1-0-A	MIDLAND MI	
DOWCORNING 93-076-2-CATALYST	313A	SILICONE	DOW CORNING	0187
		0-1-0-A	MIDLAND. MI	
DRIAIRE DESSICANT	657		DRIAIRE INC.	
DRIERITE -REGULAR-	526	CALCIUM SULFATE	W.A.HAMMOND	9999
			XENIA OH	7778189
DRIERITE. INDICATING	526A	97% CALCIUM SUSLFATE	W.A.HAMMOND	9999
		3% COBALT CHLORIDE	XENIA OH	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DRY ALUM	8338	ALUMINUM SULFATE	GENERAL CHEMICAL	
		0-0-0-8	MORRISTOWN NJ	10043013
DUCO CEMENT	194		FISHER SCIENTIFIC	
			ST. LOUIS, MO	
DURAMIST	1467	PRIMARILY WATER	JAMES VARLEY-RGN SERCVCE-	0586
			CARTERVILLE,IL,62918	
DURIUM -CYCLIZED RUBBER-	1303	-30% XYLENE, -15% HEPTANE,	NORTHERN COATINGS & CHEM.	0286
		-10% MINERAL SPIRITS	MENOMINEE,MI 49858	
DUROSTIT SS-3	805		BRADFORD DUROSTIT	9999
DYNAMAR BONDING AGENT HX-880	1019	50% HYDROXYETHYL GLYCOLAMIDE	3M	1284
		15% DIETHANOLAMINE	ST. PAUL, MN 55144	
DYNAMAR HX-880 BONDING AGENT	1019A	HX-880 BONDING AGENT	3M	0289
		0-1-0-8 SARA	ST PAUL MN	
DYNAPOL MS729	1010	POLYESTER RESIN	KAY-FRIES INC.	0884
			STONY POINT,NY 10980	
DYNASOLV 180 SOLVENT	927	HETEROCYCLIC SOLVENTS	DYNALOY INC.	9999
			HANOVER NJ 07936	
DYNASOLVE MP/MP-500	914	--80%ETHYL GLYL.MONOMETHYL ETH	DYNALOY INC.	9999
		--40%POTASSIUM HYD..2%ET.SILIC	HANOVER NJ 07936	
DYNASOLVE 160	1455A	SOLVENT	DYNALOY	0386
		1-0-0-G OR Y	HANOVER NJ	
	1455	95% METHYLENE CHLORIDE	DYNALOY INC.	
		PHENOL ACETIC ACID FORMIC ACID	HANOVER NJ 07936	75092

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
DYNASOLVE 180	922A	CYCLIC AMIDE	DYNACOY	0384
		1-1-0-B	HANOVER NJ	
DYNASYLAN AMEO	643	AMINOPROPYLTRIETHOXY SILANE	KAY-FRIES INC.	0384
			ROCKLEIGH. NJ	919308
DYNASYLAN 1505	642	AMINOPROPYL METHYLDIETHOXY	KAY-FRIES INC.	0882
		SILANE	ROCKLEIGH. NJ	3179769
E-2 AMMONIUM NITRTATE	1109A	AMMONIUM NITRATE	EL DORADO CO	0386
		0-1-1-E	ELDORADO AR	6484522
EASY FLO 3 FILLER METAL	1368	50% SILVER-15% COPPER-	DECATUR CUSTOM TOOL INC.	9999
		16% CADMIUM OXIDE	DECATUR. IL 62521	
ELATE 166	599	CYCLOHEXANE DIISOCYANATE	AKZO CHEMIE AMERICA	0784
			CHICAGO. IL 60606	255636
ELECTRAFIL G-12	1158	NYLON CARBON FIBERS	WILSON-FIBERFIL INTERNAT.	0186
			EVANSVILLE. IND. 47732	
ELECTRAFIL NY-8	1157A	CARBON FIBERS. NYLON	WILSON FIBERFIL INT'NAL	0286
		0-0-0-A	EVANSVILLE IN	
	1157	NYLON ALUMINUM SILICATE	WILSON-FIBERFIL INTERNAT.	0186
		CARBON FIBERS	EVANSVILLE. IND. 47732	
ELECTRIC MATCH M100	1478	ELECTRIC SQUIB-LACQUER	U.S. GOV. HCSDS 73	0779
		COATED MATCH HEAD		
ELECTRODE FILLING SOLUTION	841A	POTASSIUM CHLORIDE SOLUTION	BECKMAN	0985
		1-0-0-A	FULLERTON. CA	744740
ELECTROLYTE SC-82	256	AMMONIUM NITRATE.SALT.CITRIC	ELECTROMARK-UNITED AIRL-	0780
		ACID.SODIUM CITRATE.TERGITOL	UTICA. NY 13501	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ELECTROLYTE SC85	257	25% CALCIUM NITRATE-10% CITRIC ACID-.08% TERGITOL	ELECTROMARK UTICA, NY 13501	9999
ELECTROLYTE 82	1343A	AMMONIUM NITRATE 0-1-1-E	I*NAL MARKING GROUP UYTICA NY	0789 6484522
EMERY 9360-A	1239	BISHYDROXY ETHYLDIMERATE ESTER	EMERY CHEMICALS CINCINNATI, OH 45232	1185
EMERY 9376	740		EMERY INDUSTRIES INC. CINCINNATI, OH	9999
EMPOL 1024 DIMER ACID	1401	CARBOXYLIC ACID	EMERY CHEMICALS CINCINNATI, OH 45232	0586 6178889
	1401A	CARBOXYLIC ACID 0-1-0-B	QUANTUM/EMERY CINCINNATI OH	0888
EMPOL 1040 TRIMER ACID	1400	CARBOXYLIC ACID	EMERY CHEMICALS CINCINNATI, OH 45232	0586 6893790
	1400A	CARBOXYLIC ACID 0-1-0-B	QUANTUM/EMERY CINCINNATI OH	0189
ENAMEL DELSTAR ACRYLIC ENAMEL	1382	-.01% ACRYLONITRILE 45% XYLENE	PPG INDUSTRIES INC CLEVELAND, OH 44111	0385
ENAMEL MAHONING #37875 WHITE	1164	MIK.MEK TOLUENE -PROP.-	MAHONING PAINT CORP. YOUNGSTOWN, OH 44502	0286
ENAMEL, FAST DRY IND. ALKYD	1383	ALKYD, SOLVENTS PIGMENTS	PPG INDUSTRIES INC PITTSBURGH, PA 15238	0286
	1383A	PAINT 0-3-0-B SARA	PPG INDUSTRIES PITTSBURGH, PA	0889

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ENAMEL, TILE CLAD II	508	XYLENE-10-25%-NAPTHA-0-25%-	SHERWIN-WILLIAMS CO.	1087
		POLYAMIDE-10-25%-TALC-15-25%	CLEVELAND, OH 44115	
ENAMEL, WHITE	1164A	MIK MEK TOLUENE	MAHONING PAINT CO	0489
		0-4-0-KEY SARA	YOUNGSTOWN, OH	
ENCOOL SOL-244 EP-60	1342	POLYGLYCOL, AMINO ALCOHOL PLUS	ENGINEERED LUBRICANTS CO.	0586
		OTHERS -PROP.-	MARYLAND HEIGHTS,MO 63043	
ENCOOL SS-7271EP-AS	1446	WATER-PETROLEUM BLEND PLUS	ENGINEERED LUBRICANTS CO.	0986
		ADDITIVES -PROP-	MARYLAND HEIGHTS,MO 63043	
ENWAY 32 WO	1457	88% MINERAL OIL MIST	ENGINEERED LUBRICANTS CO.	0286
		ADDITIVES -PROP.-	MARYLAND HEIGHTS,MO 63043	
EPI REZ 510	233A	EPI REZ 510	INTEREZ INC.	0988
		2-1-0-C	LOUISVILLE KY.	
EPI-REZ 505	234A	ALIPHATIC GLYCIDYL ETHER	HI-TEK POLYMERS	0888
		2-2-0-B SARA TOXIC	LOUISVILLE, KY	
EPI-REZ 509	233B	BISPHENOL-A POLYGLYCIDYL ETHER	HI-TEK POLYMERS	0289
		2-1-0-B	LOUISVILLE, KY	
EPI-REZ 510	233C	BISPHENOL-A POLYGLYCIDYL ETHER	HI-TEK POLYMERS	0289
		2-1-0-C SARA TOXIC	LOUISVILLE, KY	
EPI-REZ 58005/HELOXY WC-8005	1546A	MOD. A BISPHENOL A EPOXY RESIN	HI-TEK POLYMERS	0789
		1-0-0-C	LOUISVILLE KY	
EPI-REZ 58006/HELOXY WC-8006	1545A	MOD. BISPHENOL A EPOXY RESIN	HI-TEK POLYMERS	0789
		1-0-0-A	LOUISVILLE KY	
EPIREZ 505 EPOXY RESIN	234	ALIPHATIC CLYCIDYL ETHER	CELLANESE SPEC. RESINS	1283
			LOUISVILLE KY	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
EPO-KWICK 20 EPOXY HARDENER	1143	85% MODIFIED ALIPHATIC AMINE.	BUEHLER LTD.	1285
		15% -DETA-	LAKE BLUFF. IL 60044	
EPOMIN SP-012	1162	POLYETHYLENE IMINE	ACETO CHEMICAL CO. INC.	1085
			FLUSHING. NY 11368	9002986
	1162A	POLYETHYLENE IMINE	ACETO CHEMICAL	0689
		0-1-0-B	FLUSHING NY	9002986
EPON CURING AGENT	1500		SHELL CHEMICAL	0988
			HOUSTION. TX	
	1498	AROMATIC DIAMINE	SHELL CHEMICAL	0887
			HOUSTION. TX	
	236A	DIETHYLENETRIAMINE	SHELL OIL CO	0789
		4-1-0-H	HOUSTON TX	
EPON CURING AGENT U	236	25% DIETHYLENETRIAMINE-75% EPO	SHELL OIL	1086
		XY RESIN-2% PHENOL. POLYAMINE	HOUSTON. TX 77210	
EPON CURING AGENT 9470	1498A	AROMATIC DIAMINE SOLUTION	SHELL OIL	1185
		3-1-0-H SARA	HOUSTON TX	
EPON EPOXY RESIN 828	235	BISPHENOL A/EPICHLOROHYDRIN	SHELL OIL	0985
		EPOXY RESIN	HOUSTON. TX 77210	25068386
EPON RESIN 9405	672	BISPHENOL A-EPICHLOROHYDRIN	SHELL OIL CO	0388
		2-2-2-H SARA	HOUSTON. TX	
EPOXY ADHESIVE 1838 A GREEN	1526	POLYAMIDE RESIN	3M	1185
			ST. PAUL. MN 55144	
EPOXY ADHISIVE 1838 B WHITE	1527	EPOXY RESIN	3M	0385
			ST. PAUL. MN 55144	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
EPOXY 399	664A	ALKYL AMINE	TEXACO CHEMICAL CO	0789
		2-1-0-C	HOUSTON, TX 77056	
ERGON SORBENTS	373	POLYPROPYLENE	ENVIRONMENTAL SERVICES.	1185
			JACKSON,MS 39215	9003070
ETHACURE 100	157E	DIETHYLTOLUENEDIAMINE	ETHYL CORP	0287
		2-2-0-B-Y	BATON ROUGE LA.	6847998
ETHACURE 100 CURING AGENT	1405A	DIETHYLTOLUENEDIAMINE	EHTYL CHEMICALS	0287
		2-2-0-B/Y	BATON ROUGE LA	6847998
ETHAMEDIGIC ACID, DIAMMON SALT	274A	AMMONIUM OXALATE MONOHYDRATE	HEICO/WHITTAKER CORP	1088
		1-0-0-E	DELAWARE WATER GAP PA	6009707
ETHANOL SPEC IND 200P 4084	144A	ALCOHOL	ASHLAND CHEMICAL	0789
			COLUMBUS, OH	
ETHANOL, DENATURED	402	ETHYL ALCOHOL, ANHYDROUS	E M SCIENCE	0587
		DENATURED	CHERRY HILL, NJ 08034	6417
ETHER	450B	ETHER	ALDRICH	0789
		2-2-1-G	MILWAUKEE WI	60297
	450	ETHYL ETHER	ALDRICH CHEMICAL CO	0484
			MILWAUKEE, WI 53201	60297
ETHER ANHYDROUS	450A	ETHER ANHYDROUS	ALDRICH CHEM CO.	0788
		2-2-1-G	MILWAKEE WI.	60297
ETHER, DOWANOL EPH GLYCOL	230A	ETHYLENE.DIETHYLENE GLYCOL ETH	DOW CHEMICAL	0789
		1-1-0-G SARA TOXIC	MIDLAND MI	
ETHYL ACETATE	135	ETHYL ACETATE	CHEMTECH INDUSTRIES	0186
			ST. LOUIS, MO 63131	141786

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ETHYL ACETATE	1350	ETHYL ACETATE	REND LAKE CHEM.-ASHLAND-	0386
			MOUNT VERNON. IL 62864	141786
	512	ETHYL ACETATE	FISHER SCIENTIFIC	1182
			FAIR LAWN. NJ 07410	141786
	512A	ETHYL ACETATE	FISHER SCIENTIFIC	0389
		2-4-0-G	FAIR LAWN NJ	141786
ETHYL ACETATE 99.5% URETHANE	1350A	ETHYL ACETATE	ASHLAND CHEMICAL	0386
		2-4-0-G SARA	COLUMBUS OH	141786
ETHYL ACETATE. 99.5%	417A	ETHYL ACETATE	ROBINS SOLVENTS CO	0789
		2-3-0-G	ST LOUIS MO 63102	141786
ETHYL ACETATE.99.5%.	417		ROBINS SOLVENTS CO.	
		ESTERS	ST. LOUIS.MO. 63102	141786
ETHYL ACETYLENE	945	ETHYL ACETYLENE	SCOTT ENV TECH	0684
			PLUMSTEADVILLE.PA	
ETHYL ALCOHOL	144	89% ETHANOL.1% HEXONE.5%	REND LAKE CHEMICAL	0579
		METHANOL.5% ETHYL ACETATE	MT. VERNON. IL	
	1480	89%.1% HEXONE. 5%	ASPER ALCOHOL CHEM. CO.	0579
		METHANOL.5% ETHYL ACETATE	SHELBYVILLE KY	
	847	92.5% ETHANOL.4.5% METHANOL.1%	FISHER SCIENTIFIC	0580
		MIBK.1% ETHYL ACT..1% GASOLINE	FAIR LAWN. NJ 07410	
ETHYL ALCOHOL SDA-3A	278	95.2% ETHANOL. 4.8% METHANOL	U.S.INDUSTRIAL CHEMICAL	0483
		4.8 METHANOL	NEW YORK NY	64175
ETHYL ALCOHOL. DENATURED	847A	ETHYL ALCOHOL. DENATURED	FISHER SCIENTIFIC	0489
		3-4-0-G	FAIR LAWN NJ	64175

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
ETHYL CELLULOSE	616	ETHYL CELLULOSE	FISHER	9004
			FAIR LAWN. NJ	9004573
ETHYL GLYCOLATE	451	ETHYL 2-HYDROXYACETATE	EASTMAN KODAK	0582
			ROCHESTER. NY 14650	
	451A	ETHYL 2-HYDROXYACETATE	EASTMAN KODAK	0586
		2-2-0-8	ROCHESTER NY	
ETHYL HEXANEDIOL	739	ETHYL HEXANEDIOL	EASTMAN KODAK	0581
			ROCHESTER. NY 14650	
ETHYL TUADS RODFORM/JETD	496A	TETRAETHYLTHIURAMDISULFIDE	R.T. VANDERBILT	1187
		0-0-0-E	NORWALK CT	9777
ETHYLENE GAS STD 1%	381		ALLTECH ASSOCIATES	9999
			DEERFIELD IL	7485
ETHYLENE GLYCOL	848	ETHYLENE GLYCOL	FISHER SCIENTIFIC	0281
			FAIR LAWN. NJ 07410	10721
	848A	ETHYLENE GLYCOL	FISHER SCIENTIFIC	0389
		3-1-0-G SARA	FAIR LAWN NJ	10721
EXOSEN NO.10	262		K.B.AEROTECH	
FASCAT 4202	1502	DIBUTYL TIN DILRUATE	MTT CHEM CO.	0887
			RAHWAY NJ.	77587
FASTCAT 4200	1504	DUBUTYL TIN DIACETATE	MTT CHEM CO.	1086
			RAHWAY NJ.	1067330
FEL-PRO C-5A AEROSOL	1397	60% 111-TRICHLORETHANE. COPPER	S & K/AIR POWER	1185
		GRAPHITE.PROPANE. ISOBUTANE	MATTOON. IL 61938	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
FEL-PRO NICKEL EASE	522	FEL-PRO NICKEL EASE	FEL-PRO INCORP.	0278
		NICKEL & GRAPHITE	SKOKIE, IL. 60076	
FEL-PRO NICKEL-EASE AEROSOL	1398	43% 111-TRICHLORETHANE,COPPER,	S & K/AIR POWER	1185
		GRAPHITE,PROPANE,ISOBUTANE	MATTOON, IL 61938	
FERRIC ACETYLACETONATE	1590	FERRIC ACETYLACETONATE	ALDRICH CHEM CO	1188
		2-2-1-D-Y	MILWAUKEE WI.	1402418
FERRIC CHLORIDE	436	FERRIC CHLORIDE	J T BAKER CHEMICAL CO	0883
			PHILLIPSBURG, NJ 08865	10025771
	1421	IRON CHLORIDE HEXAHYDRATE	MALLINCKRODT CHEMICALS	0885
			PARIS, KY 40361	10025771
FERRIC CHLORIDE, 6-HYDRATE	436A	FERRIC CHLORIDE	J.T. BAKER	0589
		0-0-0-8	PHILLIPSBURG NJ	10025771
FERRIC NITRATE	1024	FERRIC NITRATE	J T BAKER CHEMICAL CO	9999
			PHILLIPSBURG, NJ 08865	7782611
FIBERITE MX-2600 RESIN	1022	33% PHENOLIC RESIN	FIBERITE CORP.	9999
		5% PHENOL 1.5% FORMALDEHYDE	WINONA,MN	
FIBERITE MXR-512 RESIN	1020	5% KETONES..2% FORMALDEHYDE,	FIBERITE CORP.	0485
		5% PHENOL, 35% PHENOLIC RESIN	WINONA,MN	
FIBERITE MXSE-48 RESIN	1021	35% PHENOLIC RESIN, 5% PHENOL,	FIBERITE CORP.	0485
		1% FORMALDEHYDE	WINONA,MN	
FILM,1780 CONDUCTIVE VELOSTAT	372	CARBON LOADED POLYOLEFIN FILM	3M	1185
			ST. PAUL, MN 55144	
FISHER PH STANDARD 10 -115-	861	*NON HAZARDOUS	FISHER SCIENTIFIC	0980
			ST. LOUIS, MO	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
FISHER PH STANDARD 4 -101-	864	=NON HAZARDOUS	FISHER SCIENTIFIC	0980
			ST. LOUIS. MO	
FISHER PH STANDARD 7 -107-	863	=NON HAZARDOUS	FISHER SCIENTIFIC	0980
			ST. LOUIS. MO	
FISHER PH STANDARD 8 -112-	862	=NON HAZARDOUS	FISHER SCIENTIFIC	0980
			ST. LOUIS. MO	
FIXER RAPID PART B	1491	ALUMINUM SULFATE SULFURIC ACID	EASTMAN KODAK	0688
		AQUEROUS SOULITION	ROCHESTER. NY 14650	
FIXER ROPE PART B	1489	BORIC ACID	EASTMAN KODAK	1087
		AQUEOUS MIXTUER	ROCHESTER. NY 14650	
FIXER&REPLENISHER-B-INDUSTREX	980	15% SULFURIC ACID	EASTMAN KODAK	0982
		15% ALUMINUM SULFATE. WATER	ROCHESTER. NY 14650	
FIXER/REP-A-KODAK RP X-OMAT	1197	5% SODIUM BISULFITE	EASTMAN KODAK	0484
		50% AMM. THIOSULFATE	ROCHESTER. NY 14650	
FLUOROCARBON C146	1274	20% FLUOROTELOMER DISPERSION	STONERS INK CO	9999
		80% FREON TF	QUARRYVILLE. PA 17566	
FLUOROLUBE	408	-CF2CFCL-X	FISHER SCIENTIFIC	0781
			FAIR LAWN. NJ 07410	
	408A	POLYMER	FISHER SCIENTIFIC	0789
		1-1-0-B	FAIR LAWN NJ.	9002839
FLYING INSECT KILLER	1104A	FLYING INSECT KILLER	MIDCO	1186
		0-2-0-A	ST LOUIS MO	
FLYING INSECT KILLER	1104	56% CHLORINATED HYDROCARBON-	MIDCO PRODUCTS CO..INC.	9999
		40% PET.DIST-31% PYRETHROID	MARYLAND HEIGHTS.MO.63043	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
FORAL 85 SYNTHETIC RESIN	1375	GLYCEROL ESTER OF HYDROGENATED ROSIN	HERCULES INC WILMINGTON, DE 19894	0986 65997139
FORMREZ F17-47 RESIN	556	POLYESTER	WITCO CHEMICAL GROUP CHICAGO IL	0779
FOTEX DRAIN CLEANER	1082	INORGANIC SALTS	UNITED SERVICES & IMAGING WEST BEND WI.	0484
FREKOTE 44	1548	FREKOTE 44	DEXTER CORP.	0389
		SARA 40 CFR 372 -3-2-0-0-Y-	SEABROOK NH.	
	129	47%ALIPHATIC NAPTHA,5% RESIN	DEXTER CORP.-HYSOL-	0386
		32%DIBUTYL ETHER,20% FREON 113	SEABROOK, NH 03874	
FREKOTE 44 AEROSOL	129A	RESIN SOLUTION	DEXTER CORP	0489
			SEABROOK, OH	
FREON 13	968	CHLOROTRIFLUOROMETHANE	DUPONT	1183
			WILMINGTON,DE	
FREON MF SOLVENT	1187A	HALOGENTATED HYDROCARBON	DUPONT	0788
		0-0-0-A SARA	WILMINGTON DE	
	1187	TRICHOLROFLUOROMETHANE	E.I.DUPONT DE NEMOURS &CO	1085
		FREON 11,FC-11	WILMINGTON, DE 19998	75694
FREON TA FLUOROCARBON	1184A	HALOALKANE & KETONE	DUPONT	0589
		1-0-0-B SARA	WILMINGTON DE	
FREON TA SOLVENT	1184	TRICHLOROTRIFLUOROETHANE/	E.I.DUPONT DE NEMOURS &CO	1085
		ACETONE	WILMINGTON, DE 19898	
FREON TF	1176	TRICHLOROTRIFLUOROETHANE	MEASUREMENTS GROUP INC.	9999
		DICHLORODIFLUOROMETHANE	RALIEGH, NC 27611	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
FREON TMS SOLVENT AZEOTROPE	1185	TRICHLOROTRIFLUOROETHANE/METHY	E.I.DUPONT DE NEMOURS &CO	1985
		ALCOHOL/NITROMETHANE	WILMINGTON, DE 19898	
FREON 113	947	TRICHLOROTRIFLUOROETHANE	DUPONT	9999
			WILMINGTON,DE	
FREON 113 FLUOROCARBON	947A	TRICHLOROTRIFLUOROETHANE	DUPONT	0589
		0-0-0-A/B SARA TOXIC	WILMINGTON DE	
FREON 12	203	DICHLORODIFLUOROMETHANE	GENERAL ELECTRIC	
			WATERFORD, NY 12188	75718
FREON 13 REFRIDGERANT	968A	FREON 13	DUPONT	0589
		3-0-0-G SARA	WILMINGTON DE	
FREON 22	202	CHLORODIFLUOROMETHANE	GENERAL ELECTRIC	9999
			WATERFORD, NY 12188	75456
FREON 502	970	CHLORO DIFLUORO METHANE/	DUPONT	0484
		CHLORO PENTA FLUORO ETHANE	WILMINGTON,DE	
FREON 503	969	TRIFLUORO METHANE/	DUPONT	0783
		CHLORO TRIFLUORO METHANE	WILMINGTON,DE	
FUEL OIL	1015	PET. DISTILLATE	SHELL OIL	1282
			HOUSTON, TX 77210	
FUEL OIL #2	245A	ALIPHATIC/AROMATIC HYDROCARBON	ASHLAND/ED.ETHERTON OIL	0589
		2-2-0-B SARA	MARION, IL	68476302
FUEL OIL NO. 2	245	PETROLEUM HYDROCARBONS	EDWARDS-ETHERTON OIL CO.	0485
			MARION,IL 62959	68476302
G-N METAL ASSEMBLY PASTE	128A	ORGANIC GREASE	DOW CORNING	0486

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
GALLIC ACID SOLUTION	181A	GALLIC ACID, ETHYLENE GLYCOL	HACH	1988
		1-1-0-G SARA TOXIC	AMES IA	
GAMMA MICROPOLISH -40-6353-	1279	20% ALUNIUNUM OXIDE	BUEHLER LTD.	1185
		.5% DHSOPROPANOLAMINE	LAKE BLUFF, IL 60044	
GANTREZ AN-169 POLYMER	987	2,5-FURANDIONE,POLYMER/	GAF CHEMICALS CORPORATION	0287
		METHOXYETHENE	WAYNE,NJ 07470	9011169
GAP	143	2% BENZENE,GLYCIDYL AZIDE POLY	ROCKETDYNE	
		MER,-,5% METHYLENE CHLORIDE	CANOGA PARK, CA	
GARLOCK PACKMASTER BUSHNEL 230	1242	SYN. FIBER PACKING NON-ASB.	GARLOCK INC./COMPRESSION	0484
		PURCHASE ONLY ON SAF-2 FORM	SODUS N.Y. 14551	
GASOLINE, UNLEADED	255A	LIGHT PETROLEUM DISTILLATE	ASHLAND CHEMICAL	0589
		2-3-0-G SARA TOXIC	ASHLAND,KY	800661
GASOLINE,REGULAR	271	95% PETROLEUM HYDROCARBONS	EDWARDS-ETHERTON OIL CO.	0287
		-5%BENZENE,-0.5%TETRAETHYLLEAD	MARION,IL 62959	
GASOLINE,UNLEADED REGULAR	255	HYDROCARBONS WITH ALCOHOLS/	EDWARDS-ETHERTON OIL CO.	0685
		ETHERS -PETROLEUM NAPHTHAS-	MARION,IL 62959	800661
GAUAGEWAY PASTE GASOLINE	1487	KOLOR KUT	KOLOR KUT	0188
			HOUSTON TX	
GENERAL ELECTRIC ULTEM RESIN	950	POLY ETHERIMIDE	GENERAL ELECTRIC	1185
			PITTSFIELD, MA 01201	61128469
GENERAL TRIM ADHESIVE	290A		3M	0389
		2-4-0-ESARA	ST. PAUL, MI	
GENESOLV 5535 SOLVENT	396A	TRICHLOROTRIFLUOROSTHANE,ETC	ALLIED-SIGNAL, INC.	1188
		2-1-0-8 SARA TOXIC	MORRISTOWN, NJ.	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
GENESOLV 5535 SOLVENT	396	84.2% FREON 113.8.0% ACETONE.	ALLIED CORPORATION	1284
		5.4% ISO-HEXANE.2.2%ETHANOL	MORRISTOWN. NJ 07960	
GLASS BEADS	1122		CATAPHOTE DIV./FERRO CORP	9999
		SODIUM ALUMINUM SILICATE BASE	FLOWOOD.MISS. 39208	
GLASS CLEANER KLEENMASTER	351		CHEM.PRODUCTS CO	9999
GLASS SPHERES-IMPACK BEADS	1410	SODA-LIME GLASS	SINCLAIR ABRASIVES&EQUIP.	0785
			MORTON GROVE.IL. 60053	65997173
GLUTERALDEHYDE SOLUTION	1028	25% GLUTERALDEHYDE	UNION CARBIDE	0185
			DANBURY. CT 06817-0001	11130
GLYCERYL TRIACETATE	800	GLYCERYL TRIACETATE	UNION CARBIDE CORP	
			CHICAGO. IL	
GLYCIDOL	1315	98% 1-PROPANOL. 2.3-EPOXY	ALDRICH CHEMICAL CO	0886
			MILWAUKEE. WI 53201	556525
GLYCIDOL. 96%	1315A	GLYCIDOL	ALDRICH CHEMICAL	0789
		2-2-0-6	MILWAUKEE WI	556525
GOLD BOND POLYSULFIDE SEALANT	1283A	THIOKOL	DUNBAR SALES	0889
		10-0-8	BAYONNE NJ	
GRAPHITE	1030	CARBON	U.S.GOVERNMENT	0977
				7782425
	123	CARBON	JOSEPH DIXON CRUCIBLE	9999
			JERSEY CITY. NJ	7782425
	231	CARBON	SUPERIOR GRAPHITE	0485
			CHICAGO. IL	7782425

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
GRAPHITE BISMALEINIDE	1535	BISMALEINIDE V-390	U.S. POLYMERIC	1289
		H-1.F-0.R-0.PE-A.	SANTA ANNA CA.	
GREASE APIEZON	480		APIEZON PRODUCTS LTD.	
			LONDON ENG	
GREASE CAM	143A	GREASE CAM	CENTURY	0288
		1-2-0-C	K.C. KANSAS	
GREASE MOLYCOTE GREASE 55M	197	MOLYBDENUM DISULFIDE	DOW CORNING	0884
			MIDLAND. MI 48686	
GREASE. SHELL SUPER DUTY	1190	83%SOLVENTS.1%LEAD COMPOUND.7%	SHELL OIL	0985
		LITHIUM COMPOUND-LUBRICATING-	HOUSTON. TX 77210	
GREASE. SILICONE G697	1293	DIMETHYLPOLYSILOXANE GREASE	GENERAL ELECTRIC -CAMIE-	1085
		MIXTURE -PETROLEUM DISTILLATE-	WATERFORD. NY 12188	
GRIP CEMENT POWDER	5618	POLYMETHYLMETHACRYLATE	CAULK/DENTSPLY	0889
		2-2-0-B	MILFORD. DE 19963-0359	
GUANIDINE NITRATE	103	GUANIDINE MONONITRATE	MONOMER-POLYMER/DAJAC LAB	
			TREVOSE.PA 19047	506934
	103A	GUANIDINE NITRATE	MONOMER POLYMER DAJAC	0789
		0-0-1-A	TREVOSE. PA	506934
	148	GUANIDINE NITRATE	CYANAMID CANADA INC	0682
			NIAGARA FALLS.ONTARIO.CA	52478
HACH GALLIC ACID SOLUTION	181	-10% GALLIC ACID	HACH	0882
		-90% ETHYLENE GLYCOL	LOVELAND. CO 80537	
HACH HARDNESS TEST SOLUTION	173	-5% HYDROXYLAMINE	HACH	0882
		-5% ISOPROPANOL	LOVELAND. CO 80537	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
HACH HARDNESS 3 TEST	179	HYDROXYLAMINE 5%	OLIN WATER SERVICES	0882
			OVERLAND PARK KS 66210	
HACH METHYL PURPL INDICATOR SL	893	-.1% METHYL RED. SODIUM SALT.	HACH COMPANY	0985
		WATER	AMES. IA 50010	
HACH 8015 CHLORIDE 2 INDICATOR	177	POTASSIUM CHROMATE/SODIUM BI-	HACH COMPANY	0686
		CARBONATE60%SILICON DIXOIDE 5%	AMES. IA 50010	
HALON TFE RESINS	747	POLYTETRAFLUOROETHYLENE	ALLIED CHEMICAL	0578
			MORRISTOWN. NJ 07960	
HALON 1301.FREON FE 1301	279	MONOBROMOTRIFLUOROMETHANE	ANSUL FIRE PROTECTION	0686
		HALOGENATED METHANE	MARINETTE.WI 54143	7563
	279A	MONOBROMOTRIFLUOROMETHANE	ANSUL FIRE PROTECTION	0686
		1-0-0-B	MARINETTE WI 54143	7563
HAMPSHIRE IDA	1132	IMINODIACETIC ACID	WR. GRACE & CO.	9999
			NASHUA.N.H. 03060	
HAMPSHIRE IDA ACID	1132A	IMINODIACETIC ACID POWDER	GRACE	0889
		1-3-0-E SARA	LEXINGTON MA	14273
HAN	1058A	HYDROXYL AMMONIUM NITRATE	SOUTHESTERN ANALYTICAL	0286
		1-1-0-B	AUSTIN TX	13465082
	1058	HYDROXYLAMMONIUM NITRATE	SOUTHWESTERN ANAL. CHEM.	9999
		H2O 75-80%	AUSTIN TX.	
HARD COAT -FLOOR FINISH-	578	ACRYLIC EMULSION	LANDMARK CHEMICAL CO.	9999
			MARION. IL 62959	
HARDCOAT FLOOR FINISH	578A	DIETHYLENEGLYCOLMONOETHYLETHER	LANDMARK CHEMICAL	1288
		0-0-0-A. SARA TOXIC	MARION IL	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
HCL STANDARD	398	HYDROCHLORIC ACID	J T BAKER CHEMICAL CO	0185
		MURIATIC ACID	PHILLIPSBURG, NJ 08865	7647010
HDCA LIQUID SLURRY	482	HYDRAZODICARBONAMIDE	OLIN	
			STAMFORD, CT 06904	1192[illegible]
HDODA	749A	HEXANE DIOL DIACRYLATE	RADCURE/CELLANESE	0389
		0-1-1-A	LOUISVILLE KY	1304833
HE HIGH EXPLOSIVE MIX	1452	RDX-ALUMINUM	OLIN -OCEAN NETWORK-	0487
			STAMFORD, CT 06904	
HEI INCENDIARY MIX,M761 PELLET	1451	RDX ALUMINUM	OLIN -OCEAN NETWORK-	0487
			STAMFORD, CT 06904	
HELIUM,COMPRESSED	446	HELIUM	AIRCO INC	9999
			MURRAY HILL, NJ	7440597
HEPTANE	518	HEPTANE	EASTMAN KODAK	0674
			ROCHESTER, NY 14650	142855
	518A	HEPTANE	EASTMAN KODAK	0986
		2-4-0-G	ROCHESTER NY	142855
HEPTYNE	691	97% HEPTYNE	WHITTAKER CORP	0282
			GARDENIA CA	628717
HERCULES EPOXY RESIN 8551-7	1458	UNCURED EPOXY RESIN & AROMATIC	HERCULES INC	0886
		DIAMINO CURING AGENT	WILMINGTON, DE 19894	
HEXACHLOROBENZENE	637	HEXACHLOROBENZENE	EASTMAN KODAK	1174
			ROCHESTER, NY 14650	118741
HEXAFLUOROETHANE	636	HEXAFLUOROETHANE	EASTMAN KODAK	
			ROCHESTER, NY 14650	76164

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
HEXANE	134	HEXANE	CHEMTECH INDUSTRIES	0186
			ST. LOUIS. MO 63131	6474289
	1503	HEXANE	ALDRICH CHEMICAL CO	0487
			MILWAUKEE. WI 53201	139386
	513	HEXANE	FISHER SCIENTIFIC	0182
			FAIR LAWN. NJ 07410	6474289
	513A	HEXANE	FISHER SCIENTIFIC	1088
		2-4-0-G	FAIR LAWN NJ	6472893
HEXANE DICARBOXYLIC ACID	549	HEXANE DICARBOXYLIC ACID	CIC ORGANICS	1086
			ATLANTA.GA 30315	505480
HEXANE. QUICKSOLV B	134A	HEXANE	CHEMTECH IND	0489
			ST LOUIS MO	6474289
HEXANEDIOL DIACRYLATE	749	HEXANEDIOL DIACRYLATE	CELANESE CHEMICAL CO	0183
			DALLAS.TX	1304833
HEXANES A.C.S. REAGENT	1503A	HEXANES A.C.S. REAGENT	ALDRICH CHEM CO.	0588
		4-4-I-H	MILWAKEE WI.	7351342
HEXYL CARBORANE	817	HEXYL CARBORANE	OLIN	
			STAMFORD. CT 06904	20748058
HEXYL SAL	147	HEXYL ORTHO HYDROXY BENZOATE	INTL FLAVORS/FRAGRANCES	0987
		HEXYL SALICYLATE	UNION BEACH. NJ 07735	6259761
	214	NORMAL HEXYL-ORTHO-HYDROXY	INTL FLAVORS/FRAGRANCES	0987
		BENZOATE -ALIPHATIC ESTER-	UNION BEACH. NJ 07735	6259761
HEXYNE	588	97% HEXYNE	WHITTAKER CORP	0382
			GARDENIA CA	26856304

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
HISPERSE IRON BLUE X3434R	794	C.I.PIGMENT BLUE 27	CIBA-GEIGY	0184
		C.I. NO. 77520	HAWTHORNE, NY 10532	
HSS THRIFTEDGE INSERTS	1369	VANADIUM, COBALT, CHROMIUM,	PETERSON TOOL CO. INC.	0186
		OTHERS	NASHVILLE, TN 37210	
HTH DRY CHLORINATOR GRANULAR	1325	CALCIUM HYPOCHLORITE 65%	OLIN	0780
			STAMFORD, CT 06904	7778543
HULBEST EP7 LUBRICANT	923	PROPRIETARY	HULBERT	0584
		PET. HYDROCARBONS	MARION,IL	
HULLITH EP LUBRICANT	1431	HYDROCARBONS	CENTURY HULBURT	1085
			KANSAS CITY, KS 66111	
HUMISEAL 1A20	1301	20% XYLENE,5% ETHYL BENZENE,	HUMISEAL DIVISION	0885
		25% -PMA-,1% -TDI-	WOODSIDE, NY 11377	
HUMISEAL THINNER NO. 521	1304	100% XYLENE	HUMISEAL DIVISION	0885
			WOODSIDE, NY 11377	1330203
HX-752 DYNAMAR BRAND CURATIVE	806A	PHENYLENEDICARBONYL	3M	0689
		3-2-3-C/Y SARA	ST PAUL MINN	7652644
HX-878 DYNAMAR CURATIVE	808A	CYANOETHYLATED POLYAMINE	3M	0989
		2-2-3-E	ST. PAUL, MN 55144-1000	6841246
HYCAR ACRYLIC ELASTOMER	1153	POLYACRYLIC RUBBER	B.F.GOODRICH CHEM GROUP	1184
			CLEVELAND, OH 44131	
HYCAR NITRILE ELASTOMERS	924	BUTADIENE/ACRYLONITRILE	B.F.GOODRICH CHEM GROUP	0485
		COPOLYMER	CLEVELAND, OH 44131	9003189
HYCAR 1300X103 COPOLYMER	207	CARBOXYL TERM.LIQ.-HYDROGEN	B.F.GOODRICH CHEM GROUP	0181
		CYANIDE & 80PPM ACRYLONITRILE-	CLEVELAND, OH 44131	2506726

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
HYDRANAL COMPOSITE 2 34806	1188	PROPRIETARY	CRESCENT CHEMICAL CO.	9999
			HAUPPAUGE, NY 11788	
HYDRANAL COMPOSITE 34805	1026	20% IMIDAZOLE, 12% SO2,	CRESCENT CHEMICAL CO.	0483
		10% I2, 70% METHYLGLYCOL	HAUPPAUGE, NY 11788	
HYDRANAL COMPOSITE 34807	2885	30% TRICHLOROMETHANE,30% IMID-	CRESCENT CHEMICAL CO.	0487
		OZOLE,10% O2S,5% IODINE	HAUPPAUGE, NY 11788	
HYDRAZINE MONOHYDROBROMIDE	710	HYDRAZINE MONOHYDROBROMIDE	OLIN	0281
			STAMFORD, CT 06904	13775809
HYDRAZINE MONOHYDROCHLORIDE	709	HYDRAZINE MONOHYDROCHLORIDE	OLIN	0281
			STAMFORD, CT 06904	2664704
HYDRAZINE SOLUTION 64%	745	HYDRAZINE SOLUTION, 64%	OLIN	0479
			STAMFORD, CT 06904	3028129
HYDRAZINE SOLUTION 70%	754	HYDRAZINE SOLUTION, 70%	OLIN	1188
			STAMFORD, CT 06904	30201
HYDRION BUFFER SALTS	500A	SULPHAMIC ACID	MICRO ESSENTIAL LAB INCOR	1087
		0-1-0-B	NEW YORK, NY 11210	5329140
HYDROCHLIC ACID	398A	HYDROCHLORIC ACID	EM SCIENCE	1087
		3-0-0-G	CHERRY HILL N.J.	7647010
HYDROCHLORIC ACID	114A	HYDROCHLORIC ACID	J.T. BAKER	0589
			PHILLIPSBURG, NJ	7647010
	1377	HYDROCHLORIC ACID	ALDRICH CHEMICAL CO	1086
			MILWAUKEE, WI 53201	7647010
	533	HYDROCHLORIC ACID	MALLINCKRODT CHEMICALS	0986
			PARIS, KY 40361	7647010

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
HYDROCHLORIC ACID	565	HYDROCHLORIC ACID	FISHER SCIENTIFIC	0188
			FAIR LAWN. NJ 07410	764701
	731	HYDROCHLORIC ACID	ALLIED CHEMICAL	0481
			MORRISTOWN. NJ 07960	764701
	114	6-23% H CLIN H2O	J T BAKER -VW SCIENTIFIC-	0186
			PHILLIPSBURG. NJ 08865	764701
HYDROCHLORIC ACID -MURIATIC-	1095	HYDROCHLORIC ACID	PURO CHEMICAL	9999
			ST. LOUIS. MO. 63103	764701
HYDROCHLORIC ACID. CONCENTRATE	565A	HYDROCHLORIC ACID	FISHER SCIENTIFIC	0789
		3-0-0-G	FAIR LAWN NJ	764701
HYDROCHLORIC ACID.37%ACSREGENT	1377A	HYDROCHLORIC ACID	ALDRICH	0789
		3-0-0-G SARA	MILWAUKEE WI	764701
HYDROFLUORIC ACID 49%	229	HYDROFLUORIC ACID 49%	FISHER SCIENTIFIC	1087
		WATER 51%	FAIR LAWN. NJ 07410	766439
HYDROGEN PEROXIDE	1597	HYDROGEN PEROXIDE	ALDRICH CHEM CO.	0689
		4-0-1-0-G-Y	MILWAUKEE WI.-	772284
HYDROGEN PEROXIDE 30%	1607	HYDROGEN PEROXIDE 30%	ALDRICH CHEM CO.	0689
		4-0-0-0-G-Y	MILWAUKEE. WI.	72284
HYDRON BUFFER POWDERS	523	SERIES OF 10 ORGANIC &	FISHER SCIENTIFIC	
		INORGANIC SALTS	FAIR LAWN. NJ 07410	
HYDROXYLAMINE HYDROCHLORIDE	1602	HYDROXYLAMINE HYDROCHLORIDE	ALDRICH CHEM CO.	0689
		4-2-3-G-Y	MILWAUKEE WI.	255580
HYLDRAULIC AW FLUID	1440	HYDROCARBONS	CENTURY OILS	1286
			KANSAS CITY. KS 66111	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
HYDROCHLORIC ACID GAS	1522	HYDROGEN CLORIDE	ALDRICH CHEMICAL CO MILWAUKEE, WI 53201	0888
IGNITER MIX	1530	IGNITER MIX I-276	OLIN STAMFORD, CT 06904	0189
IGNITER MIX B-105	1260	POWDERED METAL/ OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX I-194	153	METAL OXIDIZER PYROTECHNIC MIX/BINDER	OLIN STAMFORD, CT 06904	1087
IGNITER MIX I-508	1257	POWDERED METAL/ OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX I-68	1255	POWDERED METAL /OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-17	1249	POWDERED METAL/OXIDIZER PYROTECHNIC MIX/BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-27	1250	POWDERED METAL/OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-43	1251	POWDERED METAL/OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-50	1252	POWDERED METAL /OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-51	1253	POWDERED METAL/OXIDIZER PYROTECHNIC /BINDER	OLIN STAMFORD, CT 06904	0386
IGNITER MIX IB-52	1254	POWDERED METAL/OXIDIZER PYROTECHNIC MIX /BINDER	OLIN STAMFORD, CT 06904	0386

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
IGNITER MIX IS-102	1258	POWDERED METAL/ OXIDIZER	OLIN	0386
		PYROTECHNIC MIX / BINDER	STAMFORD, CT 06904	
IGNITER MIX IS-103	1259	POWDERED METAL/ OXIDIZER	OLIN	0386
		PYROTECHNIC MIX/ BINDER	STAMFORD, CT 06904	
IGNITER MIX SPI-2	1261	POWDERED METAL/ OXIDIZER	OLIN	0386
		PYROTECHNIC MIX/ BINDER	STAMFORD, CT 06904	
IGNITER MIX 1-136 -RS-41-	1256	POWDERED METAL/ OXIDIZER	OLIN	0386
		PYROTECHNIC MIX /BINDER	STAMFORD, CT 06904	
IGNITER PELLETS	306	BORON	M.B.A. TRACOR	1277
			EAST CAMDEN AR	744042
IGNITER TYPE III	1574	IGNITER TYPE III	PYROTECHNIC SPECIALTIES	0289
		3-3-4-B	BYRON GA.	
IGNITER. I-176	1040	METAL/OXIDIZER MIX	U.S.GOVERNMENT	0978
IGNITER. I-508	1041	METAL/OXIDIZER MIX	U.S.GOVERNMENT	1278
IMINO	1517	IMINO MERT 3.3	ALDRICH CHEMICAL CO	0588
			MILWAUKEE, WI 53201	111944
IMMINODIPROPIONITRILE.3-3.TECH	568	IMMINODIPROPIONITRILE.3-3.90%	ALDRICH CHEMICAL CO	0588
			MILWAUKEE, WI 53201	111944
INCENDIARY MIX RS-40	1262	POWDERED METAL/ OXIDIZER	OLIN	0386
		PYROTECHNIC MIX / BINDER	STAMFORD, CT 06904	
INDUSTREX DEV REPLENISHER-A-	836	10% HYDROQUINONE-5. 5% POTAS.	EASTMAN KODAK	0183
		HYDROXIDE-1.30% POT. SULFITE	ROCHESTER, NY 14650	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
INDUSTREX DEV.REPLENISHER-C-	982	15% GLUTARALDEHYDE	EASTMAN KODAK	0583
		25% ALDEHYDE BISULFITE PROD.	ROCHESTER, NY 14650	
INDUSTREX FIXER&REPLENISHER-A-	981	ACETIC ACID	EASTMAN KODAK	0178
		WATER	ROCHESTER, NY 14650	
INHIBITOR MIX F-1	1268	MIXTURE	OLIN	0386
		INERT	STAMFORD, CT 06904	
INHIBITOR MIX F-107	1271	MIXTURE	OLIN	0386
		INERT	STAMFORD, CT 06904	
INHIBITOR MIX F-150	1272	MIXTURE	OLIN	0386
		INERT	STAMFORD, CT 06904	
INHIBITOR MIX F-21	1269	MIXTURE	OLIN	0386
		INERT	STAMFORD, CT 06904	
INHIBITOR MIX F-22	1270	MIXTURE	OLIN	0386
		INERT	STAMFORD, CT 06904	
INK -S- COLORS-46283/628	1299	GLYCOL ETHER & ALCOHOL	INDUSTRIAL MARKING EQUIP.	9999
		BLACK,YELLOW,WHITE,RED &BLUE	WEST PALM BEACH, FL 33407	
INK BLACK NO.4	346	30% BUTYL/ETHYL ALCOHOL	KIWI CODER CORP	9999
		10% ETHYLENE GLYCOL	WHEELING, IL 60090	
INK BLACK NO.50	334	30% BUTYL/ETHYL ALCOHOL	KIWI CODER CORP	9999
		10% ETHYLENE GLYCOL	WHEELING, IL 60090	
INK BLACK OFFSET 615	1059	GLYCOL MONO BUTYL ETHER-22%	MATTHEWS INTERNATIONAL	0884
		DIETHYLENE & 17% ETHYLENE-	PITTSBURG, PA 15206	
INK BLACK SPECIAL STAMP	335		SCHWABB STAMP & SEAL	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
INK BLACK STAMP PAD #9	1116	DIACETONE ALCOHOL	PHILLIPS PROCESS CO., INC ROCHESTER, NY 14614	1085
INK BLACK 7132	1593	DITHYLENE GLYCOL MONOBUTYL ETH 1-1-1-8	MARKEM CORP KEEN N.H.	1186
INK CODER BUKEPROPEE DB1226	940	GYLCOL ETHER ALCOHOL 1280	DIAGRAPH INDUSTRIES HERRIN, IL	1280
INK CONDITIONER -1226-	939	ALCOHOL GLYCOL ETHER	DIAGRAPH INDUSTRIES HERRIN, IL	0583
INK CONDITIONER #4	345	BUTYL ALCOHOL ALCOHOL	KIWI CODER CORP WHEELING, IL 60090	0586 7136
INK CONDITIONER #8	324	90% ETHYL ALCOHOL.- 5% METHYL ISOBUTYL KETONE.-5% METHANOL	KIWI CODER CORP WHEELING, IL 60090	9999
INK DRY OFFSET #609	996	40% GLYCOL ETHER 10% GLYCOL	INDEPENDENT INK CO GARDENA,CA	0877
INK ENAMELMARKING TT-I-1795	553	INK ENAMEL MARKING TT-I-1795 TYPES I & II	RANDOLPH PRODUCTS CARLSTADT, NJ 07072	0188
INK GP-X WHITE MARKER	1182	60% XYLENE	DIAGRAPH CORP. HERRIN, IL 62948	0286
INK KIWI MARKING #4 PIGMENTS	1029	10% ISOPROPYL ALCOHOL 32% LEADCHROMATE	KIWI CODER CORP WHEELING, IL 60090	0484
INK OFFSET WHITE 615	1060	GLYCOL MONO BUTYL ETHER -14%	MATTHEWS INTERNATIONAL PITTSBURG, PA 15206	1084
INK TOOL MARKERS BLUE 6001	269	DIETHYLENE & 17% ETHYLENE- 30% PROPANE,5% TOLUENE,-5% MEK,-5% TRICHLOROETHANE	CROWN INDUSTRIAL PROD. HEBRON IL	0882

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
INK VIEDOJET 16-8205	1592	INK VIEDOJET 16-8205	VIEDOJET SYSTEMS	1185
		1-4-0-B-Y -SARA TOXIC-	ELK GROVE VILLAGE IL.	
INK WHITE OPAQUE NO.3	333	40% DIACETONE. 37% PIGMENTS.	PHILLIPS PROCESS CO.. INC	0785
		14% RESINS. 58% BENZYL ALCOHOL	ROCHESTER. NY 14614	
INK WHITE 6835	332	50% SOLVENTS	MARKEM CORPORATION	9999
			KEENE. NH 03431	
INK YELL.ETANGERINE 73X	1017	20% ISOPROPYL ALCOHOL. 35%	INDEPENDENT INK CO	0582
		LEAD CHROMATE	GARDENA.CA	
INK 547 BLACK	1575	INK 547 BLACK	INDEPENDENT INK	0489
		2-4-0-G SARA TOXIC	GARDENA CA.	
INK-SCL TIRE ORANGE	1454	10% XYLENE. 31% MOLYBDATED	ESSELTE PENDAFLEX CORP.	
		ORANGE	AUGUSTA.GA 30904	
INK. #9 BLACK OPAQUE CLEAR	1116A	DIACETONE ALCOHOL	PHILLIPS PROCESS CO	0389
		2-2-0-G	ROCHESTER NY	123422
INK. BLACK SPRAY STENCIL	289	HYDROCARBONS. KETONES.	DIAGRAPH CORP.	0683
		HC PROPELLANT	HERRIN. IL 62948	
INK. BLUE TOOLMKRS*S6001.16001	269A	MIXTURE	CROWN IND	0589
		2-4-0-A SARA TOXIC	HEBRON. IL 60034	
INK. MARKING AEROSOL	244		DIAGRAPH BRADLEY CORP.	
			HERRIN. IL 62948	
INK. MARKING STENCIL TYPE N	1188	ALIPHATIC HYDROCARBON	MARSH STENCIL MACHINE CO.	1285
		BLACK.RED.BLUE.& WHITE	BELLEVILLE.IL 62222	
INK. MARSH ROLMARK	1107	DIACETONE ALCOHOL	MARSH STENCIL MACHINE CO.	9999
			BELLEVILLE.IL 62222	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
INK. QUIK-SPRAY TAN BLOCKOUT	219	10-30% DICHLOROMETHANE.	DIAGRAPH CORP.	0286
		10-30% PROPANE	HERRIN. IL 62948	
INK. R-1 BLACK INK R10	1240	60% DIACETONE ALCOHOL	DIAGRAPH CORP.	1285
		INK	HERRIN. IL 62948	
INK. YELLOW S-2 R.I.O.	1055	LEAD.KETONE. GLYCOL ETHER	DIAGRAPH BRADLEY CORP.	0982
		ALCOHOL	HERRIN. IL 62948	
INK. 648 FLEXO YELLOW	1309	ETHYL ALCOHOL/N-PROPYL ACETATE	INDUSTRIAL MARKING EQUIP.	0684
		YELLOW APPEARANCE/SOLVENT ODOR	WEST PALM BEACH. FL 33407	
INK.#4 CONDITIONER	345A	N-BUTYL ALCOHOL	KIWI CODERS	0288
		1-3-0-G	WHEELING. IL	7136
INK.QUICK SPRAY BLACK STENCIL	289A	METHYLENE CHLORIDE FREE	DIAGRAPH BRADLEY	0189
		0-3-1-B	HERRIN IL	
INK.QUICK-SPRAY TAN BLOCKOUT	219A	QUICK-SPRAY TAN BLOCKOUT INK	DIAGRAPH BRADLEY	8688
		0-4-0-A	HERRIN. IL	
INLAND Z-61	1076	POLY DIMETHYL SILICONE	INLAND PACKAGING CORP.	9999
		COMPOUND	ELIZABETHTOWN. KY.	
INSECTICIDE. PERSONAL	1101	METHYLENE CHLORIDE.ISOPROPANOL	CHASE PRODUCTS CO.	9999
		PIPERONYL BUTOXIDE.PYRETHRINS	BROADVIEW. IL 60153	
IODINE	1337	IODINE	E M SCIENCE	0384
			CHERRY HILL. NJ 08034	755356
IODINE. SUBLIMED	1337A	IODINE	EM SCIENCE	0288
		3-0-0-G	GIBBSTOWN NJ	755356
IODOFORM	443	98% IODOFORM	ALDRICH CHEMICAL CO	0484
			MILWAUKEE. WI 53201	7547

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
IODOFORM, 99%	443A	IODOFORM	ALDRICH CHEMICAL	0789
		2-0-0-G	MILWAUKEE WI	75478
IORN OXIDE III	1606	IORN OXIDE III	MOBAY CORP.	1287
		1-0-0-A	PITTSBURG, PA.	1309371
IRGANOX 1010	505	TETRAFIS-METHYLENE DI TERT.	CIBA-GEIGY	0783
		BUTYL HYDROXYHYDRO CINNAMATE	ANDSLEY NY	
	505A	TETRAKIS METHANE	CIBA-GEIGY CORP	0289
		1-1-0-E	HAWTHORNE NY	
IRON CASTING, GRAY	1374	IRON PLUS 13 OTHERS	UNITED FOUNDRY -GILLIAN-	1085
			GRAFTON, WI 53024	
	1387	IRON PLUS 13 OTHERS	WELLS MFG.CO.-GILMAN INC-	1085
			GRAFTON, WI 53024	
IRON OXIDE	779	FERRIC OXIDE	PFIZER CHEMICAL DIV.	9999
			NEW YORK, NY 10017	1309371
IRON, DUCTILE	1388	IRON PLUS 13 OTHERS	WELLS MFG.CO.-GILMAN INC-	1085
			GRAFTON, WI 53024	
	1378	IRON PLUS 14 OTHERS	UNITED FOUNDRY -GILLIAN-	1085
			GRAFTON, WI 53024	
ISOBUTYL ACETATE	726A	ACETIC ACID2-METHYLPROPYLESTER	EASTMAN KODAK	0487
		1-4-0-G	ROCHESTER NY	110198
	726	ISOBUTYL ACETATE	EASTMAN KODAK	0878
			ROCHESTER, NY 14650	110198
ISONATE 143L	757	POLYURETHANE COPOLYMER	UPJOHN COMPANY	0383
			KALAMAZOO MI	3939441

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
ISONATE 143L MDI	1356	80% DIPHENYLMETHANE DIISOCYANA	DOW CHEMICAL U.S.A.	0686
		20% SAME/HOMOPOLYMER	MIDLAND, MI 48674	26447405
ISONATE 143L MODIFIED MDI	1356A	DIPHENYLMETHANE DIISOCYANATE	DOW CHEMICAL	1288
		1-1-2-A - SARA	MIDLAND MI	
	757A	DIPHENYLMETHANE DIISOCYANATE	DOW CHEMICAL	0889
		1-1-D	MIDLAND MI 48674	26447405
ISONOL 100	756	N,NBIS -2 HYDROZY PROPYL-	UPJOHN COMPANY	1279
		ANILINE	KALAMAZOO MI	
ISONOL 100 POLYOL	756A	2-PROPANOL,1,1'-PHENYLAMINOBIS	UPJOHN/DOW CHEMICAL	0289
		H--, F-2, R-1, PE-B SARA	MIDLAND MI	30771325
ISOPHORONE DIISOCYANATE	1183	ISOPHORONE DIISOCYANATE	NUDDEX INC.	0486
			PISCATAWAY,N.J. 08854	4098714
	1183A	ISOPHORONE DIISOCYANATE	NUDDEX/HULS AMERICA	0288
		3-1-0-G/Y	PISCATAWAY NJ	4098719
	769	ISOPHORONE DIISOCYANATE	THORSON CHEM.CO	9999
			W.GERMANY	4098719
ISOPROPANOL	113	ISOPROPANOL	REND LAKE CHEMICAL	0179
		ISOPROPYL ALCOHOL	MT. VERNON, IL	67639
	336	2-PROPANOL	J T BAKER CHEMICAL CO	0985
			PHILLIPSBURG, NJ 08865	67630
ISOPROPANOL -99%-	288	ISOPROPANOL	ASHLAND CHEMICAL	0179
			ST. LOUIS, MO	67630
ISOPROPANOL 99%	288A	ISOPROPANOL	ASHLAND CHEMICAL	0487
		1-3-0-G	ASHLAND KY	67630

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
ISOPROPYL ALCOHOL	516-A	2-PROPANOL	FISHER SCIENTIFIC	0287
		HYDROXYL.ALIPHATIC	FAIR LAWN. NJ 07410	676
KALEX 15036 PT A	1296A	DIPHENYLMETHANE DIISOCYANATE	HARDMAN INC	0386
		1-1-0-GSARA	BELLEVILLE NJ	
KALEX 15036-A	1296	HARDMAN'S D-85	HARDMAN INC.	0386
		URETHANE -PROP.-	BELLEVILLE.NJ. 07109	
KALEX 15036-B	1297	HARDMAN'S D-85	HARDMAN INC.	0386
		URETHANE -PROP.-	BELLEVILLE.NJ. 07109	
KARL FISCHER DILUENT KF -SOK5-	865		FISHER SCIENTIFIC	
			FAIR LAWN. NJ 07410	
KARL FISCHER REAGENT -SOK3-	851	52% ETHYL.GLY.MONOM.ETH.26.5%	FISHER SCIENTIFIC	0587
		PYRIDINE.13.7% IODN.7.4% SO2	FAIR LAWN. NJ 07410	
KARL FISCHER SO-T-43	866	TITANOUS CHLORIDE	FISHER SCIENTIFIC	
			FAIR LAWN. NJ 07410	7705079
KARL FISHER DILUENT	911	METHYL CELLOSOLVE PYRIDINE	FISHER SCIENTIFIC	0983
			FAIR LAWN. NJ 07410	
KEN REACT KR TTS	1404A	TITANIUM IV 2-PROPANOLATO.TRIS	KENRICH	0389
		0-1-0-G/Y SARA	BAYONNE NJ	61417498
KEN-REACT COUPLING AGENT	1404	ISOPROPYL. TRIISOSTEAROYL	KENRICH PETROCHEMICALS	0586
		TITANATE	BAYONNE.NJ. 07002	
KEROSENE	904	ALIPHATIC HYDROCARBONS	SHELL OIL	0182
			HOUSTON. TX 77210	
KETJENFLEX-8	1376	MIXED N-BUTYL/N-ETHYL	AKZO CHEMIE AMERICA-IND.-	0786
		-PARA-TOLUENE-SULFONAMIDE-	CHICAGO. IL 60606	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
KEVLAR 29-49	1684	KEVLAR 29-49	E.I. DUPONT DE NEMOURS CO	0789
		1-1-0-B	WILLINGTION DE.	
KEVLAR® ARAMID FIBER	1353	POLYMER/PARAPHENYLENE-DIAMINE	E.I.DUPONT	0786
		TEREPHTHALIC ACID	WILMINGTON. DE 19898	
KILLARK SEALING COMPOUND #30	584	PROPRIETARY	KILLARK	9999
			ST.LOUIS.MO	
KLENOSAN	577		CONTINENTAL CHEM CO	
			CLITTON NJ	
KLUCEL	1094	HYDROXYPROPYL CELLULOSE	HERCULES INC	0480
			WILMINGTON. DE 19899	9004642
KODAFLEX DOA PLASTICIZER	670A	BIS-2-ETHYLHEXYL- ADIPATE	EASTMAN CHEMICAL PROD.	0889
		0-1-0-B SARA TOXIC	KINGSPORT. TN 37662	10323
KODAK DEKTOL DEVELOPER	1492A	SOLID MIXTURE	EASTMAN KODAK	0686
		1-0-0-B SARA	ROCHESTER NY	
KODAK FIXER WASH SYSTEM CLEANR	832	NO HAZARDOUS	EASTMAN KODAK	1081
			ROCHESTER. NY 14650	
KODAK LIQ DEV.SYS.CLEANER	995	20% SODIUM PICHROMATE	EASTMAN KODAK	0584
		20% SULFURIC ACID. WATER	ROCHESTER. NY 14650	
KODAK LIQUID DEV SYSTEM CLEAN	995A	LIQUID DEV SYSTEM CLEANER	EASTMAN KODAK	0488
		2-0-0-B	ROCHESTER NY	
KODAK RP X-OMAT DEV/REP -B-	1195	90% ACETIC ACID. 15% PHENYL	EASTMAN KODAK	0284
		PYRAZOLIDONE	ROCHESTER. NY 14650	
KODAK RP X-OMAT DEV/REP-C-	1196	5% GLUTERALDEHYDE	EASTMAN KODAK	0784
			ROCHESTER. NY 14650	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
KODAK RP X-OMAT FIXER/REP-B	1198	25% ACETIC ACID. 10% ALU.	EASTMAN KODAK	0484
		10% GLUCONICACID	ROCHESTER. NY 14650	
KODAK RP-XOMAT DEV/REP PT B	1195A	AQUEOUS MIXTURE	EASTMAN KODAK	1185
		2-2-0-G	ROCHESTER NY	
KODAK RP-XOMAT DEV/REP PT C	1196A	AQUEOUS MIXTURE	EASTMAN KODAK	0686
		3-0-0-G	ROCHESTER NY	
KODAK SCREENCLEANER/ANTISTATIC	1193	-1% PHOSPHORIC ACID. -1%	EASTMAN KODAK	1185
		SURFACTANT.-99% WATER	ROCHESTER. NY 14650	
KRONA RED IRON OXIDE	779A	FERRIC OXIDE	PFIZER PIGMENTS	1288
		1-0-0-E	NEW YORK. NY	130937
LACQUER	1516	LACQUER COMP. MIL. A-82484TY.	RANDOLPH PRODUCTS	0688
		MIL-A-8284. TYPE III.	CARLSTADT. NJ 07072	
LACQUER AMMO. SILVER N5840	1438	55% ETHYL ACETATE. 10% TOLUENE	ALFA INK DIV.LAKELAND LAB	0387
		5% AROMATIC PETROLEUM SOLVENT	CARLSTADT.NJ 07072	
LACQUER CLEAR GLOSS 7643	330		HEYER-	
LACQUER COLOR #33538	1514	LACQER LUSTERLESS	RANDOLPH PRODUCTS	0688
			CARLSTADT. NJ 07072	
LACQUER COMPOUND MIL-A 82484	548	LACQUER COMPOUND MIL-A 82484	RANDOLPH PRODUCTS	0588
		TYPE III	CARLSTADT. NJ 07072	
LACQUER COMPOUND. ADH & SEAL	1516A	MIL-A-82484 TYPE III	RANDOLPH PRODUCTS	0588
		3-4-0-G/Y	CARLSTADT NJ	
LACQUER DUNBAR TT-L-26	1281	35% XYLENE. 15% MIK. 5% CELLO-	DUNBAR SALES CO.	1282
		SOLVE ACETATE. 15% BUTANOL	BAYONNE. NJ 07002	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
LACQUER DURACRYL ACRYLIC ORANG	1212	10% LEAD CHROMATE-35% TULUENE-	PPG INDUSTRIES INC	0884
		20% 2-BUTANONE-5% XYLENE	CLEVELAND. OH 44111	
LACQUER MIL L10287 TYPE1	990	10% NITRO CELLULOSE. KETONES.	RANDOLPH PRODUCTS	0384
		ALCOHOLS.ACETATES.AROM. HC	CARLSTADT. NJ 07072	
LACQUER MIL-11195	1518	LACQUER LUSTERLESS	RANDOLPH PRODUCTS	0685
		COLOR#31158	CARLSTADT. NJ 07072	
LACQUER SEMI GLOSS	211	NCBLACK 27038-XYLENE.TOLUENE.	PRATT/LAMBERT IND.COATING	0188
		DI-2-ETHYLHEXY-PHTHALATE+MIX.	WICHITA.KS 67201	
LACQUER SG CN YELLOW 23538	212	LEAD CHROMATE. TOLUENE.DI-	PRATT/LAMBERT IND.COATING	0188
		-2-ETHYLHEXY-PHTHALATE+MIX.	WICHITA.KS 67201	
LACQUER TYPE 1 COLOR 14110	350		BANNER PAINT CO	
LACQUER 3979S	327	85% ETHER EXTER	DUPONT	1284
		15% PET. DISTILLATE -INC.AROM-	WILMINGTON.DE	
LACQUER. CELLULOSE NITRATE	1281A	TT-L-26 LACQUER	DUNBAR SALES	1088
		2-4-0-E&Y	BAYONNE NJ	
LACQUER. GRAY GLOSS	1344	BUTANOL. BUTYL CELLOSOLV.	STANDARD PAINT CO.	0986
		MIBK. OTHERS	DETROIT.MI.48238	
LACQUER. GRAY GOLSS	1344A	BUTANOL	STANDARD PAINT CO	0789
		0-3-0-B	DETROIT MI	
LACQUER. NC. RED	323	10% METHYL ISOBUTYL KETONE	ROCKFORD CHEM.COATINGS	0485
		40% TOLUENE. -5% MEK	ST.LOUIS.MO	
LACQUER. PURPLE RANDOLPH	1080	15% XYLENE-15% BUTYL ACETATE	RANDOLPH PRODUCTS	0885
		7% METHANOL	CARLSTADT. NJ 07072	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
LACQUERS	1036		U.S.GOVERNMENT	1272
LANDMARK DUST MOP TREATMENT	1456		LANDMARK CHEMICAL CO.	0586
		PERFUMES	MARION, IL 62959	
LANOLIN	314		FISHER SCIENTIFIC	0680
			FAIR LAWN, NJ 07410	8006540
	314A	LANOLIN	FISHER SCIENTIFIC	0789
		0-1-0-A	FAIR LAWN NJ	8006540
LANTHANUM OXIDE	1314A	LANTHANUM OXIDE	JT BAKER	0589
		1-0-0-B SARA	PHILLIPSBURG NJ	1312818
	1314	LANTHANUM TRIOXIDE	J T BAKER CHEMICAL CO	0686
			PHILLIPSBURG, NJ 08865	1312818
LAQUER DURACRYL CLEAR	1215	45% TOLUENE-15% 2-BUTANONE-	PPG INDUSTRIES INC	0884
		5% XYLENE	CLEVELAND, OH 44111	
LATEX CONCRETE POWDER	579	PORTLAND CEMENT	CAMP CO.	9999
		LATEX	CHICAGO,IL	
LEAD DIOXIDE	709	LEAD DIOXIDE	FISHER SCIENTIFIC	0680
			ST. LOUIS, MO	1309608
LEAK TEST-100,100K,200	292	NONYL PHENYL POLYGLYCOL ETHER	WESTERN ENTERPRISES	
			WESTLAKE, OH 44145	
LECTROETCH #2 CLEANER	259A	PHOS/GLYC/WATER	LECTROETCH CO	0789
		1-1-0-B	EAST CLEVELAND OHIO	
LECTROETCH LNC-2	258	4%NITRATE,4%CHLORIDE,9%SEQUES-	LECTROETCH	9999
		TRANT,5% CITRATE,3% WETAGENT	EAST CLEVELAND, OH 44112	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
LECTROETCH LNC-2 ELECTROLYTE	258A	LNC-2 ELECTROLYTE	THE LECTROETCH CO	0789
		1-0-0-B	EAST CLEVELAND OHIO	
LECTROETCH LNC-3	1223	15% CHLORIDE. OTHERS	LECTROETCH	
			EAST CLEVELAND. OH 44112	99000000
LEXAN RESIN	949	BASE RESIN -HOMOPOLYMER-	GENERAL ELECTRIC	1185
		POLYCARBONATE	PITTSFIELD. MA 01201	
LIGHT WATER FC299 AFFF	1018	30% BUTYL CARBITOL. 5% FLUORO-	AMEREX CORP	9999
		ALKYLS. 5% DETERGENT	TRUSSVILLE.AL 35173	
LIGNOSITE L	1059A	CALCIUM LIGNOSULFONATE LIQUID	GEORGIA PACIFIC	0289
		0-0-0-A	BELLINGHAM MA	
LIGNOSITE-L	1050	CALCIUM LIGNOSULFITE	GEORGIA-PACIFIC CORP.	9999
			BELLINGHAM. WA.	
LIME	834	CALCIUM OXIDE	MISSISSIPPI LIME CO.	0883
			STE.GENEVIEVE MI	1305788
LIME. HYDRATED	1354A	CALCIUM HYDROXIDE	BACK RIVER LIME CO	0586
		1-0-0-E	BUTLER KY	
	1354	98% CALCUIM HYDROXIDE	BLACK RIVER LIME CO.	0385
		3% MAGNESIUM HYDROXIDE	BUTLER.KY. 41006	
LITHIUM CARBONATE	1171	LITHIUM CARBONATE	E M SCIENCE	1285
			CHERRY HILL. NJ 08034	554132
LITHIUM GREASE EP-1 & EP-2	232	LITHIUM 12 OH STEARATE &	QUAKER STATE	9999
		MINERAL OIL	OIL CITY. PA 16301	
LOCQUIC PRIMER T	1159A	1.1.1-TRICHLOROETHANE	LOCTITE	1188
		1-2-0-B/Y SARA	NEWINGTON CT	71556

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
LOCTITE ADHESIVE/SEALANT 242	183	POLYGLYCOL DIMETHACRYLATES 60-	LOCTITE CORPORATION	1185
		65% POLYGLYCOL OLEATES 25-30%	NEWINGTON, CT 06111	
LOCTITE ADHESIVE/SEALANT 262	1311	75%POLYGLYCOL DIMETHACRYLATES.	LOCTITE CORPORATION	1185
		2% CUMENE HYDROPEROXIDE.2% 02S	NEWINGTON, CT 06111	
LOCTITE THREADLOCKER #270	367	3% HYROPEROXIDE.-1% DIALKYL-	LOCTITE CORPORATION	0285
		TOLUIDINE.25% FUMERATE POLYSTR	NEWINGTON, CT 06111	
LOK-OFF	1469	POTASSIUM HYDROXIDE.AMMONIA.	JAMES VARLEY-R&H SERVICE-	0187
		ETHYLENEGLYCOL MONOBUTYL ETHER	ST. LOUIS, MO 63147	
LUBRICANT NO.33 EP140	362		HULBERT	
			MARION,IL	
LUBRICANT A-1000	368	40%METHYLENE CHLORIDE.40%TRI-	CAMIE-CAMPBELL	9999
		CHLORETHANE.29%PROPANE1%TEFLON	ST. LOUIS, MO	
LUBRICANT AMOVIS NO.8-X	353	PETROLEUM OIL	AMOCO CHEMICALS CO.	1279
		CALCUIM COMPLEX THICKENER	CHICAGO,IL 60601	
LUBRICANT CRC 5-56	293		CRC CHEMICALS	
LUBRICANT DIE SET 2696A	1313	PETROLEUM HYDROCARBON	AVONDALE IND.,INC.	0486
			MAYVILLE,WI 53050	
LUBRICANT ENLUBE AIR TOOL	1587	LUBRICANT ENLUBE AIR TOOL	ENGINEERING LUBRICANTS	0389
		1-1-0-D SARA TOXIC	MARYLAND HGTS MO.	
LUBRICANT ENLUBE CHAIN CABLE	1589	LUBRICANT ENLUBE CHAIN CABLE	ENGINEERING LUBRICANTS	0389
		2-3-0-8. SARA TOXIC	MARYLAND HGTS MO.	
LUBRICANT ENLUBE CTO-LT-1	1584	LUBRICANT ENLUBE CTO-LT-1	ENGINEERING LUBRICANTS	0186
		1-1-0-BSARA TOXIC	MARYLAND HGTS MO.	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
LUBRICANT ENLUBE GEAR SHIELD	357		ENGINEERED LUBRICANTS	
LUBRICANT ENLUBE GPEP-2-GREASE	1586	LUBRICANT GPEP-2-GREASE	ENGINEERING LUBRICANTS	0288
		1-1-0-B	MARYLAND HGTS MO.	
LUBRICANT SEALANT 111 VALVE	1588	LUBRICANT SEALANT 111 VALVE	DOW CORNING CORP	0786
		1-1-0-B	MILAND MI	
LUBRICANT. EMERY 2911	802	ISODECYL PELARGONATE	EMERY CHEMICALS	0886
		PROP.	CINCINNATI. OH 45232	109329
	802A	ISODECYL PELARGONATE	EMERY CHEMICALS	0886
		1-1-1-G/Y	CINCINNATI OH	109329
LUBRICANT. STARRETT M-1	264A	PETROLEUM DISTILLATE	LSSTARRETT/WEBBERGAGEDIV	0489
		1-2-1-C/I	CLEVELAND. OHIO	
LUBRIPLATE -100- SERIES	1244	LUBRICATING GREASE	FISKE BROTHERS REFINING C	1185
		PETROLEUM HYDROCARBONS	TOLEDO.OH 43605	
LUPERSOL DDM	813	METHYL ETHYL KETONE PEROXIDE	PENNWALT CORP.	9999
		35% DIMETHYL PHTHALATE	BUFFALO.NY	
LUPERSOL DDM-9	813A	METHYL ETHYL KETONE PEROXIDE	LUCIDOL/PENNWALT	0389
		H--. F-1. R-2. PE-B SARA	BUFFALO. NY	
LUSTERLESS LACQUER. HOT SPRAY	1514A	MIL-L-11195 #33538	RANDOLPH PRODUCTS	0688
		3-4-0-G/Y	CARLSTADT NJ	
M-BOND CATALYST	1173A	1.1.1-TRICHLORETHANE	MEASUREMENTS GROUP	1286
		2-2-0-B	RALEIGH NC	7155
M-BOND 200 ADHESIVE	1174	90% METHYL 2-CYANOACRYLATE.	MEASUREMENTS GROUP INC.	1084
		10% OTHERS	RALIEGH. NC 27611	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
M-BOND 200 CATALYST	1173	98% TRICHLORDETHANE	MEASUREMENTS GROUP INC.	1084
		2% PHENYLETHYL ETHANOLAMINE	RALIEGH. NC 27611	
M-GARD W550 WOOD PRESERVATIVE	216A	ZINC NAPHTHENATE.EMULSIFIERS.	MOONEY CHEMICALS	1086
		1-2-0-B.Y	CLEVELAND. OH	1200185
M-LINE RSK-1 ROSIN SOLVENT	1520A	ISOPROPYL ALCOHOL, TOLUENE	MEASUREMENTS GROUP	1285
		3-4-0-D	RALEIGH NC	
M-NITROANILINE	1179A	NITROANALINE	EASTMAN KODAK	0586
		2-1-3-G	ROCHESTER NY	99092
	1179	3-NITROBENZENAMINE	EASTMAN KODAK	0778
		100G & 500G NO2C6H4NH2	ROCHESTER. NY 14650	99092
M-TOLUENEDIAMINE	1230A	M-TOLUENEDIAMINE	MOBAY/BAYER CORP	0289
		3-1-0-G	PITTSBURGH PA	95807
MACROLEX RED GS	187		MOBAY CHEMICAL CORP.	0883
		ANTHRAQUINONE-METHYLAMINO-	UNION. NJ 07083	82382
	187A	CI SOLVENT RED 111	MOBAY CHEM/DYES&PIGMENTS	0185
		1-0-0-G	UNION. NJ	82382
MAGANESE CHLORIDE	1600	MAGANESE CHLORIDE	ALDRICH CHEM CO.	0689
		3-0-3-G-YSARATOXIC	MILWAUKEE WI.	1344634
MAGCHEM 40	1011	MAGNESIUM OXIDE	MARTIN MARIETTA	0184
			HUNT VALLEY.MD	130948
MAGNAGLOW CARRIER II	1488	MAGNAGLO CARRIER OIL	MAGNAFLUX CORP	0388
		WHITE MINERAL OIL	CHIAGO IL	8042475
MAGNAMITE PREGREGS 8551-2	424	EPOXY/RESIN/AMINE CURED-30-40%	HERCULES INC	0487
		GRAPHITE FIBERS 60-70%	WILMINGTON. DE 19894	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
MAGNANITE 8551-7 PREPREGS	536	EPOXY RESIN/AMINE CURED-30-40%	HERCULES INC	0787
		GRAPHITE FIBER-60-70%	WILMINGTON. DE 19894	
MAGNESIUM	1402	MAGNESIUM	JOHNSON MATTHEY AESAR	0686
			SEABROOK.NH 03874	7439954
	1465	MAGNESIUM	JOHNSON MATTHEY AESAR	0686
			SEABROOK.NH 03874	7439954
	598A	SAME	FISHER SCIENTIFIC	0789
		3-3-2-B	FAIR LAWN. NJ 07410	743997
MAGNESIUM CARBONATE	760	MAGNESIUM CARBONATE	BARIUM AND CHEMICALS INC	
			STEUBENVILLE. OH	546939
MAGNESIUM OXIDE	722	MAGNESIUM OXIDE	FISHER SCIENTIFIC	0780
			FAIR LAWN. NJ 07410	1309484
	722A	MAGNESIUM OXIDE	FISHER SCIENTIFIC	0389
		1-0-0-E	FAIR LAWN NJ	1309484
MAGNESIUM PERCHLORATE	1333	MAGNESIUM PERCHLORATE	EASTMAN KODAK	0879
			ROCHESTER. NY 14650	10034811
MAGNESIUM PERCHLORATE.ANHYDRON	1131A	MAG PERCHLORATE.ANHYDRONE	LECO CORP	0787
		0-0-1-B	ST JOSEPH MI	10034811
MAGNESIUM POWDER	673	MAGNESIUM	HART METALS	9999
			TAMAQUA. PA	7439954
	673A	MAGNESIUM POWDER	HART METALS	0885
		1-2-2-B	TAMAQUA PA.	7439954
	673B	METALLIC MAGNESIUM PWDER. MG	HART METALS. INC.	0789
		1-3-3-E	TAMAQUA. PA 18252	7439954

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
MAGNESIUM SULFATE	550	MAGNESIUM SULFATE	ALDRICH CHEMICAL CO	
			MILWAUKEE, WI 53201	7487889
MAGNESIUM/ALUMINUM POWDER	449	MAGNESIUM-50%-ALUMINUM-50%.	MAPCOA, INC.	0684
			CLEVELAND, OHIO 44125	
MAGNESIUM/ALUMIUM ALLOY	1027	MAGNESIUM	READE MANUF.	9999
		ALUMINUM	LAKEHURST, N.J.	
MAGNESIUMPOWDER	1031	MAGNESIUM	U.S.GOVERNMENT	0677
				7439954
	598	MAGNESIUM	FISHER SCIENTIFIC	0480
			FAIR LAWN, NJ 07410	7439954
MALEIC ACID	1346A	MALEIC ACID	CHEMICAL DYNAMICS	0789
		2-2-0-8	SOUTH PLAINFIELD NJ	110167
MALEIC ANHYDRIDE	644	MALEIC ANHYDRIDE	EASTMAN KODAK	0773
			ROCHESTER, NY 14650	
	644A	MALEIC ANHYDRIDE	EASTMAN KODAK	0888
		2-1-1-E	ROCHESTER NY	
MALONALDEHYDETETRAMETHYLACETAL	661	MALONALDEHYDE TETRAMETHYL	EASTMAN KODAK	0281
		ACETAL	ROCHESTER, NY 14650	102523
MALONALDHEYDETETRAMETHYLACETAL	661A	TETRAMETHOXYPROPANE	EASTMAN KODAK	0886
		0-2-0-A	ROCHESTER NY	102523
MALONIC ACID	485	MALONIC ACID	ALDRICH CHEMICAL CO	9999
			MILWAUKEE, WI 53201	141822
MALONIC ACID 99%	485A	MALONIC ACID	ALDRICH CHEMICAL	0789
		1-0-0-G	MILWAUKEE WI	1441822

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
MANGANESE DIOXIDE	702	MANGANESE DIOXIDE	FISHER SCIENTIFIC	0780
			ST. LOUIS. MO	1313139
MANGANESE METAL	1124	MANGANESE	KERR-MCGEE CHEMICAL CORP.	0785
			OKLAHOMA CITY. OKLA.73125	7439965
MANGANESE OXIDE	702A	MANGANESE OXIDE	FISHER SCIENTIFIC	0289
		0-0-0-E	FAIR LAWN NJ	1313139
MANOX	1569	FERRIC HEXACYANOFERRATE	MANOX LTD.	9999
		1-1-1-E	MANCHESTER MI.	
MANOX BLUE	1476A	FERRIC HEXACYANOFERRATE	MANCHEM	0789
		1-1-1-E	PRINCETON NJ	14038438
MANOX IRON BLUE	1476	FERRIC HEXACYANOFERRATE	MANCHEM. INC.	0388
		FERROCYANIDE	PRINCETON. NJ 08540	1403843
MANVER HARDNESS INDICATOR	173A	N/A	HACH	1088
		2-2-0	AMES IA	
MAPICO RED	783	IRON OXIDE	COLUMBIAN CHEMICALS CO	0280
			TULSA OK	
MARKEM 320 CLEANER	344A	ISOPROPYLALCOHOL ETHYL ACETATE	MARKEM	0188
		2-4-0-B/Y SARA	KEENE. NH	
MARKEM 501 CLEANER	366A	ETHANOL. DEN./CRESOLS	MARKEM CORP.	1285
		2-3-0-B/Y	KEENE NH	
MC-LUBE	610		MEGER IND.INC.	
MCLEUAR SIEVES-3A	770			

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO
MEEHANITE CASTINGS	1379	IRON PLUS 15 OTHERS	G & L FOUNDRY	1185
			MENAMINEE.MI 49858	
MELAMINE	222A	MELAMINE- TRIAMINO-S-TRIAZINE	MELAMINE CHEMICALS	1087
		2-0-0-E	DONALDSONVILLE. LA	108781
	222	TRIAMINOS TRIAZINE	MELAMINE CHEMICALS	1184
			DONALDSONVILLE LA	10878
MERCURY	876A	MERCURY	FISHER SCIENTIFIC	0489
		3-0-0-G SARA	FAIR LAWN NJ	7439976
	876	MERCURYPURCHASE ONLY ON FORM	FISHER SCIENTIFIC	0480
		SAF-2	ST. LOUIS. MO	7439976
METALCRETE DIAMITE EPOXY BINDE	941	DIGLYCIDYETHER OF BISPHENOL-A	METALCRETE MFG CO	9999
		MODAFLOW LEVELIND CMPD SILICON	CLEVELAND.OH	
METCOAT 20-8190	1150	40% TOLUENE. 40% FREON 12.	BUEHLER LTD.	1285
		20% ACRYLIC RESIN	LAKE BLUFF. IL 60044	
METHANOL	853	METHANOL	FISHER SCIENTIFIC	0281
			FAIR LAWN. NJ 07410	67561
	853A	METHANOL	FISHER SCIENTIFIC	0489
		2-4-0-G	FAIR LAWN NJ	6756
	1479	METHYL ALCOHOL	AAPER ALCOHOL&CHEMICAL CO	0187
			SHELBYVILLE KENTUCKY	67561
	425A	METHYL ALCOHOL	J.T. BAKER	0589
		3-3-A-G SARA TOXIC	PHILLIPSBURG NJ	6756
METHYL ACETATE.99%	1113	METHYL ACETATE. 99%	ALDRICH CHEMICAL CO	1085
			MILWAUKEE. WI 53201	79209

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
METHYL ALCOHOL	1493	METHYL ALCOHOL	ALDRICH CHEMICAL CO	0588
			MILWAUKEE, WI 53201	67561
METHYL CHLOROFORM	1282A	TRICHLOROETHYLENE	DUNBAR SALES	0189
		2-1-0-E	BAYONNE NJ	79016
	1282	98% T.T.T-TRICHLOROETHANE	DUNBAR SALES CO.	9999
		LOCKING COMPOUND GR-T.FORM R	BAYONNE, NJ 07002	
METHYL CYANIDE	403	ACETONITRILE	E M SCIENCE	1285
		NITRILE	CHERRY HILL, NJ 08034	75058
	403A	ACETONITRILE	EM SCIENCE	0389
		4-3-1-B	GIBBSTOWN NJ	75058
	428	ACETONITRILE	FISHER SCIENTIFIC	0187
		NITRILE,ALIPHATIC	FAIR LAWN, NJ 07410	75058
METHYL ETHYL KETONE	291A		ASHLAND CHEMICAL CO	0789
		2-4-0-C/Y SARA	COLUMBUS OH	78933
	291	METHYL ETHYL KETONE	ASHLAND CHEMICAL	1084
			ST. LOUIS, MO	78933
	854	METHYL ETHYL KETONE	FISHER SCIENTIFIC	0480
			FAIR LAWN, NJ 07410	78932
	854A	METHYL ETHYL KETONE	FISHER SCIENTIFIC	0489
		2-4-0-B/G SARA	FAIR LAWN NJ	78933
METHYL PURPLE INDICATOR	893A	METHYL PURPLE INDICATOR	HACH	0589
		0-0-0-B	AMES IA	57556
METHYL RED	687A	METHYL RED	FISHER SCIENTIFIC	0289
		1-0-0-B	FAIR LAWN NJ	49352

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
METHYL REDINDICATOR	687	DIMETHYLAMINO PHENOL AZO-	FISHER SCIENTIFIC	0788
		BENZOIC ACID	FAIR LAWN, NJ 07410	
METHYL-P-NITROANILINE -N-	307	N-METHYL-4-NITROBENZENAMINE	EASTMAN KODAK	0486
			ROCHESTER, NY 14650	100152
METHYLCELLOULOSE -METHOCEL-	1096	METHYL CELLULOSE	DOW CHEMICAL	1683
			MIDLAND, MI 48674	
METHYLENE CHLORIDE	1115	METHYLENE CHLORIDE	CHEMTECH INDUSTRIES	0488
		PURCHASE ONLY ON SAF-2 FORM	ST. LOUIS, MO 63131	75092
	1115A	METHYLENE CHLORIDE	CHEMTECH IND. INC.	0488
		2-0-0-C	ST.LOUIS MO.	
	1115B	METHYLENE CHLORIDE	CHEMTECH	1288
		2-0-0-B&Y	ST LOUIS MO	75092
	1306	METHYLENE CHLORIDE	PPG INDUSTRIES INC	1284
		PURCHASE ONLY ON SAF-2 FORM	PITTSBURG, PA 15272	75092
	1558	METHYLENE CHLORIDE	DOW CHEM CO.	1288
		2-0-1-D	MIDLAND MI.	75092
	156	METHYLENE CHLORIDE	FISHER SCIENTIFIC	0380
		PURCHASE ONLY ON SAF-2 FORM	ST. LOUIS, MO	75092
	156A	METHYLENE CHLORIDE	FISHER SCIENTIFIC	0789
		2-0-0-B,Y	FAIR LAWN NJ	75092
	738	METHYLENE CHLORIDE	DIAMOND SHAMROCK	0480
		PURCHASE ONLY ON SAF-2 FORM	CLEVELAND,OH	75092
METHYLENE CHLORIDE URETHANE	1558A	METHYLENE CHLORIDE	DOW CHEMICAL	0389
		2-0-0-B&Y SARA	MIDLAND MI	75092

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO.
METHYLENE CHLORIDE, TECHNICAL	1558B	METHYLENE CHLORIDE	DOW CHEMICAL	0389
		2-0-0-B/Y SARA	MIDLAND, MI	75092
METHYLIDYNETRIS	1336	4,4,4--METHYLIDYNETRIS	EASTMAN KODAK	1272
		-N,N-DIMETHYLANILINE-	ROCHESTER, NY 14650	603488
METONE CLEANSER	540A		INDUSTRIAL SOAP CO	0688
		1-0-0-A	ST. LOUIS, MO 63103	
MICA POWDER	304	POTASSIUM-ALUMINUM SILICATE	FISHER SCIENTIFIC	0780
			FAIR LAWN, NJ 07410	
MICRO CLEANING SOLUTION	797	TETRASODIUM ETHYLENE DIAMINE	INTERNATIONAL PRODUCTS CO	1174
		TETRAACETATE PLUS	TRENTON NJ.	
MICROPOLISH II	1138A	ALUMINUM OXIDE	BUEHLER	0688
		0-0-0-E	LAKE BLUFF IL	1344281
MICROPOLISH II -40-6321-008-	1139	ALUMINUM OXIDE	BUEHLER LTD.	1285
			LAKE BLUFF, IL 60044	1344281
MICROPOLISH II 40-6321-008	1139A	ALUMINUM OXIDE	BUEHLER	0688
		0-0-0-E	LAKE BLUFF IL	1344281
MICROPOLISH II-40-6323-	1138	ALUMINUM OXIDE	BUEHLER LTD.	0186
			LAKE BLUFF, IL 60044	1344281
MICROPOLISH II-40-6325-008-	1278	ALUMINUM OXIDE	BUEHLER LTD.	1185
			LAKE BLUFF, IL 60044	1344281
MICROTHENE FE 53200	1572A	ETHYLENEVINYLACETATECOPOLYMER	QUANTUM/USI DIVISION	0189
		2-1-0-C SARA	CINCINNATI OH	24937788
MICROTHENE FE, 53200	1572	ETHYLENE VINYLACCTATECOPOLYMER	QUANTUM CHEM CO.	0189
		2-1-0-C	CINCINNATI OH.	

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
MILBURN SKIN CREAM PLY #3	267	20% PETROLEUM DER.,5% MENTHYL PARABEN.1% MORPHOLINE.30% MISC	MILBURN CO. DETROIT. MI 48207	9999
MILBURN SKIN CREAM PLY 9 GEL	268	81% H20.13% GLYCERINE..003% METHYLPARABAN.*CELLULOSE GUM	MILBURN CO. DETROIT. MI 48207	9999
MILLORIDE 5060	1486	ISOPRINE DISUCCINIC ANHYDRIDE	MILLIKEN CHEMICAL INMAN. SC	0787
MILORI BLUE X-0640	218	AMM. FERRIC-FERRICYANIDE	CIBA-GEIGY HAWTHORNE. NY 10532	0985
MINERAL OIL	1557	MINERAL OIL -0-10-B	CVC PRODUCTS INC ROCHESTER N.Y.	9999
MINERAL SPIRITS	115	ALIPHATIC PETROLEUM DISTILLATES	REND LAKE CHEMICAL MT. VERNON. IL	64742881
MINERAL SPIRITS 66	341	ALIPHATIC PET. DISTILLATE	ASHLAND CHEMICAL ST. LOUIS. MO	0381 803232
MINERAL SPIRITS 66&NONEXEMPT	341A	ALIPHATIC HYDROCARBON 1-2-0-G	ASHLAND CHEMICAL ASHLAND. KY	0789 803232
MINERAL SPIRITS. RULE 66	405	MINERAL SPIRITS. REGULAR PETROLEUM NAPHTHA	G.S. ROBBINS & COMPANY ST. LOUIS.MO. 63102	0286 64742881
MIRACHEM 100	1539	MIRACHEM 100	MIRACHEM CORP TEMPE ARIZONA	0188
MISTY ICE MELT	1102	30% ETHYLENE GLYCOL 64% ISOPROPANOL	AMREP.INC. MARIETTA.GA.30062	9999
MOBAY MONDUR CB-75	317	75% AROMATIC POLYISOCYANATE. 25% ETHYL ACETATE.-0.7% TDI	MOBAY CHEMICAL CORP. PITTSBURGH. PA 15205	1187

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE CAS NO.
NOBAY MULTRON R-18	318	HYDROXYL TERMINATED POLYESTER RESIN -D-018-	NOBAY CHEMICAL CORP. PITTSBURGH. PA 15205	0383
MOLD RELEASE	1568	RELEASE ALL 100 2-2-1-H	AIRTECH INTERNATIONAL CARSON CA.	0286
MOLECULAR SIEVE 13X	406		SUPELCO INC. BELLEFONTE PA	
MOLECULAR SIEVE 5A	419		MATHESON-COLEMAN BELL JOLIET IL - NORWOOD OHIO	
MOLECULAR SIEVE-ZEOLITES-	198	POTASSIUM SODIUM ALUMINO SILIC	E M SCIENCE CHERRY HILL. NJ 08034	1285
MOLECULAR SIEVES	1563	MOLECULAR SIEVES 3-0-1-B	ALDRICH CHEM CO. MILWAKEE WI.	1188
MOLECULAR SIEVES 4A	770	SODIUM ALUM. SILICATES	ALDRICH CHEMICAL CO MILWAUKEE. WI 53201	9999
MOLYBDENUM TETRACHLORIDE	690		CLIMAX MOLYBDENUM CO. GREENWICH CT	
MOLYCOTE GN PASTE LUBRICANT	128	MOLYBDENUM DISULFIDE	DOW CORNING MIDLAND. MI 48686	1280
MOLYGREASE MI NO.10	130		S-CHEM	
MOLYKOTE G RAPID SPRAY	347	25% TRICHLOROETHANE 25% METHYLENE CHLORIDE	DOW CORNING MIDLAND. MI 48686	0584
MONARCH BLUE CFR X-3367	1287	PHTHALOCYANINE BLUE. ALUMI-NUM ROSINATE -PROP.-	CIBA-GEIGY HAWTHORNE. NY 10532	0985 6178965

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
MONARCH BLUE CR- X3228	1288	PHTHALOCYANINE BLUE	CIBA-GEIGY	0985
		-PROP.-	HAWTHORNE, NY 10532	
MONASTRAL BLUE	146	COPPER PHTHALOCYANINE	CIBA-GEIGY	
			HAWTHORNE, NY 10532	147148
MONASTRAL GREEN MUPCO 05857	932	50% MONASTRAL GREEN	CIBA-GEIGY	0481
			HAWTHORNE, NY 10532	
MONDUR M -FLAKED-	958A	MONDUR M -FLAKED-	MOBAY CORP/BAYER	0689
		1-1-0-G SARA	PITTSBURGH PA	26447405
	958	98% DIPHENYLMETHANE	MOBAY CHEMICAL CORP.	0983
		DIISOCYANATE	PITTSBURGH, PA 15205	
MONDUR MR	978	AROMATIC ISOCYANATES	MOBAY CHEMICAL CORP.	1183
		50% MDI	PITTSBURGH, PA 15205	
	978A	MONDUR MR	MOBAY CORP/BAYER	0189
		1-1-0-G	PITTSBURGH PA	9016879
MONDUR MRS	959	POLYMERIC DIPHENYLMETHANE	MOBAY CHEMICAL CORP.	0184
		DIISOCYANATE -MDI-	PITTSBURGH, PA 15205	9016879
MONDUR MRS-10	957A	MONDUR MRS-10	MOBAY CORP/BAYER	0189
		1-1-0-G SARA	PITTSBURGH, PA	9016879
	957	65% DIPHENYL METHANE DIISOCYA-	MOBAY CHEMICAL CORP.	0184
		NATE -OTHER ISOCYANATE-	PITTSBURGH, PA 15205	
MONDUR PF	960	-60% DIPHENYL METHANE DIISOCYA	MOBAY CHEMICAL CORP.	0484
		NATE	PITTSBURGH, PA 15205	
MONDUR T-422	956A	MONDUR T-422	MOBAY CORP/BAYER	0389
		3-1-0-K SARA	PITTSBURGH PA	26471625

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
MONDUR T-422	956	10% DIPHENYLMETHANE DIISOCYA-	MOBAY CHEMICAL CORP.	0781
		NATE.80% TOLUENE DIISOCYNATE	PITTSBURGH. PA 15205	
MONDUR 489	977	AROMATIC ISOCYANATE	MOBAY CHEMICAL CORP.	0184
		40% MDI	PITTSBURGH. PA 15205	
MONEL K-500	379	-70% NICKEL. -31.3% CARBON.	NATIONAL FORGE COMPANY	0482
		PLUS 7 OTHERS	IRVINE.PA 16329	
MONO COAT E63-179-	1528	SILICONE MOLD RELASE	CHEM-TREND INC.	
			HOWELL MI.	
MONOPLEX DOS	1307	DI-2-ETHYLHEXYL SEBACATE	C.P.HALL CO.	0586
		ESTER -DOS-	CHICAGO. IL 60638	
MOORE MINT	1468	ISOPROPANOL. ORTHO BENZYL	JAMES VARLEY-R&H SERVICE-	0586
		PARA CHLOROPHENOL	ST. LOUIS. MO 63147	
	1468A	ISOPROPANOL.ORTHOBENZYLPARACHL	JAMES VARLEY & SONS	0586
		1-3-1-B OR G	ST LOUIS MO	
MOORE TERRIFIC	1475	HYDROCHLORIC ACID/WATER	MOORE RES..CH-R&H SERVICE	
		BLUE.OPAQUE	ST. LOUIS. MO 63110	
MOORE WINDOW CLEANER	1470	ALCOHOLS	MOORE RES..CH-R&H SERVICE	
			ST. LOUIS. MO 63110	
MORCEPT	1471	53% ETHYL ALCOHOL. .2% ORTHO	HYSAN CORP.-R&H SERVICES-	0684
		PHENYLPHENOL	CHICAGO. IL 60609	
MSA CLEANER-SANITIZER II	1163	42% SODIUM CARBONATE. 10% TRI-	MINE SAFETY APPLIANCE CO.	0683
		SODIUM & OTHERS	PITTSBURG. PA 15235	
N-METHYL-P-NITROANILINE	307A	METHYL-P-NITROANILINE	EASTMN KODAK	0789
		O-O-1-E	ROCHESTER. NY	100152

TRADE NAME	CHEMICAL NUMBER	CHEMICAL NAME	SUPPLIER NAME	MSDS DATE / CAS NO
N-NITROSODIPHENYLAMINE	630	N-NITROSODIPHENYLAMINE	EASTMAN KODAK	0874
			ROCHESTER. NY 14650	8630
N.N-DIMETHYL-N'-ETHYLENEDIAMIN	1340A	DIMETHYLETHYLENEDIAMINE	ALDRICH	0789
		4-3-0-C	MILWAUKEE WI	12383
N.N-DIMETHYLETHYLENEDIAMINE95%	403A	DIMETHYLETHYLENEDIAMINE	ALDRICH CHEMICAL	0789
		4-3-0-G	MILWAUKEE WI	10800
N.N-DIMETHYLFORMAMIDE.99.9+%	1111A	DIMETHYLFORMAMIDE	ALDRICH CHEMICAL	0789
		2-2-0-C	MILWAUKEE WI	68122
NA	1485	3.7DIAMINO-DICYANO-NONANE	OLIN RTD	0788
			CHESHIER. CT	
NAFION TYPE NR 50-CATALYST-	1477	COPOLYMER/TETRAFLUOROETHYLENE	E.I.DUPONT	0686
		AND PERFLUOR03. ETC.	WILMINGTON. DE 19898	
NADH STANDARD	401	SODIUM HYDROXIDE	J T BAKER CHEMICAL CO	0883
			PHILLIPSBURG. NJ 08865	1310732
NARMCO RESIN. CREST 7111	246	REACTION PRODUCT OF DIMERACIDS	CREST PRODUCTS CORP	9999
		AND AMINE GROUPS	SANTA ANA CA	
NETULIZER M-PREP 5	1525	ISOPROANAL	MEASUREMENTS GROUP INC.	1186
			RALIEGH. NC 27611	67630
NEUTRAL CLEAN	1459	PRIMARILY WATER	LANDMARK CHEMICAL CO.	
			MARION. IL 62959	
NEV-SZ REG	284A	ANTI SEIZE COMPOUND	BOSTIK DIVISION	1288
		1-1-0-D	MIDDLETON MA	
NEVER SEEZ -ANTI SIEZE-	284	NON HAZARDOUS 1978	BOSTIK CORP	0478
			DES PLAINES.IL	

NRC Form 374A (8-82) U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 1 PAGES

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number SUB-1138

Docket or Reference number 040-08145

Amendment No. 12

Olin Corporation
Ordnance Products
P.O. Box Drawer G
Marion, IL 62959

In accordance with letter dated November 1, 1985, License Number SUB-1138 is amended as follows:

Conditions 12., 14. and 15. are amended to read:

12. Licensed material shall be used by, or under the supervision of, John Koropchak, John Straddeck, N.J. Wilkaitis, Michael Sweeney or Paul Cannon.

14. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in applications dated October 20, 1982 and November 1983 (received December 12, 1983); and letters dated February 23, 1983, December 6, 1983, June 20, 1984, July 23, 1984, August 15, 1984 and November 1, 1985. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

15. The Radiation Safety Officer for the activities authorized by this license is Paul C. Cannon. John Koropchak may act as an Alternate Radiation Safety Officer.

For the U.S. Nuclear Regulatory Commission

Date NOV 22 1985

By George M. McCann
Materials Licensing Section, Region III

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NRC Form 374A (8-82) U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 1 PAGES

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15. The Radiation Safety Officer for the activities authorized by this license is Paul C. Cannon. John Koropchak may act as an Alternate Radiation Safety Officer.

For the U.S. Nuclear Regulatory Commission

Date NOV 22 1985

Original Signed
By George M. McCann
Materials Licensing Section, Region III

000965

COPY 5

Jean

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

1 November 1985

U.S. Nuclear Regulatory Commission
Region III
Material Licensing Section
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: Source Material License Number SUB-1138

Dear Sir:

Submitted herewith is information intended to permit qualification of Paul Cannon as Radiation Safety Officer for work being conducted under Source Material License Number SUB-1138.

Included is a check in the amount of $120.00 to cover the fee for this license amendment made payable to U.S. Nuclear Regulatory Commission.

Sincerely,

A. Heinz

A. Heinz, Director
Ordnance Products

J. Koropchak
Radiation Safety Officer

AH/kc
Enclosures

Amendment Application for Source Material License
SUB-1138 Amendment 12

RADIATION SAFETY OFFICER

It is requested that our license be amended to name Paul C. Cannon as the Radiation Safety Officer with John Koropchak, the present Radiation Safety Officer, being named as Alternate Radiation Safety Officer.

This is to permit better alignment of this function with our present organizational structure. Paul is presently Safety Supervisor for explosive safety and environmental hygiene at this plant.

Qualifications

Education

B.S. Health Science - Brigham Young University

M.S. Industrial Safety - Central Missouri State University

Experience

Safety Engineer at Olin - 1981-1982

Safety Supervisor at Olin - 1982 - present

Has monitored depleted uranium with Ludlum Model 18 Survey Meter and has conducted smear sampling and measurement with Ludlum Model 2200 Scaler-Ratemeter. He has also taken air samples with the Staplex high volume air sampler to measure compliance with the 10% of MPC of depleted uranium in air requirement.

Special Training

1. With Present Radiation Safety Officer
   A total of 125 hours has been spent with the present Radiation Safety Officer. This experience includes 40 hours of practical application, 25 hours studying NRC Regulations and 60 hours of on the job monitoring with survey meters and smear sampling.
2. With Consultant
   A total of 15 hours of specialized training and discussions of surveys including smear sampling was spent with Dr. William Miller, Associate Professor of Nuclear Engineering, from the University of Missouri at Columbia. Dr. Miller has been acting as consultant to Olin since June 1985. He has developed special procedures for Olin use in conducting surveys. He has also developed a procedure for measurement

of soil and air contamination and special equipment is on order to conduct such tests. (Permission to use this equipment will be covered in a separate amendment.)

3. Formal 40 hour Course

A special 40 hour training course was attended March 25-29, 1985. It was titled "Occupational and Environmental Radiation Protection" and was at Harvard University.

Topics covered included:

a. Atomic structure and radioactive materials
b. External radiation hazards
c. Natural background radiation.
d. Laboratory - Gamma Spectrometry
e. Physics of radiation defectors
f. Radiation protection standards
g. Internal Dosimetry
h. Laboratory - calibration and use of portable radiation instruments
i. Biological effects of Ionizing Radiation
j. Statistics in radiation
k. Laboratory - medical radiation protection
l. Protective clothing in radiation protection
m. Internal hazards of radiation
n. Industrial radiography
o. Nuclear safety
p. Transportation of radioactive materials
q. Federal regulations of radionuclide users
r. Shielding and dosimetry

Additional related course work:

a. Physics of Radiation - 5 credit hours
Weber State College, 1970

b. Organic and Inorganic Chemistry - 5 semester hours
Brigham Young University, 1973.

c. Radiation Protection - Industrial Hygiene - 5 Qtr. hours
Central Missouri State University, 1979.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

MAR 07 1986

TO THE LICENSEE:

Enclosed is the NRC license or license amendment which you requested.

You are encouraged to carefully review your license or amendment upon receipt as special conditions may have been added to ensure that the changes requested meet NRC requirements.

Any future correspondence relating to your license should specifically reference your license number to expedite your inquiry.

Should you have any questions regarding your new license or amendment or require clarification, please contact the Materials Licensing Section at 312/790-5625 or 312/790-5743.

George W. McCann

Materials Licensing Section

Enclosure: As Stated

RECEIVED
MAR 14 1986
J. SCHNEIDERMAN

000969

NRC Form 374A (8-82) U.S. NU AR REGULATORY COMMISSION

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138

Docket or Reference number: 040-08145

Amendment No. 13

Olin Corporation
Ordnance Products
P.O. Drawer G
Marion, IL 62959

In accordance with letter dated December 9, 1985, License Number SUB-1138 is amended as follows:

Conditions 12., 14. and 15 are amended to read:

12. Licensed material shall be used by, or under the supervision of, John Straddeck, N. J. Wilkaitis, Michael Sweeney or Paul Cannon.

14. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

    A. Applications dated October 20, 1982 and November 1983 (received December 12, 1983); and

    B. Letters dated February 23, 1983, December 6, 1983, June 20, 1984, July 23, 1984, August 15, 1984, November 1, 1985 and December 9, 1985.

15. The Radiation Protection Officer for the activities authorized by this license is Paul C. Cannon.

For the U.S. Nuclear Regulatory Commission

Date MAR 07 1986

By George M. McCann
Materials Licensing Section, Region III

000870

NRC Form 374A (8-82) U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number: SUB-1138

Docket or Reference number: 040-08145

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15. The Radiation Protection Officer for the activities authorized by this license is Paul C. Cannon.

For the U.S. Nuclear Regulatory Commission

Date MAR 07 1986

Original Signed
By George M. McCann
Materials Licensing Section, Region III

000971 COPY 5

Jan

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

9 December 1985

U.S. Nuclear Regulatory Commission
Region III
Material Licensing Section
799 Roosevelt Road
Glen Ellyn, Illinois 60139

REGARDING: Source Material License Number SUB-1138

Gentlemen:

This request for Amendment 13 to our Source Material License SUB-1138 is to update our license by deleting obsolete sections of prior amendments and to add new sections which need to be implemented.

Please contact N.J. Wilkaitis, 618/985-8211 extension 224, for any additional information which may be required.

Very truly yours,

A. Heinz, Director
Ordnance Products

Paul C Cannon

P.C. Cannon
Radiation Safety Officer

kc
NRC
Attachments

000972

Olin

P.O. DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

CONTROLLED DOCUMENT WITH
RESTRICTED ACCESS.
USER IS CAUTIONED TO CHECK
WITH DOCUMENT CONTROL FOR
LATEST APPLICABLE REVISION.
ISSUE DATE: DEC 09 1985 FOR:
CHECK _____ INFO ✓
BID _____ P. O. _____

ORDNANCE PRODUCTS

SAFETY PROCEDURE NO. 94

Revised
August, 1985

Radiation Measurements--Smear Sampling

PURPOSE

The purpose of this procedure is to define the method to be used to determine DU contamination of work areas by taking smear samples and measuring the radiation levels. Areas which can be contaminated by DU or DU oxide must be monitored on a regular basis to keep airborne contamination under control.

SCOPE

This procedure applies to all areas of the plant where bare (uncased) DU is handled or processed, to areas at the Test Range where DU penetrators are ballistically tested and to DU waste disposal operations.

LOCATIONS AFFECTED

Building I-1-20, test tunnel areas and associated waste storage buildings.

REFERENCES

1. Darcom DU Safety Procedures for Processing Depleted Uranium Handbook 385-1.1-78
2. OSHA CFR Title 29 1910.96
3. NRC CFR Title 10 Particularly Parts 19 & 20
4. DOT CFR Title 49 173.389 - 173.398
5. IDNS ILL. REGULATIONS FOR RADIATION PROTECTION
6. LOS ALAMOS HANDBOOK OF RADIATION MONITORING

GENERAL INFORMATION

DU presents a two fold hazard. When ingested or inhaled into the body it acts as a toxic heavy metal like lead and also omits alpha radiation which is devastating internally due to its large mass. Alpha radiation is not a hazard externally since it will not penetrate skin.

Beta and gamma radiation are extremely low level and should not present a serious radiation hazard externally and is overshadowed by alpha radiation internally.

RESPONSIBILITY

1. It shall be the responsibility of the Safety Department to take the necessary smear samples and direct radiation measurements to determine area, equipment, and/or personnel contamination.

2. It shall be the responsibility of the radiation safety officer (RSO) to assist in interpreting results and recommending corrective action. The RSO shall also review all results and periodically conduct spot surveys to verify their accuracy.

PROCEDURE

A. General

1. Smear samples will be taken over a 10 cm x 10 cm area with 1-5 /8" diameter smear sampling disks (pre-numbered 1-100) from Acme Distributors, P. O. Box 444, Kingston, Tennessee 37763. These will be stored in 2-1/8" x 2-1/8" glassive envelopes obtained from the same source.

2. The primary measurement equipment is a Ludlum Model 2200 Portable Scaler/ Ratemeter with scintillation type probe for alpha measurements and a GM probe for beta and gamma measurements.

3. The equipment will be calibrated using the following procedures.

B. Calibration

1. Equipment Needed

Ludlum Model 2200 Scaler (Ratemeter)
Ludlum Model 500 Pulser
Calibrated Source U-238* #2585 263 CPM .0002 uCi (or #2955 370CPM .0003 uCi)
Probe, Beta/Gamma (GM) - #PR 0589 .0002uCi = 200 pCi
Probe, Alpha - #PR 0588 .0003uCi = 300 pCi

2. Set-Up

Ludlum 2200 - High Voltage - OFF
Window Switch - OFF
Threshold - 1.0
Meter Output - H.V.
Ludlum 500 - Amplitude - 50 M.V.

Connect cable (with resistive connector) between pulser and scaler Turn pulser ON; turn scaler to LINE, set scaler timer to EXT and push COUNT button to check operation.

3. Calibration of Threshold and discriminator on Scaler

Set output of pulser to 10 mV (Note: The manual specifies 5mV; however, the GM probe can "double" count. Use a higher amplitude calibration point as necessary to prevent doubling (i.e. 5 - 20 mV).

Adjust discriminator pot. on scaler so that the scaler just begins to count.

*U238 = DU

Check for count rate accuracy by setting pulser to 60 CPM, set scaler timer to 1 minute and count. (Should get about 60 counts). Set pulser to 60,000 CPM and count again (Should get about 60,000 counts). (If difference is more than 5%, equipment needs repair.) Turn off pulser and scaler and disconnect. (Enter all data on DETECTOR CALIBRATION SUMMARY form.

4. Calibrate GM Probe PR0589 (Beta/Gamma)

Connect probe to scaler.

Turn scaler to LINE.

Set threshold to 5.00.

Place calibrated source under probe, face down.

Determine voltage plateau.

Set timer to EXT and push COUNT button
Increase H.V. until unit starts to count (about 600v).
Reset timer to 0.2 minuts.
Take data at 100 volt increments and plot.
(Do not Exceed 1200 volts.)

Pick operating voltage about 1/3 of the way up the plateau (typically 900v) and do a background count.

Calibrate to p Ci/CPM

Count source long enough to obtain about 300 counts from calibrated source (about 2 minutes). Count background for the same period.

Turn off equipment.

Calculate efficiency using $EFF = \frac{f - b}{Source}$

where f = foreground (source plus background) count rate (CPM)

and b - background count rate (CPM)

and Source = 263CPM (using #2585)

The efficiency should be between 40 and 80%. (If not clean probe face and work area and redo.)

Calculate specific activity

$$\text{Specific Activity} = \frac{\text{Source Activity (pCi)}}{f-b \quad \text{(CPM)}} = \frac{\text{pCi}^*}{\text{CPM}}$$

*1uCi = 10^{-6} Ci and 1pCi = 10^{-12} Ci

Test for X^{2*} with source to determine if system is working properly. Continue using calibrated source and count for 0.2 minutes.

Take 20 measurements and record results on calibration form.

Calculate $X^2 = \frac{\Sigma(ki-\bar{k})^2}{(N-1)\bar{k}}$ Σ is for i = 1 to 20

Compare results to X^2 graph. If P lies between .02 and .98 system is working properly. If not, repeat test. If still not working, recalibration or repair may be needed.

5. Turn equipment on and take smear data as follows and record results on special form and make required calculations.

Smear counting using beta/gamma probe.

Remove any sources from area.

Take a 1 minute background reading = b(CPM)

Take a 1 minute foreground reading off of a smear sample which is expected to have some activity on it = f(CPM)

Assume a desired accuracy of results of E (typically 10% for this smear).

Calculate time for counting smear samples.

$$T = \frac{f + \sqrt{bf}}{E^2(f-b)^2}$$

Take background for T minutes and count samples individually for T minutes. Use SMEAR DATA FORM to record data and calculations.

Shut down.

Turn HV to zero.

Turn equipment OFF.

6. Calibrate Alpha Probe #PR0588 (Enter all data on DETECTOR CALIBRATION SUMMARY FORM

Connect probe to ratemeter.

Turn ratemeter to LINE.

Set threshold to 1.00.

Set timer to EXT and push COUNT button.

Determine Operating Voltage.

With no source under probe, slowly increase HV until probe just starts to count (about 600v). Record voltage.

Use this operating voltage for subsequent tests.

*Chi Square Test (Statistical)

Calibrate to pCi/CPM

Count calibrated source long enough to obtain about 300 counts (about 2 minutes) and do background the same way.

Calculate efficiency. $EFF = \frac{f\text{-}b(CPM)}{Source(CPM)}$ (should be between 45 - 80%)

Specific Activity $(SA) = \frac{Source\ (pCi)}{f\text{-}b(CPM)} = \frac{pCi}{(CPM)}$

7. Conduct X^2 test as in Section 4 (above).

8. Take smear data as follows and record results on special form and make required calculations.

Smear counting using alpha probe.

Remove any sources from area.

Take a 1 minute background reading = b(CPM)

Take a 1 minute foreground reading off of a smear sample which is expected to have some activity on it = f(CPM)

Assume a desired accuracy of results of E (typically 10% for this smear).

Calculate time for counting smear samples

$$T = \frac{f\ \sqrt{bf}}{E^2(f-b)^2}$$

Take background for T minutes and count samples individually for T minutes.

Conduct necessary smear sampling tests and record results.

Shut down

Turn HV to zero.

Turn equipment OFF.

FREQUENCY OF TESTS

Smear tests of work areas will be conducted on at least a quarterly basis. Corrective action will be taken when the test results exceed the limits shown in Figure 4 — 19 (Darcom DU Safety Manual).

TRANSPORTATION

Smear tests of packages will be taken and evaluated in accordance with CFR Title 49 (DOT) Section 393 i and j.

Approved by Paul Cannon

Prepared by N J. Wilkaitis

Approved by R. L. Owen

Approved by A. Heinz

7/17/85

Approved by John Koropchak RSO

000980

DETECTION CALIBRATION SURVEY Date _____

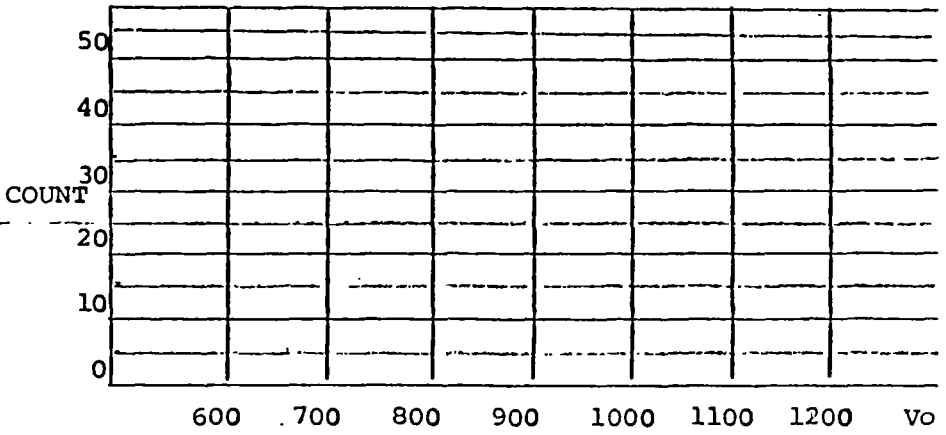
(Complete for All Survey By _____

Date _____ PERFORMED BY _____ Reviewed _____

LUDLUM DISC. SET AT _____ MV THRESHOLD
DETECTED PULSES AT 60 CPM = _____
DETECTED PULSES AT 60,000 CPM = _____

A. Beta/Gamma Probe Calibration:

PLATEAU	H.V.	COUNT/.2 MIN
	600	
	700	
	800	
	900	
	1000	
	1100	
	1200	



Operating Voltage

Selected Operating Voltage _____

CALIBRATION FOR SPECIFIC ACTIVITY (Source* = 263 CPM & .0002 uCi) U238 #2585

f = _____ COUNTS/2 MIN = _____ CPM
b = _____ COUNTS/2 MIN = _____ CPM

$$\text{eff.} = \frac{f - b}{\text{Source}} = \frac{\_\_\_\_ - \_\_\_\_}{\_\_\_\_} \text{ (CPM)} = \frac{\_\_\_\_}{\text{(CPM)}} = \_\_\_\_\%$$

Also, $\frac{\text{Specific Activity (uCi)}}{f - b} = \frac{.0002 \text{ uCi}}{\_\_\_\_ \text{ CPM}} = \frac{200 \text{ pCi}}{\_\_\_\_ \text{ CPM}} = \_\_\_\_ \text{pCi/CPM}$

X^2--Test (20 tests)
Data for 0.2 Min

_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

$\bar{K}$ = Average of 20 Measurements _____ CPM $\quad X^2 = \frac{\Sigma(ki-\bar{k})^2}{(N-1)\,\bar{k}}$ Σ is for i=1 to 20

$$X^2 = \frac{1}{20-1} \times \frac{\_\_\_\_}{\_\_\_\_} = \_\_\_\_$$

From Graph V = N-1 = 19 & Corresponds to P = _____

Since P = _____ is between .02 & .98, System is OK. If not, recalibrate.

B. Alpha Probe Calibration

High Voltage Threshold _____

CALIBRATION FOR SPECIFIC ACTIVITY

f = _____ COUNTS/2 MIN = _____ CPM

b = _____ COUNTS/2 MIN = _____ CPM

1. $\text{Eff} = \frac{f - b}{\text{Source}} = \frac{\_\_\_\_ - \_\_\_\_}{\_\_\_\_} = \_\_\_\_\%$

2. $\frac{\text{Source Activity (uCi)}}{f - b} = \frac{.0002\text{uCi}}{\_\_\_\_ \text{ CPM}} = \frac{200 \text{ pCi}}{\_\_\_\_ \text{ CPM}} = \_\_\_\_ \text{pCi/CPM}$

*Alternate source is #2955 370CPM and .0003 uCi

X^2-- Test (20 tests)
Data for 0.2 Min

_____ _____ _____ _____ _____ _____ _____ _____ _____ _____

_____ _____ _____ _____ _____ _____ _____ _____ _____ _____

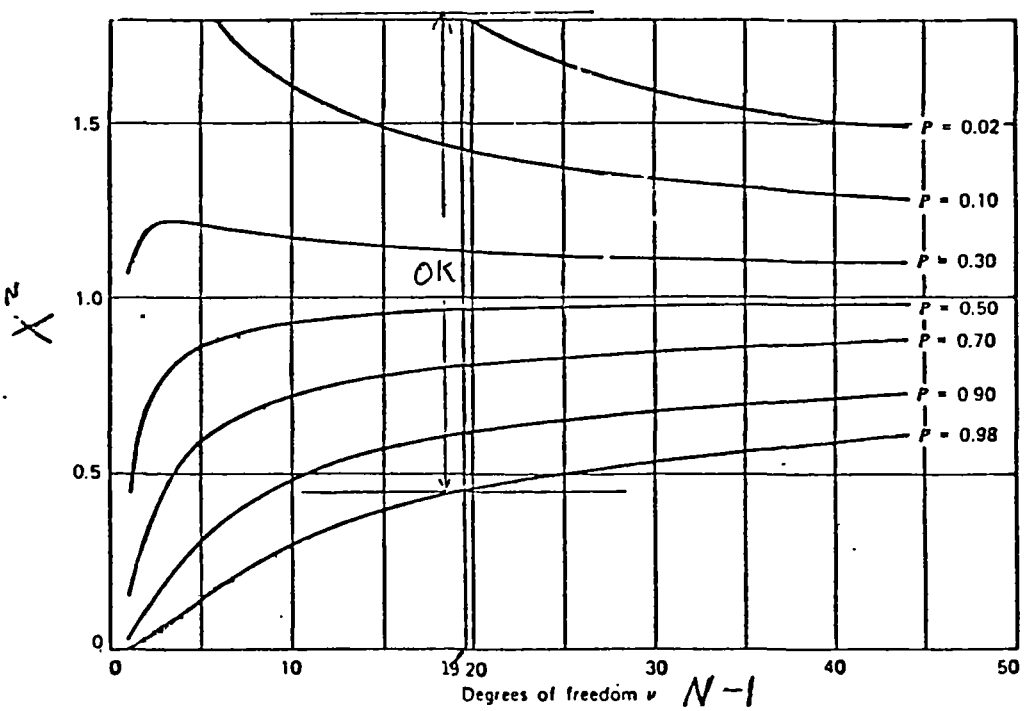
$\bar{K}$ = Average of 20 Measurements_____CPM

$X^2 = \frac{1}{N-1} \Sigma \frac{(k_i - \bar{k})^2}{\bar{k}}$ = _____ Σ is for i = 1 to 20

X^2 = $\frac{1}{20-1}$ x _____ = _____;

From Graph V = N-1 = 19 Corresponds to P = _____

Since P = _____is between .02 & .98, System is OK. If not recalibrate.



A plot of the Chi-square distribution. For each curve, p gives the probability that a random sample of N numbers from a true Poisson distribution would have a larger value of χ^2/ν than that of the ordinate. For data for which the experimental mean is used to calculate χ^2, the number of degrees of freedom $\nu = N - 1$.

Contaminated Items and Indications for Action	Contamination Levels[6] Alpha pCi/100 cm² fixed	Alpha pCi/100 cm² removable[2]	Beta-Gamma mr/hr @1 fixed cm[1]	Beta-Gamma pCi/100 cm² removable[2]
1. Clothing, including shoes:				
a. Personal. Should be replaced or decontaminated if above:	200	25	0.1	50
b. Anticontamination.				
(1) General. Should be replaced or decontaminated if above:	2,000	500	1.0	1,000
(2) Laundry. Should not be released to public laundry if above:[3]	200	25	0.2	50
(3) Respirators. Should be decontaminated after use if above:	200	ND	0.2	ND
2. Containers. Prior to non-radioactive use should be decontaminated if above:	200	100	0.2	200
3. Laboratory and process areas:				
a. Uncontrolled areas. Requires control and posting or decontaminated if above:	500	200	0.2	200
b. Controlled laboratory areas:				
(1) Hoods.	2,000	400	4.0	250
(2) Glove Boxes:	10,000	2,000	20.0	20,000
(3) Workbench surface:	1,000	400	2.0	1,000
c. Controlled process areas:				
(1) Melting and casting:	10,000	750	5.0	4,000
(2) Mill Working:	10,000	750	5.0	20,000
(3) Machining:	5,000	500	5.0	1,000
(4) All others:	5,000	250	2.5	500
4. Skin:				
a. Body. Decontaminate if above:	200	ND	0.1	ND
b. Hands: Decontaminate if above:	200	ND	0.1	ND
5. Installation vehicles:				
a. Used in controlled area. Should be decontaminated if above:	5,000	500	5.0	2,000
b. Used in non-controlled area. Should be decontaminated if above:	500	200	0.5	250
6. Commercial vehicles:[4]	1,000	1,000	0.5	10,000[5]

ND : None detectable

Note 1 : Measured through not more than 7 milligrams per square centimeter of total absorber.

Note 2 : Smears analyzed with a counting system capable of detecting levels specified with no more than a relative error of 25% and a 95% confidence level.

Note 3 : Standard practice is to provide facilities for laundering anticontaminated clothing or utilize a NRC licensed commercial firm specializing in laundering such clothing.

Note 4 : Based on Title 49 CFR Part 173.397 or Graziano's Tariff and Title 10 CFR Part 20.205.

Note 5 : Gross activity, includes both alpha and beta-gamma activity.

Note 6 : In agreement with NRC RG 1.86.

FIGURE 4-19

000984

SMEAR DATA FORM

Date_____

☐ Alpa Counting

By_____

☐ Beta/Gamma Counting

Reviewed_____

1. Determine Count Time (T)

Background (1 Min) = _____ CPM

Smear (Foreground) (1 Min) = _____ CPM

$$T = \frac{f + \sqrt{b \times f}}{E^2 (f-b)^2} = \_\_\_\_\_ \text{MIN}$$

LET
$E = 0.1$ (10%)
$b = \frac{B}{T}$
$f = \frac{F}{T}$

2. Count

FOR T = _____ MIN

B = _____ COUNTS b = _____ CPM

F = _____ COUNTS f = _____ CPM

SPECIFIC ACTIVITY (SA) = _____ $\frac{pCi}{CPM}$ (from calibration sheet)

SMEAR NUMBER	F (COUNTS)	f (CPM)	s = f-b	$6s = \frac{1}{T}\sqrt{F+B}$	RAD. LEVEL (sxSA) $\pm$ (σsXSA) $pCi/100cm^2$
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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18.					
19.					
20.					

000985

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Nuclear Metals, Inc. 2. 2229 Main Street Concord, Massachusetts 01742	3. License number SUB-1452 4. Expiration date March 31, 1990 5. Docket or Reference No. 040-08866

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium depleted in the isotope U235	A. As contamination in sand (no more than 4000 pCi U per gram of sand).	A. 1000 kilograms

9. Authorized use

A. For receipt as waste, processing and/or repackaging and transfer to an authorized recipient.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities at 2229 Main Street, Concord, Massachusetts.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions, and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

12. Licensed material shall be used by, or under the supervision of, Alden R. Gilman or Frank J. Vumbaco or other individuals designated in or in accordance with Condition 12. of License No. SMB-179.

13. This license does not authorize the commercial distribution of generally licensed material pursuant to Section 40.25, 10 CFR Part 40.

14. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."

000986

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number SUB-1452

Docket or Reference number 040-08866

(continued) CONDITIONS

15. The licensee shall transfer all material received under the authorization of this license to an authorized recipient within six (6) months of receiving it.

16. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated January 25, 1985 and the statements, representations and procedures referenced in License Number SMB-179. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

000987

Date MAR 20 1985

For the U.S. Nuclear Regulatory Commission

By _____
Nuclear Materials Safety and
Safeguards Branch, Region 1
King of Prussia, Pennsylvania 19406

Olin
ORDNANCE

MARION OPERATIONS

26 February 1988

Illinois Department of Nuclear Safety
Division of Nuclear Materials
1035 Outer Park Drive
Springfield, Illinois 62704

ATTENTION: Ms. Sheryl Soderdahl,
Head of Support Services

REFERENCE: Olin Corporation - Marion, Illinois
Radioactive Material License Application Renewal
NRC License No.: SUB-1138
IDNS License No.: 68-11380-00
Expiration Date: 31 March 1988

Dear Ms. Soderdahl:

Enclosed herewith is an application for renewal of Olin's radioactive material license and one (1) copy with the above referenced license number. Also enclosed is a check in the amount of $864.00 for the associated fee in accordance with 32 Ill. Adm. Code 331.

If further information or clarification is required, please contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kw

Encl.

State of Illinois
Department of Nuclear Safety
Division of Nuclear Materials

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE
NON- MEDICAL

INSTRUCTIONS: Complete all Items if this is an initial application or an application for renewal of a license. Use supplementary sheets where necessary. **Item 24 must be completed and signed on all applications.** Retain one copy and submit the original and one copy of the entire application to:

Illinois Department of Nuclear Safety
Division of Nuclear Materials
1035 Outer Park Drive
Springfield, Illinois 62704

Upon approval of this application, the applicant will receive a Radioactive Material License. An IDNS Radioactive Material License is issued in accordance with, and the licensee is subject to, 32 Illinios Administrative Code. The license fee should be stated in Item 24 and the appropriate fee enclosed.

1.a. NAME AND MAILING ADDRESS OF APPLICANT (Institution, firm, etc.) INCLUDE ZIP CODE

OLIN CORPORATION
P.O. BOX 278
MARION, ILLINOIS 62959

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

1.b. STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (If different from 1.a.)

1) Rural Williamson County-Olin Test Range
2) Ordill Industrial Area-Rt 148 South
(See page 4 of 42 for detailed address description)

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

2. PERSON TO CONTACT REGARDING THIS APPLICATION

ARTHUR HEINZ, JR.

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

3. THIS IS AN APPLICATION FOR:

a. ☐ New License
b. ☐ Amendment to License Number: _____
c. ☒ Renewal of License Number NRC: SUB-1138
IDNS: 68-11380-00

4. INDIVIDUAL USERS (Attach a resume of each person's training and experience as outlined in Items 22 and 23.)

Paul Cannon
John Koropchak
Michael Sweeney
Dean Tharp
Norman Wilkaitis

5. RADIATION SAFETY OFFICER (RSO) (Name the person designated as Radiation Safety Officer. Attach a resume of the individual's training and experience as outlined in Items 22 and 23. Include a description of the RSO's duties and responsiblities under this program.)

1) Paul Cannon (RSO)
2) John Koropchak (Alternate RSO)

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

6. LICENSED MATERIAL

Attach additional sheets which include the following information for each separate radioactive material you wish to be licensed for:

1. ELEMENT AND MASS NUMBER
2. CHEMICAL AND/OR PHYSICAL FORM
3. MAXIMUM NUMBER OF MILLICURIES OF EACH FORM
4. PURPOSE FOR WHICH RADIOACTIVE MATERIAL WILL BE USED
5. IF SEALED SOURCE(S) THEN INDICATE:
   a. MANUFACTURER'S NAME
   b. MODEL NUMBER
   c. NUMBER OF SOURCES
   d. MAXIMUM ACTIVITY PER SOURCE

7. THROUGH 21. RADIATION PROTECTION PROGRAM

For Items 7 through 21, describe the radiation protection program as appropriate for the material to be used including control measures, bioassay procedures (if needed), day-to-day general safety instructions to be followed, etc. Submit a detailed description of all the requested information. Begin each item on a separate sheet. Identify the Item number and the date of the application in the lower right corner of each page. Submitted information should be on 8 1/2" x 11" paper, and any copies should be clear and legible.

7. INSTRUMENTATION
8. CALIBRATION OF SURVEY INSTRUMENTS
9. FACILITY AND EQUIPMENT DESCRIPTIONS AND DIAGRAMS
10. PERSONNEL TRAINING PROGRAM
11. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL
12. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL
13. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL
14. EMERGENCY PROCEDURES
15. AREA SURVEY PROCEDURES
16. WASTE DISPOSAL
17. LEAK TESTING FOR SEALED SOURCES N/A
(If a leak test kit will be used, then specify the manufacturer and the model number of the kit.)
18. INDUSTRIAL RADIOGRAPHY PROGRAM REQUIREMENTS (See 32 Ill. Adm. Code Part 350)
19. WIRELINE SERVICE & SUBSURFACE TRACER STUDIES (See 32 Ill. Adm. Code Part 351) N/A
20. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS N/A
21. PERSONNEL MONITORING

22. FORMAL TRAINING IN RADIATION SAFETY

For each individual named in Items 4 & 5, attach a resume which describes that individual's formal training in the following areas where applicable. Include the name of any persons or institutions which provided training, duration of training, when training was received, etc.

a. Principles and practices of radiation protection.

b. Radioactivity measurement standardization, and monitoring techniques and instruments.

c. Mathematics and calculations basic to the use and measurement of radioactivity.

d. Biological effects of radiation.

23. EXPERIENCE

For each individual named in Items 4 & 5, attach a resume which describes that individual's work experience with radiation, including where that experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include a list of the radionuclides and maximum activities used by each individual.

24. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1.a. certify that this application is prepared in conformity with 32 Illinois Administrative Code and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

a. LICENSE FEE REQUIRED (PART 331, 32 ILL. ADM. CODE)

(1) LICENSE FEE CATEGORY(IES):

OTHER SOURCE MATERIAL

(2) LICENSE FEE ENCLOSED:

$ 864.00

b. APPLICANT OR CERTIFYING OFFICIAL (Signature)

Arthur Heinz, Jr.

(1) NAME (Type or print)

ARTHUR HEINZ, JR.

(2) TITLE

Director

c. DATE

26 FEBRUARY 1988

ADDENDUM

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE
OLIN CORPORATION, MARION, ILLINOIS
LICENSE NUMBER: NRC SUB - 1138
IDNS 68-11380-00

	ITEM ATTACHMENTS	PAGE NO.
1b	Street Address Description	4
5	RSO's Duties and Responsibilities	5
6	Licensed Material	6
	6-1 Element and Mass Number	6
	6-2 Chemical and/or Physical Form	6
	6-3 Maximum Number of Millicuries of each Form	6
	6-4 Purpose for which Radioactive Material will be used	6
7-21	Radiation Protection Program:	
	7 Instrumentation	7
	8 Calibration of Survey Instruments	8
	9 Facility and Equipment Descriptions and Diagrams	12
	10 Personnel Training Program	20
	11 Procedures for Ordering and Receiving Radioactive Material	21
	12 Procedures for Safely Opening Packages Containing Radioactive Material	22
	13 General Rules for the Safe Use of Radioactive Material	23
	14 Emergency Procedures	24
	15 Area Survey Procedures	26
	16 Waste Disposal	29
	18 Industrial Radiography Program Requirements	33
	21 Personnel Monitoring	35
22	Formal Training in Radiation Safety	36
23	Experience	40

ITEM 5: RADIATION SAFETY OFFICER'S DUTIES AND RESPONSIBILITIES

The Radiation Safety Officer and/or alternate has the following duties and responsibilities.

- Provide overall supervision of all uses of licensed radioactive materials.
- Monitor the usages of radioactive material to insure compliance with the federal and state rules and regulations and Olin's radioactive license.
- Shut down any operations involving radioactive material where unsafe acts or conditions exist or noncompliance of procedures or regulations are evident.
- Maintain radioactive personnel training program and provide training on a routine basis.
- Prepare and/or evaluate all new or revised radiation safety procedures. Review all new or revised standard operating procedures involving radioactive material.
- Chair the plant radiation safety committee.
- Advise Olin Management of any noncompliance issues concerning the Radiation Safety Program.
- Administer and monitor the plant Radiation Safety Program.
- Select, evaluate, and test facilities and equipment for radiological operations.
- Provide personnel radiological monitoring.
- Conduct area and effluent monitoring.

ITEM 6: LICENSED MATERIAL

6-1: ELEMENT AND MASS NUMBER

Uranium 238

6-1: CHEMICAL AND/OR PHYSICAL FORM

Preformed Depleted Uranium Alloy Munition Components

6-1: MAXIMUM NUMBER OF MILLICURIES OF EACH FORM

Not to exceed 500,000 kilograms total which is equivalent to 175,000 millicuries

6-4: PURPOSE FOR WHICH RADIOACTIVE MATERIAL WILL BE USED

Loading, assembling, storage, ballistic testing and packaging of munitions containing depleted uranium alloy components and distribution of finished munitions to licensed U.S. Department of Defense users and foreign subsidiaries.

ITEM 7: INSTRUMENTATION

The following instrumentation is available for radiological monitoring. All equipment listed may be replaced by equivalent units if necessary.

Equipment Make	Model	Type of Instrument	Number Available	Radiation Detected	Range
Victoreen	470A	Survey meter	1	alpha, beta, gamma, xray	0-3 to 0-1000 mr/hr or r/hr
Eberline	E520/ H020	Survey meter	1	beta, gamma	0-0.2 to 0-2000 mr/hr
Eberline	ESP-1	Multi-purpose Survey	2	alpha, beta, gamma	
	HP-270	Probe	2	beta, gamma stainless steel, window 30 mg/cm^2	0-3000 mr/hr
	AC-3-8	Probe	2	alpha	0-50,000 counts/sec
	HP-210/L	Probe	2	beta, gamma, mica 1.4-20 mg/cm^2	0-100,000 counts/sec
	LEG-1	Probe	2	low level gamma	0-50,000 counts/s
Ludlum	2200	Scaler-Ratemeter	1	alpha, beta, gamma	0-500,000 counts/min
Ludlum	18	Analyzer	1	alpha, beta, gamma	0-200 mr/hr 0-300,000 counts/min
	43/2	Probe	1	alpha	
	44/6	Probe	1	beta, gamma	
	44/7	Probe	1	beta, gamma	
Nucleus, Inc.	Quantum 8	Multi-channel analyzer	1	gamma	1-16,777,215 counts
	NaI 3"x3" well (with Tennelec TC 2903W Lead Shield)	Detector	1	gamma	
Dosimeter Corp. of America	802	Dosimeter	1	gamma	0-200 mr/hr
	909	Charger	1		
Landauer	TLD	Ring Badge and Body Badge	varies as needed	alpha, beta, gamma	0-200 mr/hr
Staplex	08-600	High volume Air Sampler (4" dia. filter)	1	alpha	
NSA	C-200	Personnel Monitor Air Sampler (37mm filter)	1	alpha	
Gillian	HFS	Personnel Monitor Air Sampler (37mm filter)	1	alpha	

ITEM 8: CALIBRATION OF SURVEY INSTRUMENTS

Instruments are calibrated so that the readings are ± 20% of the actual values over the range of the instrument. A calibration chart for each instrument is kept which shows the results of the calibration, the date of the last calibration, and the due date for the next calibration. Calibration records are kept for at least two (2) years after each calibration. The records also include who calibrated the equipment. Calibration is conducted at least annually and after servicing unless otherwise specified as follows.

The Victoreen 470A instrument is calibrated by the St. Louis Testing Laboratory (License 24-00188-02).

The Eberline and Ludlum instruments are calibrated by the respective manufacturer. The Ludlum instruments are also checked on-site prior to use using NBS standard sources. The sources available are as follows.

ITEM 8: CALIBRATION OF SURVEY INSTRUMENTS (CONTINUED)

SOURCE	RADIATION	MANUFACTURER	CALIBRATION DATE*
Ba 133	gamma 0.015/uCi ± 10%	Eberline	7/83 half life is 7.2 years
Co60	gamma .0028 ± .0002uCi ± 7.3%	Eberline	5/81 half life is 5.26 years
Sr90/Y90	beta 12,111 ± 253CPM surface 17,319 ± 362CPM Total (40% BS) ± 2%	Eberline	6/81 half life is 28 years
U238 S2955	alpha 370 ± 40CPM surface 730 ± 80DPM total ± 11.6% beta 230CPM (.0002uCi)	Eberline	1/82 half life is 4.5×10^9 years
Thorium 230	alpha 4,918 ± 158CPM surface 9,688 ± 311 DPM total (.0044uCi) ± 3%	Eberline	6/81 half life is 8×10^4 years
U238 S2585	alpha 263 ± 52CPM surface 518 ± 102DPM total (.0002uCi) ± 20%	Eberline	6/81 half life is 4.5×10^9 years
U-238 (rod)	gamma 298 p Ci	Isotope Products	10/86 half life is 4.5 x 10 years
C 137 S	gamma 1 uCi not calibrated	Eberline	To set channels on multi-channel analyzer 32KeV, 662KeV

*Traceable to NBS (National Bureau of Standards)

000997

ITEM 8: CALIBRATION OF SURVEY INSTRUMENTS (CONTINUED)

In addition, a depleted uranium slab is available. Measuring conization current density with a graphite absorber and using

13.9 nA/kg = mrad/h

to calculate absorbed dose, the following dose rates were calculated.

ABSORBER (Mylar) THICKNESS (mg/cm^2)	ABSORBED DOSE RATE m rad/h
7	230
10	225
20	210
30	200
	half life is 4.5×10^9 years

The Nucleus Quantum 8 instrument is calibrated on-site by Olin using NBS traceable standard sources as previously indicated. The instrument is calibrated for each use.

The dosimeters are not calibrated as they generally are utilized only as a quick reference. The dosimeters when used are always backed up by ring badges.

The TLD type ring and body badges are supplied and read by the manufacturer. They are submitted to Landauer, the manufacturer, for monthly readings.

000998

ITEM 8: CALIBRATION OF SURVEY INSTRUMENTS (CONTINUED)

The Staplex high volume air sampler is calibrated for air flow by a standard orifice on the intake. Three filter disks are supplied to Radiation Safety Services in Evanston, Illinois, or an alternate certified laboratory. One filter is a blank, the second is a filter which has been exposed to clean air in the sampler for a set period of time and the third filter is the test sample which has been exposed to the suspect air for the same period of time.

The MSA C-200 and Gilliam HFS low volume personal sampler pump uses standard OSHA-NIOSH components. Olin uses the standard NIOSH method (using a 500 mil burrette and soap bubbles) to accurately calibrate air flow. A glass fiber filter is used and alpha radiation is read with the Ludlum 2200 Scaler-Ratemeter and Ludlum 43/2 probe.

ITEM 9: FACILITY AND EQUIPMENT DESCRIPTIONS AND DIAGRAMS

Olin Corporation maintains various operations in Rural Williamson County near Marion, Illinois. The plant consists of production, research, testing, and storage facilities. The primary business involves ammunition and solid propellant jet propulsion systems depending on the contracts received from the U.S. Department of Defense and foreign subsidiaries.

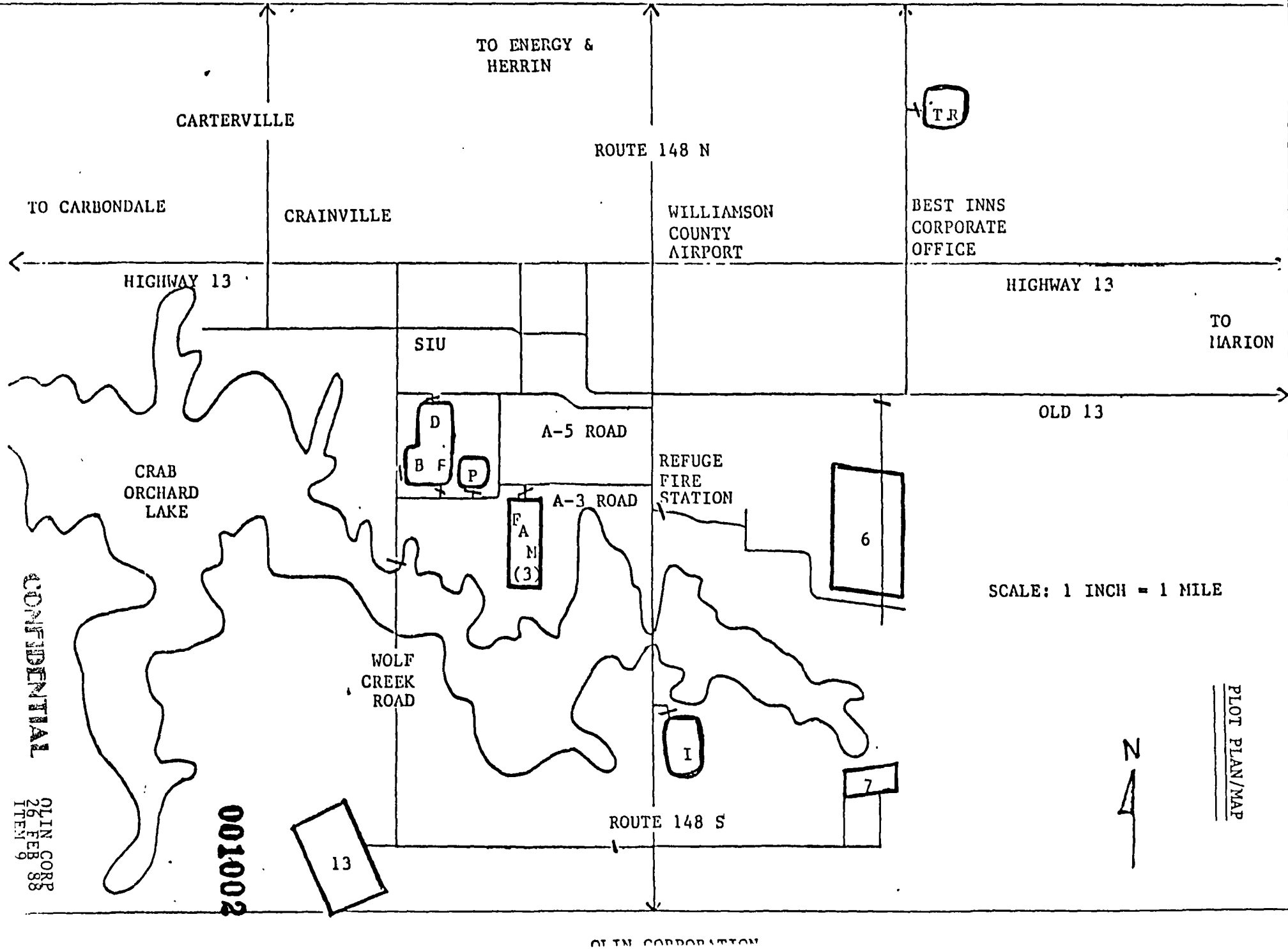
A plot plan/map of the Olin operations is as follows in this section. Areas involved with the use or handling of radioactive material and their general activity is as follows:

"I" Area: Production of small (5.56) through medium (30MM) caliber ammunition.

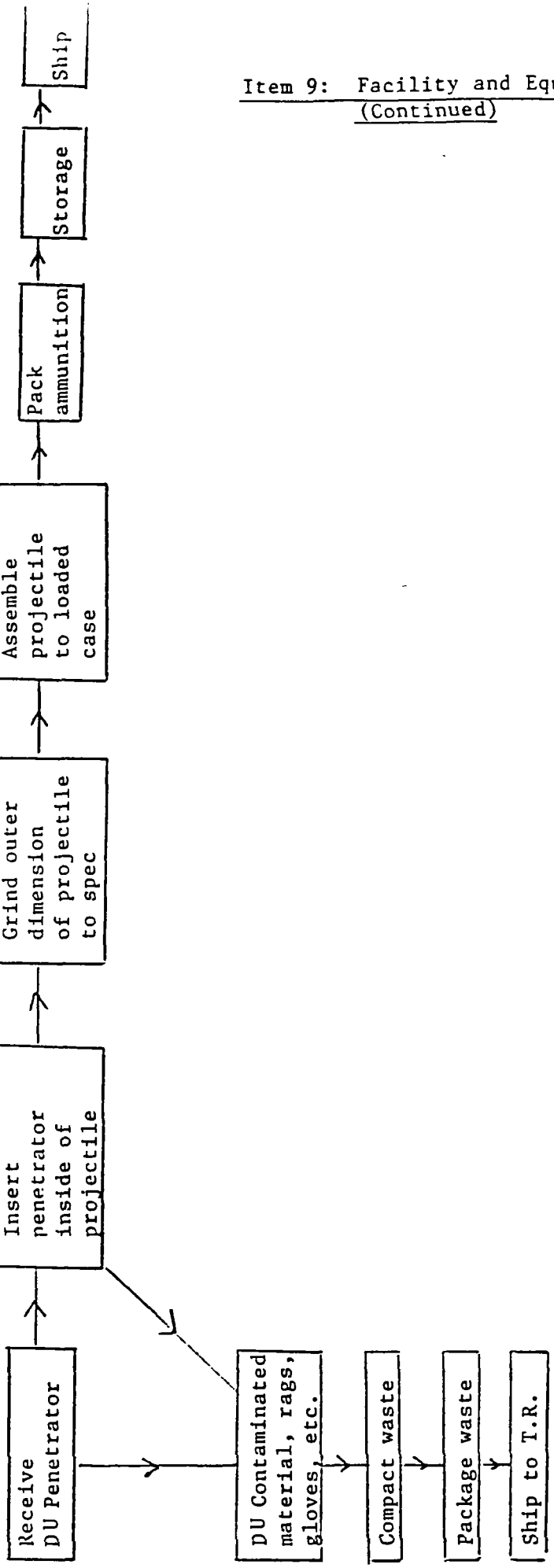
The explosive mixes are made in the I and/or D Areas or purchased from outside vendors. The remaining ammunition components are generally purchased from outside vendors. In the I Area, the various explosives and components are assembled, loaded, the resulting ammunition is then packed out, and stored until which time it is shipped. Preformed depleted uranium penetrators are purchased from vendors and then assembled into ammunition projectiles in certain product lines.

"F" Area: Olin's Shipping/Receiving Department and Receiving/ Inspection Department are located in the F Area. Shipments of radioactive material are received and inspected in the F Area. Shipments of outgoing radioactive material may also be handled in the F Area or are handled directly at the area where they are stored.

The F Area also includes a research prototype production operation that involves taking a projectile containing depleted uranium and assembling it into large caliber ammunition (120MM).


TO ENERGY & HERRIN
CARTERVILLE
ROUTE 148 N
TO CARBONDALE
CRAINVILLE
WILLIAMSON COUNTY AIRPORT
BEST INNS CORPORATE OFFICE
HIGHWAY 13
HIGHWAY 13
TO MARION
SIU
OLD 13
A-5 ROAD
D
B F
P
CRAB ORCHARD LAKE
REFUGE FIRE STATION
A-3 ROAD
F A N (3)
6
SCALE: 1 INCH = 1 MILE
WOLF CREEK ROAD
I
7
PLOT PLAN/MAP
N
ROUTE 148 S
13
001002
CONFIDENTIAL
OLIN CORP 26 FEB 88 ITEM 9
ITEM 9: FACILITY AND EQUIPMENT DESCRIPTIONS AND DIAGRAMS (CONTINUED)
OLIN CORPORATION

I Area Assembly Flow Diagram



001003

F Area Assembly Flow Diagram

Note: DU waste is not expected since the projectile is received for assembly with the depleted uranium penetrator enclosed within it.

Off-spec projectiles would be returned to the vendor.

001004

PRIVILEGED DOCUMENT OUT SHEET

Privileged Document Cover Sheet Number: 001005 to
001007

ITEM 10: PERSONNEL TRAINING PROGRAM

Personnel are trained in the hazards and handling and using of radioactive materials (depleted uranium). Standardized training is provided to all employees engaged in the assembly, transport, and testing of ammunition containing depleted uranium; employees engaged in processing, packaging, and transport of waste materials; and any person who frequents a "radiation restricted area".

All individuals who work in or frequent restricted areas are required to be instructed in the health protection problems associated with depleted uranium exposure. Personnel who work with radioactive materials are required to receive training in the safe use of depleted uranium exposure. Training is given prior to work assignments involving depleted uranium and is updated annually.

The training course includes the following topics:

- Identification of depleted uranium and the hazards present in the restricted area to be entered by the individual.
- Purposes and functions of protective devices required.
- Precautions and procedures to minimize exposures and the spread of contamination.
- Purposes and functions of protective devices required.
- Applicable NRC/IDNS regulations to be observed by individuals working in or frequenting restricted areas.
- Standard operating and emergency procedures to be followed by individuals working in or frequent restricted areas.
- Responsibility of individuals to report unsafe acts or conditions observed in restricted areas.
- Rights of employees to receive radiation exposure reports upon request.
- For personnel who actually work with depleted uranium, instructions for the safe use of depleted uranium.

ITEM 11: PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL

The purchase order to the depleted uranium supplier includes as an attachment a copy of Olin's radioactive license. In addition, the license number is included as a reference in the body of the purchase order. A clause is included in the purchase order requiring the depleted uranium supplier to furnish a copy of their radioactive license to Olin prior to shipment of the material ordered.

In the event that Olin furnishes depleted uranium to a supplier in the form of a component for loading into an item being purchased by Olin, a copy of that supplier's radioactive license must be obtained prior to material shipments. In the event that Olin is engaged in contracts where depleted uranium is furnished by the customer, a copy of the customer's radioactive license is obtained prior to receiving shipment.

All depleted uranium shipments received are recorded on standard Olin receiving reports and immediately stored in secure areas. Shipments are segregated by lot numbers. The storage areas are placarded with conventional radiation caution signs colored magenta on yellow. A perpetual inventory record is maintained to insure that all inventory transactions are current and to assure that Olin's radioactive license quantity limitations are not exceeded.

Radioactive low specific activity material shipments received as "exclusive use" are monitored for radioactivity in accordance with current Department of Transportation regulations. The vehicle is monitored by Olin personnel after the cargo has been unloaded and prior to its release from Olin facilities.

ITEM 12: PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

Personnel opening containers of radioactive material or handling radioactive material are required to wear disposable cotton, rubber, or plastic work gloves, safety glasses, safety shoes, and a ring type TLD film badge under their gloves. Upon completion of their work, all gloves are collected in a specified D.U. waste collection container for proper disposal. Upon leaving the work area, personnel are required to wash their face, hands, and safety glasses. Film badges are submitted monthly for analysis and the results recorded. The area containing radioactive material is conspicuously placarded with caution radioactive material, caution radiation area signs.

ITEM 13: GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL

Olin's operations conform to the requirements and practices of the D.O.D. Safety Manual 4145.26M in its entirety. In addition, safety regulations with respect to OSHA, EPA, DOT, and IDNS are observed for the safe use and handling of radioactive material.

Employees are provided with personal protective equipment, monitoring, and training. Protective equipment includes respirators, clothing, gloves, special shoes or shoe protectors as appropriate for the operation. Film TLD ring and/or body badges and dosemeters are provided and various survey equipment is available for monitoring. Personnel are trained with respect to radiation, emergency procedures, and the standard operating procedure for the particular operation.

Areas are placarded with radiation symbol signs and warning legends as appropriate such as work areas, storage areas, containers of D.U. and D.U. containing devices, shipping containers, and truck placarding.

The Radiation Safety Officer provides overall supervision of all uses of radioactive material. Olin's Safety and Loss Prevention Department monitors the operations from an overall standpoint the use of radioactive material in the plant.

ITEM 14: EMERGENCY PROCEDURES

Olin has written procedures for emergencies at the facility. The basic emergency procedure for employees outlines their detailed responsibilities in the following emergencies:

- Evacuation/explosion
- Locating missing personnel
- Injury
- Transportation of the injured
- Tornado/severe weather
- Lightning
- Fire
- Spills
- Vehicle accidents

The procedure includes internal notification and off-site notification such as fire departments, etc. Evacuation routes and assembly point areas are provided in detail. Emergency equipment is described and their locations. Fire hose house locations are also described.

As an adjunct to the employee emergency procedure, the plant has provided a contingency plan for emergencies with local authorities. This plan outlines the responsibilities of the local authorities in the event of an emergency at Olin. Local authorities include hospitals, plant physician, ambulances, fire departments, and security-police departments. These agencies receive copies of the plant's emergency procedure and contingency plan periodically. The contingency plan arrangements have been agreed to by the various agencies.

Employees are trained in the emergency procedures and emergency drills are conducted periodically. Procedures and/or evacuation routes are posted throughout the facilities. All operating areas of the plant are equipped with sprinkler systems to detect and contain fire in order to minimize risk of loss of personnel, material and facilities.

The plant emergency procedure and contingency plan address incidents involving radioactive material and specific notification requirements to the Radiation Safety Officer, ambulances, and hospitals in the event government notification and/or decontamination is required.

ITEM 14: EMERGENCY PROCEDURES (CONTINUED)

Other procedures involving radiation mishaps are on file such as theft, overexposure to personnel, spills or releases, and the requirements for reporting such incidents to government agencies. IDNS Form KLA.001.01 "Notice to Employees" is posted in locations at the facility for the availability to employees. Standard operating procedures also include basic information concerning emergencies.

ITEM 15: AREA SURVEY PROCEDURES (CONTINUED)

Action levels for personnel have been established for several items to determine contamination.

	Removable Alpha*	
	DPM/100 cm^2	microcuries/cm^2
Controlled Areas	5000	2.3×10^{-5}
Clothing & Shoes worn in Controlled Areas	1000	4.5×10^{-6}
Clothing & Shoes worn in Uncontrolled Areas (Outside Restricted Areas)	200	9×10^{-7}
Skin	0	0

*Conversion factor is 1 microcurie = 2.22×10^{-6} DPM

This is based on Table 2 from NRC-RG 8.24 and Table 4-19 from DARCOM Handbook 385-1.1 - 1978.

Decontamination is required where measured levels are above the action level. If disposable clothing including disposable shoe covers are used, personnel contamination is unlikely to occur. Limited local contamination of the skin can be removed with a wet-nap or equal wipe or with a paper towel wetted with water to which a mild surfactant has been added. Rubber or plastic gloves will be used to prevent skin contamination.

Where reuseable clothing is contaminated, fresh clothing will be delivered to the employee and proper disposal or decontamination of the garment or garments will be accomplished. Contaminated shoes can also be wiped down using the method shown above.

Equipment and facilities are considered contaminated at 5000 DPM/100 cm^2 average fixed alpha with a maximum of 15000DPM/100 cm^2. Removable alpha action level is 1000 DPM/100 cm^2. Where smear tests exceed 1000 DPM/100 cm^2 decontamination must be performed.

Action level is 250 micrograms/liter of urine.

Smear tests and surveys of packages when prepared for transportation are taken in accordance with current Dept. of Transportation regulations. Corrective action is required in the work areas when smear tests results exceed the limits as follows.

AVERAGE PERMISSIBLE DU CONTAMINAT LEVELS

Contaminated Items and Indications for Action	Contamination Levels[6] Alpha pCi/100 cm² fixed	Alpha pCi/100 cm² removable[2]	Beta-Gamma mr/hr @1 cm fixed[1]	Beta-Gamma pCi/100 cm² removable[2]
1. Clothing, including shoes:				
a. Personal. Should be replaced or decontaminated if above:	200	25	0.1	50
b. Anticontamination.				
(1) General. Should be replaced or decontaminated if above:	2,000	500	1.0	1,000
(2) Laundry. Should not be released to public laundry if above:[3]	200	25	0.2	50
(3) Respirators. Should be decontaminated after use if above:	200	ND	0.2	ND
2. Containers. Prior to non-radioactive use should be decontaminated if above:	200	100	0.2	200
3. Laboratory and process areas:				
a. Uncontrolled areas. Requires control and posting or decontaminated if above:	500	200	0.2	200
b. Controlled laboratory areas:				
(1) Hoods	2,000	400	4.0	250
(2) Glove Boxes:	10,000	2,000	20.0	20,000
(3) Workbench surface:	1,000	400	2.0	1,000
c. Controlled process areas:				
(1) Melting and casting:	10,000	750	5.0	4,000
(2) Mill Working:	10,000	750	5.0	20,000
(3) Machining:	5,000	500	5.0	1,000
(4) All others:	5,000	250	2.5	500
4. Skin:				
a. Body. Decontaminate if above:	200	ND	0.1	ND
b. Hands: Decontaminate if above:	200	ND	0.1	ND
5. Installation vehicles:				
a. Used in controlled area. Should be decontaminated if above:	5,000	500	5.0	2,000
b. Used in non-controlled area. Should be decontaminated if above:	500	200	0.5	250[5]
6. Commercial vehicles:[4]	1,000	1,000	0.5	10,000

ND : None detectable

Note 1 : Measured through not more than 7 milligrams per square centimeter of total absorber.

Note 2 : Smears analyzed with a counting system capable of detecting levels specified with no more than a relative error of 25% and a 95% confidence level.

Note 3 : Standard practice is to provide facilities for laundering anticontaminated clothing or utilize a NRC licensed commercial firm specializing in laundering such clothing.

Note 4 : Based on Title 49 CFR Part 173.397 or Graziano's Tariff and Title 10 CFR Part 20.205.

Note 5 : Gross activity, includes both alpha and beta-gamma activity.

Note 6 : In agreement with NRC RG 1.86.

FIGURE 4-19 Reference:
DARCOM DU Safety Manual

001016

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representati heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byprodu source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulat Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Nuclear Metals, Inc.	3. License number SUB-1452
2. 2229 Main Street Concord, Massachusetts 01742	4. Expiration date March 31, 1990
	5. Docket or Reference No. 040-08866

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licens may possess at any one time under this license
A. Uranium depleted in the isotope U235	A. As contamination in sand (no more than 4000 pCi U per gram of sand).	A. 1000 kilograms

9. Authorized use

A. For receipt as waste, processing and/or repackaging and transfer to an authorized recipient.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities at 2229 Main Street Concord, Massachusetts.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federa Regulations, Part 19, "Notices, Instructions, and Reports to Workers; Inspections and Part 20, "Standards for Protection Against Radiation."

12. Licensed material shall be used by, or under the supervision of, Alden R. Gilman c Frank J. Vumbaco or other individuals designated in or in accordance with Conditic 12. of License No. SMB-179.

13. This license does not authorize the commercial distribution of generally license material pursuant to Section 40.25, 10 CFR Part 40.

14. The licensee may transport licensed material or deliver licensed material to a carrie for transport in accordance with the provisions of Title 10, Code of Federa Regulations, Part 71, "Packaging of Radioactive Material for Transport an Transportation of Radioactive Material Under Certain Conditions."

MATERIALS LICENSE
SUPPLEMENTARY SHEET

Docket or Reference number
SUB-1452
040-08866

(continued) CONDITIONS

15. The licensee shall transfer all material received under the authorization of th license to an authorized recipient within six (6) months of receiving it.

16. Except as specifically provided otherwise by this license, the licensee shall posses and use licensed material described in Items 6, 7, and 8 of this license in accordanc with statements, representations, and procedures contained in application date January 25, 1985 and the statements, representations and procedures referenced i License Number SMB-179. The Nuclear Regulatory Commission's regulations shall gover the licensee's statements in applications or letters, unless the statements are mor restrictive than the regulations.

For the U.S. Nuclear Regulatory Commission

ate MAR 20 1985

By _____
Nuclear Materials Safety and
Safeguards Branch, Region I
King of Prussia, Pennsylvania 19406

OLIN CORP
26 FEB 88
ITEM 16
PAGE 32 of

001020

ITEM 18: INDUSTRIAL RADIOGRAPHY PROGRAM REQUIREMENTS

The Radiography Safety Program at Olin meets all requirements of, and is surveyed by, the State of Illinois Department of Nuclear Safety. Any changes to the facility is cause for notification and re-survey by the State prior to use unless so notified by the State. Olin's current Registration Number is 9077280. In addition, the Radiation Program addresses:

- Training - All operators who are assigned to areas of radiation producing devices receive radiation safety training that addresses "Protection Against Radiation". The training sessions are documented and signed by the operator and supervisor.

- Monitoring - All x-ray personnel are required to wear a whole body radiation film badge issued by supervision. These badges are obtained and checked periodically by a State of Illinois approved film badge service. This service issues a report giving the radiation registered number, name, age, social security number, sex, and radiation received during the monitoring service period for each individual working in the radiography lab. In addition, film badges are controlled by the NDT Lab Supervisor by: verifying at the end of the worked shift that each film badge has been accounted for from each operator who works in a radiation controlled area. The film badges when not in use are secured in a nonradiation area.

- Safety Devices - An interlock safety switch is located on each x-ray machine room door. The x-ray machine is inoperative when the door is open. In addition, there is a safety plug near the outside doors of each room enclosure that houses the x-ray machines. These safety plugs must be in place or the x-ray machine will not operate. When a person enters the x-ray machine room, they must remove the safety plug and take it with them and leave the door to the x-ray machine room open. On leaving the x-ray room, the safety plug is to be placed back into its receptable.

ITEM 18: INDUSTRIAL RADIOGRAPHY PROGRAM REQUIREMENTS (CONTINUED)

- Safety Devices (Continued)

  Each x-ray room is equipped with an emergency (panic) mechanical door latch and electrical push button switch inside the x-ray room for emergency purposes.

  At the end of each work day, the safety plugs or the key (switch) will be removed from the x-ray machine and given to the supervisor to secure and place the x-ray machine in an inoperable status.

  Flashing or constant red warning lights are illuminated during the radiation exposure period. One light is located inside the room above the door and another light is located outside the room above the door.

- Records - Each film exposure is marked with Olin, date, item x-rayed, operator number, and any other identification according to the specific procedure with lead numbers.

  Each exposure is recorded in the x-ray machine log book, giving item, film used, size and type, KV setting, MA setting, time of exposure and focal distance. The log book is initialed for each entry by the x-ray machine operator.

- Emergency Procedures - Emergency procedures are addressed in Item 14.

ITEM 21: PERSONNEL MONITORING

Personnel are required to wear a TLD ring badge whenever entering or working in a marked radiation controlled area. Badges are assigned on a monthly basis to required employees. Badges are submitted monthly for analysis and the results are made available to the employees.

The badges are stored in an area separate from where depleted uranium is stored. Each employee is required to pick up their assigned badge prior to starting work in a radiation controlled area and to return it at the end of the shift. The badge is to be kept dry and never loaned to another person.

The badge is worn on a bare finger not with another ring. It is worn on the employee's dominant hand or the hand that will receive the greatest exposure. The film portion of the badge is towards the palm side of the hand. The badge is worn under the employee's gloves. The badges are not to be left at a work station, they are to be either on the employee's finger or in the badge storage area.

In addition to the ring badge, dosimeters are worn periodically by employees within 75 feet of the depleted uranium contaminated sand bullet catcher in the test tunnel. A survey meter is provided periodically and personnel are monitored as they leave the test tunnel area. Monitoring of clothes, shoes, etc. is completed prior to the employee leaving the tunnel. The action level is 200 DPM/100 cm^2 or 9×10^{-7} microcuries/cm^2 (removable alpha). The procedure for exiting is to discard disposable clothing inside the tunnel, step to the exit and use the survey meter. Any readings above the action level will require spot decontamination.

Personnel involved in packaging of sand contaminated with depleted uranium at the Test Range are periodically required to provide a urine specimen for analysis of radioactivity. The samples are submitted to an approved laboratory for analysis and the results are provided to the employees.

The Staplex air sampler is operated periodically at the Test Range when performing operations involving packaging of sand contaminated with depleted uranium.

001028

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY

Paul Cannon (Radiation Safety Officer)

Education

B.S. Health Science - Brigham Young University

M.S. Industrial Safety - Central Missouri State University

Misc. - Certified Safety Professional (CSP) - 1988

Special Training

1. With previous Radiation Safety Officer (John Koropchak)

   A total of 125 hours has been spent with the previous Radiation Safety Officer. This experience includes 40 hours of practical application, 25 hours studying NRC Regulations and 60 hours of on the job monitoring with survey meters and smear sampling.

2. With Consultant (Dr. Miller)

   A total of 15 hours of specialized training and discussions of surveys including smear sampling was spent with Dr. William Miller, Associate Professor of Nuclear Engineering, from the University of Missouri at Columbia. Dr. Miller has acted as a consultant to Olin when required, since June 1985. He has developed special procedures for Olin use in conducting surveys.

3. Formal 40 Hour Course

   A special 40 hour training course was attended March 25-29, 1985. It was titled "Occupational and Environmental Radiation Protection" and was at Harvard University.

001024

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

Paul Cannon (continued)

Topics covered included:

a. Atomic structure and radioactive materials
b. External radiation hazards
c. Natural background radiation.
d. Laboratory - Gamma Spectrometry
e. Physics of radiation defectors
f. Radiation protection standards
g. Internal Dosimetry
h. Laboratory - calibration and use of portable radiation instruments
i. Biological effects of Ionizing Radiation
j. Statistics in radiation
k. Laboratory - medical radiation protection
l. Protective clothing in radiation protection
m. Internal hazards of radiation
n. Industrial radiography
o. Nuclear safety
p. Transportation of radioactive materials
q. Federal regulations of radionuclide users
r. Shielding and dosimetry

Additional related course work:

a. Physics of Radiation - 5 credit hours
Weber State College, 1970

b. Organic and Inorganic Chemistry - 5 semester hours
Brigham Young University, 1973

c. Radiation Protection-Industrial Hygiene - 5 Qtr. hours
Central Missouri State University, 1979

001025

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

John Koropchak (Alternate Radiation Safety Officer)

Education

B.S. Occupational Education - Southern Illinois University, Carbondale, Illinois

Radiation Training

1. Formal Course: Picker X-Ray Corporation, Cleveland, Ohio
   40 hours: sealed sources and radiation safety

2. Formal Course: Magnaflux Corporation, Chicago, Illinois
   40 hours: Radiography Interpretation

3. Seminars: Department of Public Health State of Illinois General Radiation Safety and Compliance Audits - 20 hours

   American Society for Nondestructive Testing - Monitoring Equipment and Survey Procedures - 10 hours

4. Miscellaneous: Member American Society for Nondestructive Testing - Holds a Level III Certification in Radiography to MIL-STD-410.

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

Michael Sweeney

Education

B.S. Athletic Training - Minor Health & Safety - Eastern Illinois University, 1977

Radiation Training

1. 40 hours NIOSH Nonionizing Radiation - 1984
2. 40 hours NIOSH Ionizing Radiation - 1984
3. 80 hours - Radiation training course in late 1983 under John Straddeck, previously an alternate RSO at Olin.

Dean Tharp

Education

3 1/2 years toward B.S. in Electronics Engineering - Southern Illinois University, Carbondale, Illinois, and University of Illinois, Urbana, Illinois

U.S. Army - Radar School

Misc. - Member of American Defense Preparedness Association

Radiation Training

No formal training.

Norman Wilkaitis

Education

B.S. Physics - Minor-Math - Northwestern University - 1951

1. 16 hours Hazardous Material Training - 1978
2. 32 hours Effective Safety Program Management - 1979
3. 80 hours Munitions Safety Course - 1977
4. 40 hours Environmental Health Management - 1977

Misc. - Certified Safety Professional (CSP) - 1978
Professional Member of American Society of Safety Engineers - 1977

Radiation Training

1 quarter - Physics of the Electron and Ion - Northwester University
1 quarter - X-Ray - Northwestern University

001027

ITEM 23: EXPERIENCE

Paul Cannon (Radiation Safety Officer)

Safety Engineer at Olin - 1981-1982

Safety Supervisor at Olin - 1982 - present

Radiation Safety Officer at Olin - 1986 - present

He has monitored depleted uranium with the Ludlum Model 18 Survey Meter and has conducted smear sampling and measurement with the Ludlum Model 2200 Scaler-Ratemeter. He has also taken air samples with the Staplex high volume air sampler to measure compliance with the 10% of MPC of depleted uranium in air requirement.

He supervises safety personnel who conduct smear and survey sampling and personnel monitoring.

ITEM 23: EXPERIENCE (CONTINUED)

John Koropchak (Alternate Radiation Safety Officer)

During 1961-1962, he was the Industrial Radiologist and Radiation Safety Officer for Universal Match Corporation where he was licensed with The Atomic Energy Commission to operate, perform surveys (film badges, dosimeters and survey meters) and assure compliance to the CFR regulation on a 50 curie cobalt 60 isotope sealed source for radiographic purposes.

1965 - Present: Quality Assurance Department - Vendor Quality Assurance Manager at Olin
1965 - 1986: Radiation Safety Officer at Olin
1986 - Present: Alternate Radiation Safety Officer at Olin

He has been responsible for all radiographic facilities, procedures, and training at Olin Corporation since 1965.

From 1965 to 1986, Mr. Koropchak performed the duties of the Radiation Safety Officer at Olin and established, developed, performed or assisted in the following programs:

Personnel Training - Provided orientation in radiation safety and protection to personnel.

Monitoring Program - Trained, performed and supervised tests such as survey and smear test utilizing monitoring equipment - Eberline Model E-520, Victoreen Model 470A and a Ludlum Model 2200 scaled rate meter.

Personal Protection (monitoring) - Has implemented and has provided the training of the personal protection program. The equipment utilized consists of a Staplex High Volume Air Sampler, Pocket Dosimeters, and TLD Ring Badges.

Configuration Control - He has written and/or evaluated new or revised Radiation Safety Procedures at Olin prior to implementation.

001029

ITEM 23: EXPERIENCE (CONTINUED)

Michael Sweeney

Radiation - 1983 - Present: Conducts smear and survey sampling and personnel monitoring under the direction of Paul Cannon.

General - 1982 - Present: Safety Inspector at Olin

Dean Tharp

Radiation - Mr. Tharp has managed Olin's ammunition testing and data evaluation since 1975, during the development and testing of many new ammunition configurations. He also has extensive experience in test engineering, quality assurance, and program management. During this time, thousands of 20MM and 30MM D.U. penetrator rounds were tested at this facility.

General - Olin Corporation, Marion, Illinois - 1971 - present. Mr. Tharp manages the activities of the Test Range. Ordnance items tested in addition to medium caliber ammunition include solid propellant devices, rockets, flame and smoke devices. Mr. Tharp's previous assignements at Olin include: 1973-1975 Quality Control Engineering; 1972-1973 Quality Assurance Manager; 1971-1972 Program Manager; 1965-1966 Reliability Engineer.

Norman Wilkaitis

Radiation - Managed the safety program for D.U. from 1974 to 1982 including smear and survey sampling, procedure preparation, program monitoring. Procured Ludlum equipment and standard sources and set up calibration procedure.

General - Safety and Loss Prevention Manager from 1974 to 1982. Experience in regulatory affairs including DOT, NRC, EPA, OSHA, etc. from 1973 to present. Senior Associate Engineer from 1982 to present.

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R LASH
DIRECTOR

March 3, 1988

RADIOACTIVE MATERIALS LICENSE
SUB-1138

Olin Corporation
P.O. Box 278
Marion, Illinois 62959

Attention: Arthur Heinz, Jr.
Director

SUBJECT: LICENSE RENEWAL APPLICATION

Dear Mr. Heinz:

This is to acknowledge receipt of your application for the renewal of the Illinois Radioactive Material License identified above. Your application is deemed timely filed and, accordingly, the license will not expire until final action has been taken by this office.

Any correspondence regarding the renewal application should reference your license number and be submitted in duplicate.

This is an acknowledgement of receipt only. It is not a reply to your communication.

Sincerely,

Lori Podolak
Licensing Section
Division of Nuclear Materials

LKP

RECEIVED
MAR 9 1988
001031
J. SCHNEIDERMAN

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R. LASH
DIRECTOR

May 13, 1988

RADIOACTIVE MATERIAL LICENSE
SUB-1138

Arthur Heintz, Jr.
Director
Olin Corporation
P.O. Box 278
Marion, Illinois 62959

Dear Mr. Heintz:

This acknowledges receipt of your renewal application dated February 26, 1988. Our preliminary review is complete, however, the following additional information is necessary:

1. Submit facility diagrams of all secured storage areas referenced in Item 11. of your application or specify the basic criteria/requirements for determining whether a storage area is considered "secure".

2. Submit a copy of the following:

   a. The plant emergency procedures referenced in application Item 14.

   b. The D.O.D. Safety Manual 4145.26M referenced in application Item 13. regarding Olin's operational requirements and practices.

   c. The instructions for safe use of depleted uranium referenced in application Item 10.

   d. The standard operating procedures referenced in application Item 16.

3. Verify that you will notify the Department in case of loss, theft, damage or fire affecting radioactive material.

4. Verify that a check will be made, upon receipt of radioactive material, to ensure that material received equals the material requested.

5. Submit bioassay criteria and procedures for personnel opening depleted uranium packages or handling depleted uranium. (Enclosed, for your reference, is a copy of U.S. NRC's Regulatory Guide 8.11.)

001032

6. In areas where airborne depleted uranium dust may exist, verify that individuals will be provided with respiratory protection and that such individuals will receive training in the use of such protection. Describe any associated tests related to respirator use such as fit testing. Also specify any guidance or criteria followed for these tests.

   In addition, describe any ventilation or filtration used in these areas to reduce depleted uranium air concentrations.

7. Specify how you will ensure that only authorized users, or individual's working under the supervision of authorized users, have access to licensed material.

8. Verify that individual's will monitor their hands, face and clothing prior to leaving depleted uranium work areas. (Item 12. of your application.)

9. Application Item 9. states that the outer dimensions of munitions projectiles will be ground to specifications after a depleted uranium penetrator has been inserted into the projectiles. Specify the safety precautions to be followed, during this operation, to reduce the chances of grinding depleted uranium during this process. In addition, specify the safety precautions followed to reduce worker exposure and/or contact to depleted uranium in the event that it becomes a hazard.

Review of your renewal request will continue upon receipt of your reply. Should you have any questions concerning this matter, please contact me at the Division of Nuclear Materials, (217) 785-9947.

Sincerely,

Lori Podolak

Lori Podolak
Licensing Section
Division of Nuclear Materials

LKP

Enclosure

RECEIVED

MAY 16 1988

J. SCHNEIDERMAN

001033

Olin
ORDNANCE

MARION OPERATIONS

8 August 88

Illinois Department of Nuclear Safety
Division of Nuclear Materials
1035 Outer Park Drive
Springfield, Illinois 62704

Attention: Ms. Lori Podolak
Licensing Section

Reference: Olin Corporation - Marion, Illinois
Radioactive Material License SUB-1138
IDNS Correspondence 13 May 88 and 12 July 88
Supplemental Application Info. Rev. A

Dear Ms. Podolak:

Enclosed herewith is additional information requested and one (1) copy thereof, per the IDNS correspondence dated 13 May 88 with respect to Olin's application for renewal of its radioactive material license dated 26 February 88.

If further information or clarification is required, please contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

Encl.

AHJ:JMS/pv

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
RADIOACTIVE MATERIAL LICENSE

LICENSEE	LICENSE NUMBER	AMENDMENT NUMBER	EXPIRATION DATE
Olin Corporation	IL-01209-01	☒ INITIAL LICENSE	March 31, 1993

ITEM	RADIONUCLIDE	CHEMICAL and/or PHYSICAL FORM	MAXIMUM ACTIVITY* PER SOURCE	MAXIMUM POSSESSION LIMIT

6. The licensee shall not transfer possession and/or control of materials or products containing radioactive material as a contaminant except:

   A. By transfer as waste to an authorized recipient;

   B. By transfer to a specifically licensed recipient; or

   C. As provided otherwise by specific conditions of this license.

7. Individuals who work in, or whose duties may require them to work in restricted areas, shall be instructed in the items specified in Section 400.120 of 32 Illinois Administrative Code at the time of initial employment and at least annually thereafter.

8. Except as specifically provided otherwise by the license, the licensee shall possess and use radioactive material described in all schedules of this license in accordance with statements, representations and procedures contained in, or enclosed with, the documents listed below. The regulations contained in 32 Illinois Administrative Code shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

   A. Application received August 10, 1988.

   B. Letter, with attachments, dated October 7, 1988.

9. The licensee is exempt from the provisions of Section 330.250(c) of 32 Illinois Administrative Code for a period of one year from the date of issuance of this license document.

SCC:LKP:jcm

* μCi-Microcurie; mCi-Millicurie; Ci-Curie

PAGE 1 SIGNED BY:	DATE	PAGE	OF	PAGES
Steven C. Collins, Chief IL 473-0059	November 15, 1988	2	.	2

001042

IDNS.FLM-004-01(12/87)

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY

RADIOACTIVE MATERIAL LICENSE

DIVISION OF NUCLEAR MATERIALS
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704

Pursuant to the Illinois Radiation Protection Act and the rules and regulations in 32 Illinois Administrative Code promulgated thereunder, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material(s) listed herein; and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Illinois Department of Nuclear Safety now or hereafter in effect and to any conditions specified in the license.

LICENSEE	LICENSE NUMBER	EXPIRATION DATE
Olin Corporation P.O. Box 278 Marion, Illinois 62959	SUB-1138	
	AMENDMENT NUMBER ☐ INITIAL LICENSE 14	REFERENCE NUMBER 9077280
Attention: Arthur Heinz, Jr. Director	☐ Initial License Amendment through Amendment constitute a complete license. ☒ PREVIOUS AMENDMENTS ARE VOID.	

In accordance with the issuance of License Number IL-01209-01, License Number SUB-1138 is hereby terminated.

ITEM	RADIONUCLIDE	CHEMICAL and/or PHYSICAL FORM	MAXIMUM ACTIVITY* PER SOURCE	MAXIMUM POSSESSION LIMIT

SCC:LKP:jcm

* uCi-Microcurie; mCi-Millicurie; Ci-Curie

BY:	DATE	PAGE	OF	PAGES
Steven C. Collins, Chief IL 473-0058 Steven C. Collins	November 15, 1988	1		1

001043

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R. LASH
DIRECTOR

NOV 17 1988

TO THE LICENSEE:

Enclosed is the Illinois Department of Nuclear Safety license or license amendment for which you applied. You are encouraged to carefully review it upon receipt, to ensure that you understand all conditions of authorized use contained in the document.

You should note that a condition has been added which grants a one-year exemption from the financial surety requirements of 32 Illinois Administrative Code 330.250(c). The Department is evaluating the current financial surety requirements, and is planning to promulgate revised financial surety regulations in the future. If the revised surety regulations require that you provide this agency with evidence of financial surety, you must comply with the requirements of the regulation before your one-year exemption expires.

If the surety requirements of this Department have caused inconvenience in obtaining license approval, please accept our apologies. We will continue to evaluate and revise regulations as appropriate to assure an effective and efficient program governing the safe use of radioactive material in Illinois.

Any future correspondence relating to your license should specifically reference your license number. Should you have any questions regarding your license or the regulations, please contact the Division of Nuclear Materials at 217-785-9947.

Sincerely,

Steven C. Collins, Chief
Division of Nuclear Materials

Enclosure

001044

IDNS 13 May 88 Additional Information Requested	Olin Response Referenced
1. Submit facility diagrams of all secured storage areas referenced in Item 11 of your application or specify the basic criteria/requirements for determining whether a storage area is considered "secure".	Item 11
2. Submit a copy of the following:	
a. The plant emergency procedures referenced in application Item 14.	Item 14 and Attachment C
b. The D.O.D. Safety Manual 4145.26M referenced in application Item 13 regarding Olin's operational requirements and practices.	Item 13 and Attachment B
c. The instructions for safe use of depleted uranium referenced in application Item 10.	Item 10 and Attachment A
d. The standard operating procedures referenced in application Item 16.	Item 16 and Attachment E
3. Verify that you will notify the Department in case of loss, theft, damage or fire affecting radioactive material.	Item 14 and Attachment D
4. Verify that a check will be made, upon receipt of radioactive material, to ensure that material received equals the material requested.	Item 11
5. Submit bioassay criteria and procedures for personnel opening depleted uranium packages or handling depleted uranium. (Enclosed, for your reference, is a copy of U.S. NRC's Regulatory Guide 8.11).	Item 21 and Attachment F
6. In areas where airborne depleted uranium dust may exist, verify that individuals will be provided with respiratory protection and that such individuals will receive training in the use of such protection. Describe any associated tests related to respirator use such as fit testing. Also specify any guidance or criteria followed for these tests. In addition, describe any ventilation or filtration used in these areas to reduce depleted uranium air concentrations.	Item 13 and Attachments E and G
7. Specify how you will ensure that only authorized users, or individual's working under the supervision of authorized users, have access to licensed material.	Item 13
8. Verify that individual's will monitor their hands, face and clothing prior to leaving depleted uranium work areas. (Item 12 of your application.)	Item 21
9. Application Item 9 states that the outer dimensions of munitions projectiles will be ground to specifications after a depleted uranium penetrator has been inserted into the projectiles. Specify the safety precautions to be followed, during this operation, to reduce the changes of grinding depleted uranium during this process. In addition, specify the safety precautions followed to reduce worker exposure and/or contact to depleted uranium in the event that it becomes a hazard.	Item 9 and Attachment E

NOTE: The Attachments A through G are provided herein for basic information only and are uncontrolled copies subject to periodic revision by Olin or Regulatory Agencies.

License amendments will not be made as a result of these revisions unless the detailed license application information in Items 1 through 23 is affected or IDNS advises otherwise.

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R. LASH
DIRECTOR

September 9, 1988

RADIOACTIVE MATERIAL LICENSE
SUB-1138

Arthur Heintz, Jr.
Director
Olin Corporation
P.O. Box 278
Marion, Illinois 62959

Dear Mr. Heintz:

This acknowledges receipt of your letter dated August 8, 1988. The following additional information is necessary.

Prior to releasing controlled areas for unrestricted use, verify that those areas will be decontaminated at or below the values listed in 32 Ill. Adm. Code 340.App.C.

Review of your renewal request will continue upon receipt of your reply. When corresponding with this office, please ensure that all items submitted are in duplicate. Should you have any questions concerning this matter, please contact me at the Division of Radioactive Materials, (217) 785-9947.

Sincerely,

Lori Podolak

Lori Podolak
Licensing Section
Division of Radioactive Materials

LKP:jcm

RECEIVED
SEP 1 ; 1988
001036 J. SCHNEIDERMAN

Olin
ORDNANCE

MARION OPERATIONS

7 October 88

Illinois Department of Nuclear Safety
Division of Radioactive Materials
1035 Outer Park Drive
Springfield, Illinois 62704

Attention: Ms. Lori Podolak
Licensing Section

Reference: Olin Corporation-Marion, Illinois
Radioactive Material License SUB-1138
IDNS Correspondence 9 September 88
Supplemental Application Info. Rev. B

Dear Ms. Podolak:

Enclosed herewith is additional information requested and one (1) copy thereof, per the IDNS correspondence dated 9 September 88 with respect to Olin's application for renewal of its radioactive material license dated 26 February 88.

If further information or clarification is required, please contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

Enclosures

AHJ:JMS/jb

IDNS 9 September 88 Additional Information Requested	Olin Response Referenced
1. Prior to releasing controlled areas for unrestricted use, verify that those areas will be decontaminated at or below the values listed in 32 Ill. Adm. Code 340 App. C.	Item 15

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R. LASH
DIRECTOR

November 15, 1988

Arthur Heinz, Jr.
Director
Olin Corporation
P.O. Box 278
Marion, Illinois 62959

Dear Mr. Heinz:

Enclosed is your Illinois Radioactive Material License Number IL-01209-01. This license replaces your previous License Number SUB-1138. A termination amendments for the retired licenses is also enclosed.

Please review the enclosed document carefully and be sure that you understand all conditions. You must conduct your program involving radioactive material in accordance with the conditions of your Illinois license, representations made in your license application, and Illinois regulations.

You must request and obtain an appropriate amendment if you plan to make any changes in your facility or program. Any amendment request should be accompanied by the appropriate fee specified in 32 Ill. Adm. Code Part 331.

You will be periodically inspected by this agency. Failure to conduct your program in accordance with IDNS regulations, license conditions and representations in your license application will result in enforcement action.

Thank you for your cooperation in this matter. When corresponding with this office, please refer to your Illinois Radioactive Material License Number and ensure that all items are submitted in duplicate. If you have any questions or require clarification of any of the above information, please contact the Division of Radioactive Materials, Licensing Section at (217) 785-9947.

Sincerely,

Steven C. Collins

Steven C. Collins, Chief
Division of Radioactive Materials

SCC:LKP:jcm

Enclosures

001040

Olin
ORDNANCE

MARION OPERATIONS

27 January 1989

Illinois Department of Nuclear Safety
Division of Radioactive Materials
1035 Outer Park Drive
Springfield, Illinois 62704

Attention: Mr. Steven C. Collins, Chief

Reference: Olin Corporation - Marion, Illinois
Radioactive Material License IL-01209-01
Amendment 1

Dear Mr. Collins:

Enclosed herewith is an amendment request and one (1) copy for Olin's Radioactive Material License IL-01209-01. Also enclosed is a check in the amount of $173 for the amendment fee.

It is requested that conditions #2 and #4 of the license concerning personnel are amended as described.

Condition #2:

Is: Radioactive materials shall be used by, or under the supervision of, Paul Cannon, John Koropchak, Michael Sweeney, Dean Tharp, or Norman Wilkaitis.

Amended: Radioactive materials shall be used by, or under the supervision of, Kevin Dody, Donald Hill, John Koropchak, Dean Tharp, Norman Wilkaitis, or Glendon Campbell.

Condition #4:

Is: The Radiation Safety Officer for the activities authorized by this license is Paul Cannon.

Amended: The Radiation Safety Officer for the activities authorized by this license is Kevin Dody. The alternate Radiation Safety Officers for the activities authorized by this license are Donald Hill and John Koropchak.

If further information or clarification is required, please contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

AHJ:JMS/jb

Enclosure

001041

State of Illinois
Department of Nuclear Safety
Division of Nuclear Materials

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE
NON- MEDICAL

INSTRUCTIONS: Complete all Items if this is an initial application or an application for renewal of a license. Use supplementary sheets where necessary. **Item 24 must be completed and signed on all applications.** Retain one copy and submit the original and one copy of the entire application to:

Illinois Department of Nuclear Safety
Division of Nuclear Materials
1035 Outer Park Drive
Springfield, Illinois 62704

Upon approval of this application, the applicant will receive a Radioactive Material License. An IDNS Radioactive Material License is issued in accordance with, and the licensee is subject to, 32 Illinios Administrative Code. The license fee should be stated in Item 24 and the appropriate fee enclosed.

1.a. NAME AND MAILING ADDRESS OF APPLICANT (Institution, firm, etc.) INCLUDE ZIP CODE

OLIN CORPORATION
P.O. BOX 278
MARION, ILLINOIS 62959

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

1.b. STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (If different from 1.a.)

1) RURAL WILLIAMSON COUNTY - OLIN TEST RANGE
2) ORDILL INDUSTRIAL AREA - RT 148 SOUTH

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

2. PERSON TO CONTACT REGARDING THIS APPLICATION

ARTHUR HEINZ, JR.

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

3. THIS IS AN APPLICATION FOR:

a. [ ] New License
b. [X] Amendment to License Number: IL-01209-01
c. [ ] Renewal of License Number:

REFERENCE AMENDMENT 1 PP 1-2, 36-42

4. INDIVIDUAL USERS (Attach a resume of each person's training and experience as outlined in Items 22 and 23.)

KEVIN DODY
DONALD HILL
JOHN KOROPCHAK
DEAN THARP
NORMAN WILKAITIS
GLENDON CAMPBELL

5. RADIATION SAFETY OFFICER (RSO) (Name the person designated as Radiation Safety Officer. Attach a resume of the individual's training and experience as outlined in Items 22 and 23. Include a description of the RSO's duties and responsiblities under this program.)

1) KEVIN DODY (RSO)
2) DONALD HILL (ALTERNATE RSO)
3) JOHN KOROPCHAK (ALTERNATE RSO)

TELEPHONE NUMBER: AREA CODE/# (618) 985-8211

6. LICENSED MATERIAL

Attach additional sheets which include the following information for each separate radioactive material you wish to be licensed for:

1. ELEMENT AND MASS NUMBER
2. CHEMICAL AND/OR PHYSICAL FORM
3. MAXIMUM NUMBER OF MILLICURIES OF EACH FORM
4. PURPOSE FOR WHICH RADIOACTIVE MATERIAL WILL BE USED
5. IF SEALED SOURCE(S) THEN INDICATE:
   a. MANUFACTURER'S NAME
   b. MODEL NUMBER
   c. NUMBER OF SOURCES
   d. MAXIMUM ACTIVITY PER SOURCE

7. THROUGH 21. RADIATION PROTECTION PROGRAM

For Items 7 through 21, describe the radiation protection program as appropriate for the material to be used including control measures, bioassay procedures (if needed), day-to-day general safety instructions to be followed, etc. Submit a detailed description of all the requested information. Begin each item on a separate sheet. Identify the Item number and the date of the application in the lower right corner of each page. Submitted information should be on 8 1/2" x 11" paper, and any copies should be clear and legible.

7. INSTRUMENTATION

8. CALIBRATION OF SURVEY INSTRUMENTS

9. FACILITY AND EQUIPMENT DESCRIPTIONS AND DIAGRAMS

10. PERSONNEL TRAINING PROGRAM

11. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL

12. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

13. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL

14. EMERGENCY PROCEDURES

15. AREA SURVEY PROCEDURES

16. WASTE DISPOSAL

17. LEAK TESTING FOR SEALED SOURCES N/A
(If a leak test kit will be used, then specify the manufacturer and the model number of the kit.)

18. INDUSTRIAL RADIOGRAPHY PROGRAM REQUIREMENTS **(See 32 Ill. Adm. Code Part 350)**

19. WIRELINE SERVICE & SUBSURFACE TRACER STUDIES **(See 32 Ill. Adm. Code Part 351)** N/A

20. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS N/A

21. PERSONNEL MONITORING

22. FORMAL TRAINING IN RADIATION SAFETY

For each individual named in Items 4 & 5, attach a resume which describes that individual's formal training in the following areas where applicable. Include the name of any persons or institutions which provided training, duration of training, when training was received, etc.

a. Principles and practices of radiation protection.

b. Radioactivity measurement standardization, and monitoring techniques and instruments.

c. Mathematics and calculations basic to the use and measurement of radioactivity.

d. Biological effects of radiation.

23. EXPERIENCE

For each individual named in Items 4 & 5, attach a resume which describes that individual's work experience with radiation, including where that experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include a list of the radionuclides and maximum activities used by each individual.

24. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1.a. certify that this application is prepared in conformity with 32 Illinois Administrative Code and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

a. LICENSE FEE REQUIRED (PART 331, 32 ILL. ADM. CODE)

(1) LICENSE FEE CATEGORY(IES):

OTHER SOURCE MATERIAL

(2) LICENSE FEE ENCLOSED:

$ 173.00

b. APPLICANT OR CERTIFYING OFFICIAL (Signature)

(1) NAME (Type or print)

ARTHUR HEINZ, JR.

(2) TITLE

DIRECTOR

c. DATE

27 JANUARY 1989

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY

Kevin Dody (Radiation Safety Officer)

Education

B.S. Safety Management - Central Missouri State University - 1986

Radiation Training

1. Formal Course: Central Missouri State University
   51 hours or 3 semester credits - "Fundamentals of Industrial Hygiene" (1985). Included the hygiene and safety aspects of ionizing and nonionizing radiation.

2. Formal Course: U.S. Army Material Command Field Safety Activity
   80 hours - "Explosive Safety Course" (3/87). Included instruction in the specialized safety requirements for storage, handling, maintenance, and radiological monitoring of nuclear weapons and related equipment.

3. Formal Course: U.S. Army Material Command Field Safety Activity
   32 hours - "Industrial Hygiene Aspects of the Occupational Safety and Health Act" (11/87). Included specialized instruction in ionizing and nonionizing radiation safety and industrial health.

4. Formal Course: Oklahoma State University
   51 hours or 3 semester credits - "FIRET 3233 Radiological Safety" (In process of completing). Includes radiation safety aspects in detail.

5. Formal Course: U.S. Army Defense Ammunition Center and School
   40 hours - "Basics of Explosive Hazard Control" (Scheduled to complete 5/89). Includes explosives and radiation safety.

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

Donald Hill (Alternate Radiation Safety Officer)

Education

B.S. Geology and Mining Engineering - University of Nevada, Reno, Nevada - 1970

M.B.A. Management - Lindenwood College, St. Charles, Missouri - 1984

Radiation Training

1. Formal Course: Illinois Emergency Services and Disaster Agency
   24 hours - "Introduction to Radiological Monitoring" (1/85)
   Included practical application of instrument usage in radiation monitoring.

2. Formal Course: U.S. Air Force, Air University Extension Service
   168 hours - "Safety Specialist" (1/85)
   Included nuclear safety, missile safety, explosives safety, and other aspects of radiation safety.

3. Formal Course: U.S. Army Defense Ammunition Center and School
   40 hours - "General Ammunition Metal Parts" (5/87)
   Included safety and quality control instruction of ammunition containing depleted uranium metal parts.

4. Formal Course: U.S. Army Material Command Field Safety Activity
   80 hours - "Explosives and Munitions Safety Course" (10/87)
   Included nuclear safety.

5. Formal Course: U.S. Army Armament and Readiness Command
   40 hours - "Explosive Safety Cross-Training at Army Ammunition Plants" (10/87)
   Included radiation safety training.

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

John Koropchak (Alternate Radiation Safety Officer)

Education

B.S. Occupational Education - Southern Illinois University, Carbondale, Illinois

Radiation Training

1. Formal Course: Picker X-Ray Corporation, Cleveland, Ohio
   40 hours: sealed sources and radiation safety

2. Formal Course: Magnaflux Corporation, Chicago, Illinois
   40 hours: Radiography Interpretation

3. Seminars: Department of Public Health State of Illinois General Radiation Safety and Compliance Audits - 20 hours

   American Society for Nondestructive Testing - Monitoring Equipment and Survey Procedures - 10 hours

4. Miscellaneous: Member American Society for Nondestructive Testing - Holds a Level III Certification in Radiography to MIL-STD-410.

Dean Tharp

Education

3 1/2 years toward B.S. in Electronics Engineering - Southern Illinois University, Carbondale, Illinois, and University of Illinois, Urbana, Illinois

U.S. Army - Radar School

Misc. - Member of American Defense Preparedness Association

Radiation Training

No formal training.

ITEM 22: FORMAL TRAINING IN RADIATION SAFETY (CONTINUED)

Norman Wilkaitis

Education
B.S. Physics - Minor-Math - Northwestern University - 1951
1. 16 hours Hazardous Material Training - 1978
2. 32 hours Effective Safety Program Management - 1979
3. 80 hours Munitions Safety Course - 1977
4. 40 hours Environmental Health Management - 1977

Misc. - Certified Safety Professional (CSP) - 1978
Professional Member of American Society of Safety Engineers - 1977

Radiation Training
1 quarter - Physics of the Electron and Ion - Northwestern University
1 quarter - X-Ray - Northwestern University

Glendon Campbell

Education
B.S. Safety - Northeastern State University, Tahlequah, Oklahoma - 1987

Radiation Training
1. Formal Course: Northeastern State University
51 hours or 3 semester credits - "Safety Management" (12/86) Included specialized instructions in organizing and managing all types of safety programs, and review of the NRC Rules and Regulations pertaining to Radiation Safety Program Management.

2. Formal Course: U.S. Army Material Command Field Safety Activity
80 hours - "Explosive Safety Course" (2/88) Included instructions in the specialized safety requirements for storage, handling, and maintenance including radiation monitoring of nuclear weapons and related equipment.

3. Formal Course: U.S. Army Defense Ammunition Center and School"
40 hours - "Basics of Explosive Hazard Control" (Scheduled to complete 3/89) Includes explosives and radiation safety.

001052

ITEM 23: EXPERIENCE

Kevin Dody (Radiation Safety Officer)

1982 - 1986: During this period, he obtained a B.S. degree in Safety Management. During this period, he received on-the-job, classroom, laboratory, and other specialized instructions in the operation of equipment and instrumentation associated with radiological monitoring.

1986-1988: During this time, he accomplished 22 months of work experience. During his position as Safety Engineer with the Iowa Army Ammunition Plant, he received on-the-job training working with the plant's Radiation Safety Officer and Alternate Radiation Safety Officer under NRC license number 14-20498-01. He worked directly with various types of equipment and instrumentation in radiological monitoring. His experience included performing monthly radiation surveys, swipe tests, and issuance and control of employee film badges. He also performed calibration of radiation detection instruments.

In addition, some of his other responsibilities included conducting safety inspections; performing accident investigations; and monitoring operations for safety compliance set forth by the Army, OSHA, NRC, and other regulatory agencies.

12/88 - Present: He is presently in the position of Safety Engineer with Olin Corporation. He has been assigned to have the responsibilities of Radiation Safety Officer at Olin upon IDNS concurrence. He has utilized some of Olin's radiation equipment and conducted various radiation surveys.

Don Hill (Alternate Radiation Safety Officer)

1975 - 1980: He was assigned duties as Radiation Safety Officer at the River King Preparation Plant, Peabody Coal Company, Freeburg, Illinois which included monthly inspections, record log maintenance, and lockout, removal and reinstallation of counter devices containing licensed radioactive sources.

1980 - 1986: During this period he managed a corporate safety program in nine (9) states for 12,000 employees in six (6) divisions, which included the management of Radiation Safety programs and explosives safety at the facility level for Peabody Coal Company, St. Louis, Missouri.

ITEM 23: EXPERIENCE (CONTINUED)

Don Hill (Alternate Radiation Safety Officer) (Continued)
1987 - 1988: He was certified by the Department of Defense, Defense Logistics Agency in "Explosives and Industrial Safety". In addition, he provided surveillance of Government contractors in the five (5) states of Minnesota, North Dakota, South Dakota, Nebraska, and Iowa on contracts which involved Radiation Safety Program Management evaluation. He fulfilled the St. Paul, Minnesota, Defense Contract Administration Services Office specialized safety function.

11/88 - Present: He presently is the Safety Supervisor for Olin Corporation. He has been assigned to have the responsibilities of Alternate Radiation Safety Officer at Olin upon concurrence with IDNS. He has utilized some of Olin's radiation equipment and conducted various radiation surveys.

John Koropchak (Alternate Radiation Safety Officer)

During 1961-1962, he was the Industrial Radiologist and Radiation Safety Officer for Universal Match Corporation where he was licensed with The Atomic Energy Commission to operate, perform surveys (film badges, dosimeters and survey meters) and assure compliance to the CFR regulation on a 50 curie cobalt 60 isotope sealed source for radiographic purposes.

1965 - Present: Quality Assurance Department - Vendor Quality Assurance Manager at Olin
1965 - 1986: Radiation Safety Officer at Olin
1986 - Present: Alternate Radiation Safety Officer at Olin

He has been responsible for all radiographic facilities, procedures, and training at Olin Corporation since 1965.From 1965 to 1986, Mr. Koropchak performed the duties of the Radiation Safety Officer at Olin and established, developed, performed or assisted in the following programs:

Personnel Training - Provided orientation in radiation safety and protection to personnel.
Monitoring Program - Trained, performed and supervised tests such as survey and smear test utilizing monitoring equipment - Eberline Model E-520, Victoreen Model 470A and a Ludlum Model 2200 scaled rate meter.
Personal Protection (monitoring) - Has implemented and has provided the training of the personal protection program. The equipment utilized consists of a Staplex High Volume Air Sampler, Pocket Dosimeters, and TLD Ring Badges.
Configuration Control - He has written and/or evaluated new or revised Radiation Safety Procedures at Olin prior to implementation.

ITEM 23: EXPERIENCE (CONTINUED)

Dean Tharp
Radiation - Mr. Tharp has managed Olin's ammunition testing and data evaluation since 1975, during the development and testing of many new ammunition configurations. He also has extensive experience in test engineering, quality assurance, and program management. During this time, thousands of 20MM and 30MM D.U. penetrator rounds were tested at this facility.

General - Olin Corporation, Marion, Illinois - 1971 - present. Mr. Tharp manages the activities of the Test Range. Ordnance items tested in addition to medium caliber ammunition include solid propellant devices, rockets, flame and smoke devices. Mr. Tharp's previous assignments at Olin include: 1973-1975 Quality Control Engineering; 1972-1973 Quality Assurance Manager; 1971-1972 Program Manager; 1965-1966 Reliability Engineer.

Norman Wilkaitis
Radiation - Managed the safety program for D.U. from 1974 to 1982 including smear and survey sampling, procedure preparation, program monitoring. Procured Ludlum equipment and standard sources and set up calibration procedure.

General - Safety and Loss Prevention Manager from 1974 to 1982. Experience in regulatory affairs including DOT, NRC, EPA, OSHA, etc. from 1973 to present. Senior Associate Engineer from 1982 to present.

Glendon Campbell

1980 - 1987: He held a position in mining operations supervising 8-10 employees in the drilling of shot holes; loading and wiring of shot holes; and blasting operations. His other duties included the responsibility of safe handling, storage, transportation, ordering, and recordkeeping of all explosives used in this operation, and to assure compliance with MSHA, OSHA, OMSA, BATF, and other Federal, state, and local laws, rules, and/or regulations.

1987 - 1988: During this period he held a position as Safety Engineer for Day & Zimmerman's Kansas Army Ammunition Plant, Parsons, Kansas. His duties included monitoring all explosive production operations and enforcement of NRC, NEC, OSHA, DOD, and other federal, state, and local rules and regulations. In addition, he had numerous safety and industrial hygiene responsibilities in this position.

9/88-Present: He presently is a Safety Engineer with Olin Corporation.

RECEIVED
FEB 21 1989
J. SCHNEIDERMAN

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD 62704
(217) 785-9900

TERRY R. LASH
DIRECTOR

February 10, 1989

Mr. Arthur Heinz, Jr.
Director
Olin Corporation
P.O. Box 278
Marion, IL 62959

Dear Mr. Heinz:

Enclosed is Amendment Number 1 to your Illinois Radioactive Material License Number IL-01209-01.

Please review the enclosed document carefully and be sure that you understand all conditions. You must conduct your program involving radioactive material in accordance with the conditions of your Illinois license, representations made in your license application, and Illinois regulations.

You must request and obtain an appropriate amendment if you plan to make any changes in your facility or program. Any amendment request should be accompanied by the appropriate fee specified in 32 Ill. Adm. Code Part 331.

You will be periodically inspected by this agency. Failure to conduct your program in accordance with IDNS regulations, license conditions and representations in your license application will result in enforcement action.

Thank you for your cooperation in this matter. When corresponding with this office, please refer to your Illinois Radioactive Material License Number and ensure that all items are submitted in duplicate. If you have any questions or require clarification of any of the above information, please contact the Division of Radioactive Materials, Licensing Section at (217) 785-9947.

Sincerely,

Steven C. Collins

Steven C. Collins, Chief
Division of Radioactive Materials

SCC:KAA:jsb

Enclosures

001056

IDNS.FLM-004-01(12/87)

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY

RADIOACTIVE MATERIAL LICENSE

DIVISION OF NUCLEAR MATERIALS
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704

Pursuant to the Illinois Radiation Protection Act and the rules and regulations in 32 Illinois Administrative Code promulgated thereunder, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material(s) listed herein; and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Illinois Department of Nuclear Safety now or hereafter in effect and to any conditions specified in the license.

LICENSEE	LICENSE NUMBER	EXPIRATION DATE
Olin Corporation P.O. Box 278 Marion, Illinois 62959	IL-01209-01	March 31, 1993
	AMENDMENT NUMBER ☐ INITIAL LICENSE 1	REFERENCE NUMBER 9077280
Attention: Arthur Heinz, Jr. Director	☐ Initial License Amendment through Amendment 1 constitute a complete license. ☐ PREVIOUS AMENDMENTS ARE VOID.	

In accordance with letter dated January 27, 1989, License Number IL-01209-01 is amended a follows:

ITEM	RADIONUCLIDE	CHEMICAL and/or PHYSICAL FORM	MAXIMUM ACTIVITY* PER SOURCE	MAXIMUM POSSESSION LIMIT

Condition 2. is amended to read:

2. Radioactive material shall be used by, or under the supervision of, Kevin Dody, Donald Hill, John Koropchak, Dean Tharp, Norman Wilkaitis, or Glendon Campbell.

Condition 4. is amended to read:

4. A. The Radiation Safety Officer for the activities authorized by this license is Kevin Dody.

B. In the absence of the Radiation Safety Officer, Donald Hill or John Koropchak are authorized to act in the capacity of Radiation Safety Officer for this license.

SCC:KAA:jsb

* uCi-Microcurie; mCi-Millicurie; Ci-Curie

BY Steven C. Collins, Chief — Steven C. Collins — DATE February 10, 1989 — PAGE 1 OF PAGES

IL 473-0058

001057

Olin
ORDNANCE

MARION OPERATIONS

24 February 1989

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Section
P.O. Box 19276
Springfield, Illinois 62794-9276

ATTENTION: Mr. Eugene P. Theios, Manager
Administrative Compliance Unit

REFERENCE: IEPA TSDR Facility Annual Hazardous Waste Report
for 1988
Olin Corporation - Marion, Illinois
USEPA I.D. NO. IL8143609487
IEPA I.D. NO. 1998620013

Dear Mr. Theios:

Enclosed herewith is the IEPA TSDR Facility Annual Hazardous Waste Report for 1988 for Olin Corporation with the above referenced identification numbers.

If further information or clarification is required, contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ:dg

Encl.

ILLINOIS ENVIRONMENTAL PROTECTION
1988 TSDR FACILITY ANNUAL HAZARDOUS WASTE REPORT

For Agency use |L|P|H|W|C| (1-5) CARD |3|0| (7-8) TRANS |A| (8) |0|2|2|8|8|9| (9-14)

Please print/type (with elite

IL8 143 609 487 199 86200 13
GENERAL MANAGER
OLIN CORP
FACILITY P.O. BOX G ER
MARION IL
62959
|I|L| (15)

FACILITY NAME: OLIN CORPORATION

MAILING ADDRESS: P.O. BOX 278 MARION IL 62959
STREET CITY STATE ZIP

FACILITY LOCATION: ORDILL INDUSTRIAL AREA MARION IL 62959
STREET CITY STATE ZIP

CONTACT PERSON: ARTHUR HEINZ, JR. ( ) (618) 985-8211
NAME A/C PHONE

NON-REGULATED STATUS If your facility was not regulated at any time during 1988, circle the numeric code 1(A) or (B), 3 or 4 that describes your non-regulated status. Sign and date this form and attach comment page before mailing.

1 (200) NOT SUBJECT TO REGULATION UNDER SECTIONS 724 OR 725, *explain in comment section*

A (202) FOR 1988 ONLY, *explain in comment section*

B (202) PERMANENTLY, *explain in comment section*

3 (201) CLOSURE IN PROGRESS

4 (201) ONLY ONE TIME ON-SITE STORAGE EXCEEDING ALLOWED TIME

REGULATED STATUS If your facility does not qualify for non-regulated status for 1988, you must complete the entire report including page 001 (Facility Information), page 002 (Comments) and page(s) 003, 004, etc. (Generator Information).

COST ESTIMATES FOR FACILITIES

$ |_|_|_| (27) |5|1|0|8|5| (35) $ |_|_|_| (36) |_|_|_| |_|_|_| (44)

Closure Cost Estimate — Estimate for Post Closure Monitoring and Maintenance Costs (Disposal Facilities Only)

GROUNDWATER MONITORING DATA AND/OR REPORT: (check one)
Attached [ ] Not required [X] Submitted [ ]: Date(s) / / , / / , / / , / /

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 8l-1/2, Sections 1004 and 1021(f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

CERTIFICATION I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ARTHUR HEINZ, JR. DIRECTOR [signature] 2/24/89
PRINT/TYPE NAME TITLE SIGNATURE DATE

001059

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 TSDR FACILITY ANNUAL HAZARDOUS WASTE REPORT

FACILITY USEPA I D NUMBER IL

| I | L | 8 | 1 | 4 | 3 | 6 | 0 | 9 | 4 | 8 | 7 |

FACILITY IEPA I D. NUMBER

| 1 | 9 | 9 | 8 | 6 | 2 | 0 | 0 | 1 | 3 |

Comments:

Page 1: Mailing Address

Olin's mailing address has changed from P.O. Box G to P.O. Box 278.

Page 3 Line 6 Column: USDOT Code

These materials are classified according to DOT as "Nonexplosive ammunition" with no assigned DOT hazard class. However, this material contains an explosive material and must be properly managed.

001060

ILLINOIS ENVIRONMENTAL PROTECTION
1988 TSDR FACILITY ANNUAL HAZARDOUS WASTE REPORT

FOR AGENCY USE L P H W C | CARD 4 0 | TRANS A | 0 2 2 8 8 9

FACILITY USEPA I D. NUMBER: I L 8 1 1 4 3 6 0 9 4 8 7 (41–52)

FACILITY IEPA I D. NUMBER: 1 9 9 8 6 2 0 0 1 3 (53–62)

GENERATOR USEPA I.D NUMBER: I L 8 1 1 4 3 6 0 9 4 8 7 (18–29)

GENERATOR IEPA I.D. NUMBER: 1 9 9 8 6 2 0 0 1 3 (30–39)

OLIN CORPORATION — (618) 985-8211
GENERATOR COMPANY NAME — A/C PHONE

ORDILL INDUSTRIAL AREA
P.O. BOX 278 — MARION — IL — 62959
ADDRESS (where waste was generated) CITY — STATE — ZIP

LINE NO	DESCRIPTION OF WASTE / MEDIUM	USDOT CODE	RCRA HAZARDOUS WASTE CODE	AMOUNT (gals. only)	DENSITY (lbs /gal)	HANDLING METHOD
0 0 0 1	Reactive; Research & Manufacturing Of Ordnance Products; Explosives	0 4	D 0 0 3	4 0 6	2 4 . 0	S 0 1
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 2	Reactive; Research & Manufacturing Of Ordnance Products; Explosives	0 9	D 0 0 3	3	8 . 3	S 0 1
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 3	Reactive; Research & Manufacturing Of Ordnance Products; Explosives	0 4	D 0 0 3	2 5 0 0	2 1 . 0	S 0 6
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 4	Reactive; Research & Manufacturing Of Ordnance Products; Explosives	0 6	D 0 0 3	1 9 5	6 . 3	S 0 6
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 5	Ignitible; Research & Manufacturing Of Ordnance Products; Explosives	0 9	D 0 0 1	4 1 2 8	5 . 2	S 0 6
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 6	Reactive; Research & Manufacturing Of Ordnance Products; Explosives		D 0 0 3	9 6	1 0 . 0	S 0 6
	Soil (Solid) Liquid Lab Pack Sludge					
0 0 0 7					.	
	Soil Solid Liquid Lab Pack Sludge					
0 0 0 8					.	
	Soil Solid Liquid Lab Pack Sludge					

Olin
ORDNANCE

MARION OPERATIONS

24 February 1989

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Section
P.O. Box 19276
Springfield, Illinois 62794-9276

ATTENTION: Mr. Eugene P. Theios, Manager
Administrative Compliance Unit

REFERENCE: IEPA Generator Annual Hazardous Waste Report for 1988
Olin Corporation - Marion, Illinois
USEPA I.D. NO. IL8143609487
IEPA I.D. NO. 1998620013

Dear Mr. Theios:

Enclosed herewith is the IEPA Generator Annual Hazardous Waste Report for 1988 for Olin Corporation with the above referenced identification numbers.

If further information or clarification is required, contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ:dg

Encl.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 GENERATOR ANNUAL HAZARDOUS WASTE REPORT

For Agency use |L|P|H|W|C| CARD |2|0| TRANS |A| |0|2|/|2|8|/|8|9|

GENERATOR USEPA I D. NUMBER: |I|L| ILR 143 609 487 — GENERATOR IEPA I.D. NUMBER: 199 R6200 13

GENERATOR COMPANY: GENERAL MANAGER OLIN CORP

MAILING ADDRESS: P.O. BOX G MARION IL 62959

STREET CITY ZIP

LOCATION WASTE GENERATED: ORDILL INDUSTRIAL AREA MARION 62959

STREET CITY ZIP

CONTACT PERSON: ARTHUR HEINZ, JR. (618) 985-8211

NAME A/C PHONE

GENERATOR SIC CODE |3|4|8|2|

NON-REGULATED STATUS If your company was not regulated during 1988, circle the numeric code (1-5) that describes your non-regulated status during the entire year AND circle the code for the time period this status is expected to apply (6-8). Sign and date this form and attach comment page before mailing.

a. 1 NO HAZARDOUS WASTE SHIPPED OFF-SITE

2 SMALL QUANTITY GENERATOR (Did not generate more than 1000 kg of hazardous waste (or 1 Kg acutely hazardous waste) in any month or accumulate 6000 kg hazardous waste for more than 180 days or more than 270 days for waste transported to a facility over 200 miles away.)

3 FARMING OR OTHER OPERATIONS EXEMPT UNDER 35 Ill. Adm. Code 721.104

4 EXEMPT UNDER 35 Ill. Adm. Code 721.106

5 CLOSED (Prior to 1/1/88) and no waste was shipped off-site

b. 6 FOR 1988 ONLY, explain in comment section

7 PERMANENTLY, explain in comment section

8 OTHER, explain in comment section

REGULATED STATUS *If your company does not qualify for non-regulated status it is regulated for* 1988. You must complete the entire report including Page 1 (Generator Information), Page 2 (Comments), Page 3 (Waste Minimization), Page 4 (Transportation Services) and Page(s) 5, 6, 7, etc. (Facility Information).

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter III-1/2, Sections 1004 and 1021(f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

CERTIFICATION I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ARTHUR HEINZ, JR. DIRECTOR [signature] 2/24/89

PRINT/TYPE NAME TITLE SIGNATURE DATE

001063

Page |0|0|1| of 005

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 GENERATOR ANNUAL HAZARDOUS WASTE REPORT

GENERATOR USEPA I.D. NUMBER IL

| I | L | 8 | 1 | 4 | 3 | 6 | 0 | 9 | 4 | 8 | 7 |

GENERATOR IEPA I.D. NUMBER

| 1 | 9 | 9 | 8 | 6 | 2 | 0 | 0 | 1 | 1 | 3 |

COMMENTS:

Page 1: Mailing Address

Olin's mailing address has changed from P.O. Box G to P.O. Box 278.

Page 1: Generator SIC Code

Olin's SIC Codes are 3482 and 3489.

Page 5 Line 7 Column: USDOT Code

These materials are classified according to DOT as "Nonexplosive ammunition" with no assigned DOT hazard class.

001064

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 GENERATOR ANNUAL HAZARDOUS WASTE REPORT

GENERATOR USEPA I.D. NUMBER | I | L | 8 | 1 | 4 | 3 | 6 | 0 | 9 | 4 | 8 | 7 |

GENERATOR IEPA I.D | 1 | 9 | 9 | 8 | 6 | 2 | 0 | 0 | 1 | 3 |

WASTE MINIMIZATION:

a. Efforts taken to implement waste minimization include: (Indicate all that apply)

(YES) NO Did you create or expand a source reduction or recycling program in 1988?

(YES) NO Do you have a written policy outlining goals, objectives, and methods for source reduction?

(YES) NO Do you have an employee training program or provide incentives to identify and implement source reduction and recycling opportunities and activities?

(YES) NO Did you conduct a source reduction and/or recycling opportunity assessment or audit in 1988?

(YES) NO Have you requested or received technical information from the Illinois Environmental Agency on source reduction and/or recycling practices?

(YES) NO Would you be interested in having technical information sent to you?

Due to waste minimization, what percent reduction was achieved (over that which was achieved in 1987) in 1988? 0 %

b. What factors have delayed or prevented implementation of source reduction and/or recycling of your wastes? (Check all that apply)

[ ] 1. Insufficient capital to install new equipment or to implement new practices.

[ ] 2. Lack of technical information on source reduction and/or recycling techniques.

[ ] 3. Source reduction and/or recycling is not economically feasible.

[ ] 4. Product quality might decline as a result of either source reduction and/or recycling.

[ ] 5. Technical limitations.

[ ] 6. Permitting burdens.

[ ] 7 Unable to identify a market for recyclable materials.

[ ] 8. Other, explain: _____

_____

001065

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 GENERATOR ANNUAL HAZARDOUS WASTE REPORT

For Agency use |L|P|H|W|C| (1–5) CARD |6|0| (6–7) TRANS |A| (8) |0|2|/|2|8|/|8|9| (9–14)

GENERATOR USEPA I.D. NUMBER (18–29): |I|L|8|1|4|3|6|0|9|4|8|7|

GENERATOR IEPA I.D. NUMBER (30–39): |1|9|9|8|6|2|0|0|1|3|

LIST OF TRANSPORTATION SERVICES (HAULERS) USED: *List each hauler only once regardless of the number of individual waste shipments.*

LINE NO. (61–64)	TRANSPORTER NAME/ ADDRESS	TRANSPORTER USEPA I.D. NO. (95–106)	TRANSPORTER S ILLINOIS EPA I D NO (107–110)
0001	Olin Corporation P.O. Box 278, Marion, Illinois 62959	IL8141360948 7	0312

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1988 GENERATOR ANNUAL HAZARDOUS WASTE REPORT

FOR AGENCY USE | L | P | H | W | C | (1–5) CARD | 5 | 0 | (6–7) TRANS | A | (8) | 0 | 2 | / | 2 | 8 | / | 8 | 9 | (9–14)

GENERATOR USEPA I D. NUMBER (18–29): | I | L | 8 | 1 | 4 | 3 | 6 | 0 | 9 | 4 | 8 | 7 |

GENERATOR IEPA I.D. NUMBER (30–39): | 1 | 9 | 9 | 8 | 6 | 2 | 0 | 0 | 1 | 3 |

Complete one of these pages for each Facility utilized during the year. All facilities in or out of state receiving hazardous waste generated in Illinois have a USEPA and a IEPA I.D. Number. Obtain this information from the facility or from your manifest.

FACILITY USEPA I D NUMBER (41–52): | I | L | D | 0 | 0 | 0 | 8 | 0 | 2 | 8 | 0 | 1 |

FACILITY IEPA I.D. NUMBER (53–62): | 1 | 9 | 9 | 8 | 6 | 2 | 0 | 0 | 1 | 1 |

OLIN CORPORATION — FACILITY NAME

(618) 985-8211 — A/C PHONE

RURAL WILLIAMSON COUNTY
P.O. BOX 278 — ADDRESS

MARION — CITY

IL — STATE

62959 — ZIP

LINE NO	DESCRIPTION OF WASTE / MEDIUM	USDOT CODE	RCRA HAZARDOUS WASTE CODE	AMOUNT (gals only)	DENSITY (lbs /gal)	Frequency Generated
0001 (63–66)	Reactive; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	04 (67–68)	D003 (69–72) (73–76) (77–80) (81–84)	8184 (85–93)	8.6 (94–96)	One-Time (Recurrent)
0002 (63–66)	Reactive; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	05 (67–68)	D003 (69–72) (73–76) (77–80) (81–84)	2253 (85–93)	4.6 (94–96)	One-Time (Recurrent)
0003 (63–66)	Reactive; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	06 (67–68)	D003 (69–72) (73–76) (77–80) (81–84)	683 (85–93)	6.0 (94–96)	One-Time (Recurrent)
0004 (63–66)	Reactive; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	09 (67–68)	D003 (69–72) (73–76) (77–80) (81–84)	677 (85–93)	3.9 (94–96)	One-Time (Recurrent)
0005 (63–66)	Ignitible; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	09 (67–68)	D001 (69–72) (73–76) (77–80) (81–84)	15340 (85–93)	5.5 (94–96)	One-Time (Recurrent)
0006 (63–66)	Ignitible; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	16 (67–68)	D001 (69–72) (73–76) (77–80) (81–84)	1116 (85–93)	5.3 (94–96)	One-Time (Recurrent)
0007 (63–66)	Reactive; Research & Manufacturing of Ordnance Products; Explosives Soil (Solid) Liquid Lab Pack Sludge	(67–68)	D003 (69–72) (73–76) (77–80) (81–84)	721 (85–93)	17.2 (94–96)	One-Time (Recurrent)
0008 (63–66)	Soil Solid Liquid Lab Pack Sludge	(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	. (94–96)	One-Time Recurrent

001067

Page 0015 (15–17)

Olin
ORDNANCE

MARION OPERATIONS

26 February 1988

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
P.O. Box 19276
Springfield, Illinois 62794-9276

ATTENTION: Mr. Eugene P. Theios, Manager
Compliance Assurance Unit

REFERENCE: IEPA Generator Annual Hazardous Waste Report for 1987
Olin Corporation - Marion, Illinois
USEPA ID NO. IL8143609487
IEPA ID NO. 1998620013

Dear Mr. Theios:

Enclosed herewith are the original and one (1) copy of the IEPA Generator Annual Hazardous Waste Report for 1987 for Olin Corporation with the above referenced identification numbers.

If further information or clarification is required, contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kw

Encl.

ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [2|0] (6–7) TRANS CODE [A] (8) [0|2] / [2|8] / [8|8] (9–14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print/type with elite type (12 characters per inch)

I. NON-REGULATED STATUS

Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the calendar year covered by this report. Circle the numeric code (1 thru 5) that best describes your status during the entire year (see instructions for explanation of codes) and the code for time period and explain Comment Section.

15 **1** No Hazardous Waste Shipped Off-Site

15 **2** Small Quantity Generator

15 **3** Exempt

15 **4** Beneficial Use

15 **5** Closed

B. This installation's Non-Regulated Status is expected to apply:

16 **6** For 1987 only, explain in Comment Section.

16 **7** Permanently, explain in Comment Section.

16 **8** Other, explain in Comment Section.

II. REGULATED STATUS

See instructions for completing this and following sections.

III. GENERATOR'S USEPA I.D. NUMBER

[I|L|8|1|4|3|6|0|9|4|8|7] (17–28)

IV. GENERATOR'S ILLINOIS I.D. NUMBER

[1|9|9|8|6|2|0|0|1|3] (29–38)

V. NAME OF INSTALLATION

OLIN CORPORATION

VI. INSTALLATION MAILING ADDRESS

P.O. BOX 278
Street or P.O. Box

MARION — ILLINOIS — 62959
City or Town — State — Zip Code

VII. LOCATION OF INSTALLATION (if different than section VI above)

ORDILL INDUSTRIAL AREA RT. 148 SOUTH
Street or Route number

MARION — ILLINOIS — 62959
City or Town — State — Zip Code

VIII. INSTALLATION CONTACT

HEINZ, JR., ARTHUR
Name (last and first)

(618) 985-8211
Phone No. (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 111-1/2, Sections 1004 and 1021 (b)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ARTHUR HEINZ, JR., DIRECTOR — Arthur Heinz Jr. — 2/26/88
Print Type Name — Title — Signature of Authorized Representative — Date Signed

Page [0|0|1] (40–42) of 010

001069

DETACH HERE

ILL 62959 199 80200 13
ILL 143 609 4867
GENERAL MANAGER
OLIN CORP
P.O. BOX G
MARION

GENERATOR ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) [0|2] / [2|8] / [8|8] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|3] (30–39)

XII. FACILITY'S USEPA I.D. NO. [O|H|D|0|8|7|4|3|3|7|4|4] (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [9|3|9|0|2|5|0|0|0|1] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name: CECOS INTERNATIONAL Phone: (513) 724-6114

5092 ABER ROAD (Street (P.O. Box)) WILLIAMSBURG (City) OHIO (State) 45176 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal.) (94–96)
0001	LAB PACK	09	U103 D1011	155	14.6
0002	LAB PACK	08	D001 U239 U220	155	14.6
0003	LAB PACK	08	D001 U112 U210	155	14.6
0004	LAB PACKS	02	D002	1165	14.6
0005	LAB PACK	02	D002 U108	155	14.6
0006	LAB PACK	15	D018	155	14.6
0007	LAB PACK	08	U219 U103 U117 U112	155	14.6
0008	LAB PACKS	09	D011	1165	14.6
0009	LAB PACK	15	U201	155	14.6
0010	TOLUENEDIAMINE/ RESIDUAL OFF SPEC MATERIAL	15	U221	55	14.6

XVII. PAGE NUMBER 002

001070

GENERATOR ANNUAL HAZARDOUS WASTE REPORT 50

This report is for the calendar year ending December 31, 1987 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) [02] / [28] / [88] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|3] (30–39)

XII. FACILITY'S USEPA I.D. NO. [O|H|D|0|8|7|4|3|3|7|4|4] (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [9|3|9|0|2|5|0|0|0|1] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name CECOS INTERNATIONAL Phone (513) 724-6114

5092 ABER ROAD (Street (P.O. Box)) WILLIAMSBURG (City) OHIO (State) 45176 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–72 / 73–76 / 77–80 / 81–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal.) (94–96)
0001	LAB PACKS	08	D001	110	4.6
0002	LAB PACK	16	D002	55	4.6
0003					
0004					
0005					
0006					
0007					
0008					
0009					
0010					

XVII. PAGE NUMBER 003 (15–17)

001071

GENERATOR ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE | L | P | H | W | C | (1–5) | CARD TYPE | 5 | 0 | (6–7) | TRANS CODE | A | (8) | 0 2 / 2 8 / 8 8 (9–14)

X. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

XI. GENERATOR'S ILLINOIS EPA I.D. NO. (30–39): 1 9 9 8 6 2 0 0 1 3

XII. FACILITY'S USEPA I.D. NO. (41–52): 0 H D 0 0 0 0 8 1 6 6 2 9

XIII. FACILITY'S ILLINOIS EPA I.D. NO. (53–62): 9 3 9 0 6 1 0 0 0 2

XIV. FACILITY'S NAME / ADDRESS

Name: CECOS INTERNATIONAL — Phone: (513) 681 5738

4879 SPRING GROVE AVENUE (Street (P.O. Box)) CINCINNATI (City) OHIO (State) 45232 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–80 / 81–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal) (94–96)
0001	TRICHLORDETHYLENE/ RESIDUAL MATERIAL	13	U122	55	8.L
0002	LAB PACKS	08	D001	440	4.L
0003	TOLUENE / RESIDUAL OFF SPEC MATIERAL	08	U220	55	8.L
0004	LAB PACK	18	P105	55	4.L
0005	LAB PACK	18	P106 P012 P077 P024	55	4.L
0006	LAB PACK	16	D003	55	4.L
0007	LAB PACK	02	D002	275	4.L
0008	LAB PACKS	18	D007 D009 D005	55	4.L
0009	LAB PACK	08	D001 U019 U169 D003	55	4.L
0010	LAB PACK	16	D008	55	4.L

001072

XVII. PAGE NUMBER 004 (15–17)

GENERATOR ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE [L][P][H][W][C] (1–5) CARD TYPE [5][0] (6–7) TRANS CODE [A] (8) [02] / [28] / [88] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I][L][8][1][4][3][6][0][9][4][8][7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1][9][9][8][6][2][0][0][1][3] (30–39)

XII. FACILITY'S USEPA I.D. NO. [O][H][D][0][0][8][1][6][6][2][9] (41–51)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [9][3][9][0][6][1][0][0][0][2] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name: CECOS INTERNATIONAL. Phone: (513) 681-5738

4879 SPRING GROVE AVENUE (Street (P.O Box)) CINCINNATI (City) OHIO (State) 4523 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal) (94–97)
0001	LAB PACK	18	D011 D005	55	14.L
0002	LAB PACK	18	U211	55	14.L
0003	LAB PACK	15	U080	55	14.L
0004	LAB PACK	18	U122 U221	55	14.L
0005	LAB PACK	08	D001 U112 U239	66	14.L
0006	LAB PACK	18	D008 U021	66	14.L
0007	LAB PACK	15	D008 U021	55	14.L
0008	LAB PACK	15	D007	55	14.L
0009	LAB PACK	08	D010 U159	65	14.L
0010	LAB PACK	18	D010 D008 D009	66	14.L

XVII. PAGE NUMBER 005

001073

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1987 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE LPHWC (1–5) CARD TYPE 50 (6–7) TRANS CODE A (8) 02 / 28 / 88 (9–14)

X. GENERATOR'S USEPA I.D. NO. IL814360948 7 (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. 1998620013 (30–39)

XII. FACILITY'S USEPA I.D. NO. OHD000816629 (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. 9390610002 (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name CECOS INTERNATION Phone (513) 681-5738

XV. WASTE IDENTIFICATION

4879 SPRING GROVE AVENUE (Street (P.O. Box)) CINCINNATI (City) OHIO (State) 4523 (Zip)

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–72, 73–76, 77–80, 81–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal.) (94–96)
0001	LAB PACK	08	D001 U031 U161 U196	55	4.6
0002	LAB PACK	02	U133	55	4.6
0003	LAB PACK	08	D001 D003	55	4.6
0004	B653 SOLVENT/RESIDUAL OFF SPEC MATERIAL	01	D001	55	8.3
0005	ETHANOL/RESIDUAL OFF SPEC MATERIAL	08	D001	110	8.3
0006	B625 SOLVENT/RESIDUAL OFF SPEC MATERIAL	08	D001	110	8.3
0007	SOLVENT/RESIDUAL OFF SPEC MATERIAL	08	D001	55	8.3
0008	LAB PACK	02	D003	55	4.6
0009	LAB PACK	18	D008	55	4.6
0010					

XVII. PAGE NUMBER 00

001074

GENERATOR ANNUAL HAZARDOUS WASTE REPORT (cont.)

50

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) [0|2] / [2|8] / [8|8] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|1|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|1|3] (30–39)

XII. FACILITY'S USEPA I.D. NO. [I|L|D|0|0|0|1|8|0|2|8|0|1] (41–53)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|1] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name: OLIN CORPORATION — Phone: (618) 985-8211

RURAL WILLIAMSON COUNTY - OLIN TEST RANGE

P.O. BOX 278 (Street (P.O. Box)) MARION (City) ILLINOIS (State) 62959 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO.	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code	D. RCRA HAZARDOUS WASTE NO. (see instructions)	E. AMOUNT OF WASTE (gallons only)	F. DENSITY (lbs. / gal.)
0001	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVE	04	D003	13516	11.36
0002	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	05	D003	11129	15.18
0003	E P TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	06	D003	1393	15.17
0004	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	09	D003	114	12.15
0005	E P TOXICITY (IGNITABILITY) RESEARCH-MANUFACTURING EXPLOSIVES	09	D001	26655	15.11
0006	EP TOXICITY (IGNITABILITY) RESEARCH-MANUFACTURING EXPLOSIVES	16	D001	13	15.10
0007	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES		D003	14582	23.11
0008					
0009					
0010					

001075

XVII. PAGE NUMBER 007

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE [L P H W C] (1–5) CARD TYPE [6 0] (6–7) TRANS CODE [A] (8) [0 2] / [2 8] / [8 8] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I L 8 1 4 3 6 0 9 4 8 7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1 9 9 8 6 2 0 0 1 3] (30–39)

V./VI. GENERATOR'S NAME/ADDRESS

Name OLIN CORPORATION Phone (618) 985-8211

P O BOX 278 (Street (P.O. Box)) MARION (City) ILLINOIS (State) 62959 (Zip)

XVIII. LIST OF TRANSPORTATION SERVICES (HAULERS) USED:

A. LINE NO. (61–64)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA I.D. NO. (95–106)	D. TRANSPORTER'S ILLINOIS EPA I.D. NO (107–113)
0001	FORT TRANSFER 225 S. MAPLE AVE. MORTON, ILLINOIS	I L D 1 0 1 6 1 2 1 3 1 3 1 7 1 5 1 2	1 1 2 1 4 1 1
0002	OLIN CORPORATION P.O. BOX 278 MARION, ILLINOIS	I L 8 1 4 3 6 0 9 4 8 7	0 3 1 2

XVII. PAGE NUMBER [0 0 8] (15–17)

001076

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1987

XVI. COMMENTS

Generator's USEPA I.D. No. I|L|8|1|4|3|6|0|9|4|8|7|

Generator's Illinois EPA I.D. No. 1|9|9|8|6|2|0|0|1|1|3|

The minimization statement as described in the instructions, should be completed below.

(1) PP007 XV. LINE 0007 COLUMN "C": These materials are classified according to D.O.T. as "Nonexplosive Ammunition" with no assigned D.O.T. hazard class. However, this material contains an explosive material and must be properly managed.

(2) Per Hope Wright of the IEPA, waste generated in the production/research areas and transported to the storage area are not included in the report since these areas have the same USEPA and IEPA identification numbers.

MINIMIZATION STATEMENT:

Minimization efforts include continuous salvaging of product components and materials when possible for reuse, recycling, or reclamation. Each contract has an estimated scrap percent incorporated into the cost of a particular product. In 1985, a statistical quality control (SQC) program was initiated. The SQC program triggers the operators to make adjustments to equipment in order that reject products are not made. As an adjunct to the program and government contract requirements, the "cost of quality" must be justified. The "cost of quality" requirement is further utilized to track those areas generating scrap and provide the ability to address those areas generating increases to the normal scrap rate and focus on ways to decrease the scrap rate. In addition, production places a design emphasis on equipment in order to minimize scrap. The facility also includes a Research and Development (R&D) Group that provides support to the waste minimization efforts. R&D can develop and test products in small quantities to provide a quality product, thereby minimizing large quantities of scrap, if production developed a product full-scale without this R&D development effort. In addition, R&D researches material substitutions for present or proposed products for materials with less toxicity or better product. When reviewing proposals for potential contracts, emphasis is placed in the review of environmental concerns including but not limited to, new or impact waste streams. The facility also has a CAP program which identifies waste minimization/reduction projects as one area of opportunity in reducing costs to production.

Waste explosives are reduced in volume and toxicity by treatment in Olin's thermal treatment facility. The characteristics of ignitability and reactivity are eliminated. The residual ash in some cases concentrates heavy metals at a level that exhibits the characteristics of EP toxicity.

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1987

XVI. COMMENTS

Generator's USEPA I.D. No. IL8143609487

Generator's Illinois EPA I.D. No. 1998620013

The minimization statement as described in the instructions, should be completed below.

Waste explosives generated in 1987 decreased when compared to 1986. The ratio of waste generated also decreased when compared to the products produced.

Other wastes indicated in this annual report reflect waste generated as a result of identification of residual/off spec materials and laboratory chemicals. Chemical purchases are monitored more closely to reduce purchases of residuals and lab chemicals to the types and amounts actually needed to prevent large amounts of off spec material in the future. This volume of waste increased in comparison to the previous year. The toxicity of the waste varied.

001078

Olin
ORDNANCE

MARION OPERATIONS

26 February 1988

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
P.O. Box 19276
Springfield, Illinois 62794-9276

ATTENTION: Mr. Eugene P. Theios, Manager
Compliance Assurance Unit

REFERENCE: IEPA Facility Annual Hazardous Waste Report for 1987
Olin Corp. - Marion, Illinois
USEPA ID No. IL8143609487
IEPA ID No. 1998620013

Dear Mr. Theios:

Enclosed herewith are the original and one (1) copy of the IEPA Facility Annual Hazardous Waste Report for 1987 for Olin Corporation with the above referenced identification numbers.

If further information or clarification is required, contact Jean Schneiderman or me.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kw

Encl.

30

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT

30

This report is for the calendar year ending December 31, 1987

FOR AGENCY USE ONLY

FOR AGENCY USE	L P H W C	CARD TYPE	3 0	TRANS CODE	A	DATE ENTERED	/ /
	1 5		6 7		8		9 14

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print/type with elite type (12 characters per inch)

I. NON-REGULATED STATUS
Complete this section only if your facility did not treat, store, or dispose of regulated quantities of hazardous waste at any time during 1986

1 (200) This facility is not subject to regulation under Sections 724 or 725; explain in Comment Section (XVIII).

This facility's Non-Regulated Status is expected to apply:

A (202) **For 1987 only, explain in Comment Section (XVIII).**

B (202) Permanently, explain in Comment Section (XVIII).

2 (201) Please contact us regarding withdrawal of our Part A Permit Application; explain in Comment Section (XVIII).

3 (201) Closure In Progress

4 (201) One Time On Site Storage Exceeding Allowed Time

II. REGULATED STATUS

See instructions for completing this and following sections.

III. FACILITY USEPA I.D. NUMBER

I L 8 1 4 3 6 0 9 4 8 7 (15–26)

IV. FACILITY'S ILLINOIS EPA I.D. NUMBER

1 9 9 8 6 2 0 0 1 3 (203–212)

V. NAME OF FACILITY

OLIN CORPORATION

VI. FACILITY MAILING ADDRESS

P.O. BOX 278
Street or P.O. Box

MARION — ILLINOIS 62959
City or Town — State — Zip Code

VII. LOCATION OF FACILITY (if different than section VI above)

ORDILL INDUSTRIAL AREA RT. 148 SOUTH
Street or Route number

MARION — ILLINOIS 62959
City or Town — State — Zip Code

VIII. FACILITY CONTACT

HEINZ, JR., ARTHUR
Name (last and first)

IX. COST ESTIMATES FOR FACILITIES

(618) 985-8211 — $ 49 595 (27–35) — $ (36)

Phone No. (area code & no.) — Cost Estimate for Facility Closure — Cost Estimate for Post Closure Monitoring and Maintenance (disposal facilities only)

IL 8143609487
Olin Corp.
Attn: Director
P.O. Box 278
Marion, IL 62959

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter III-1/2, Sections 1004 and 1021 (f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

001080

ARTHUR HEINZ, JR., DIRECTOR — Arthur Heinz, Jr. — 2/26/88
Print Type Name — Title — Signature of Authorized Representative — Date Signed

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT

40

This report is for the calendar year ending December 31, 1987 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L P H W C] (1–5) CARD TYPE [4 0] (6–7) TRANS CODE [A] (8) [0 2] / [2 8] / [8 8] (9–14)

XI. FACILITY'S ILLINOIS EPA I.D. NO. (61–62): I L 9 8 6 2 0 0 1 3

XII. FACILITY'S USEPA I.D. NO. (41–52): I L 8 1 4 3 6 0 9 4 8 7

XIII. GENERATOR'S ILLINOIS EPA I.D. NO. (30–39): 1 9 9 8 6 2 0 0 1 3

XIV. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

XV. GENERATOR'S NAME / ADDRESS "ON-SITE"

Name: OLIN CORPORATION Phone: (618) 985-8211

ORDILL INDUSTRIAL AREA RT. 148 SOUTH

P. O. BOX 278 (Street / P.O. Box) MARION (City) ILLINOIS (State) 62959 (Zip)

XVI. WASTE IDENTIFICATION

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT HAZARD CODE (67–68)	D. RCRA HAZARDOUS WASTE NO (see instructions) (69–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal.) (94–96)	G. HANDLING METHOD (132–134)
0001	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	04	D003	2909	21.4	S01
0002	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	06	D003	231	5.9	S01
0003	EP TOXICITY (IGNITABILITY) RESEARCH-MANUFACTURING EXPLOSIVES	09	D001	3568	5.0	S01
0004	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES		D003	48	10.0	S01
0005	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	04	D003	2314	18.1	S06
0006	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	05	D003	542	6.1	S06
0007	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	06	D003	174	4.7	S06
0008	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES	09	D003	112	2.0	S06
0009	EP TOXICITY (IGNITABILITY) RESEARCH-MANUFACTURING EXPLOSIVES	09	D001	1155104	5.0	S06
0010	EP TOXICITY (REACTIVITY) RESEARCH-MANUFACTURING EXPLOSIVES		D003	510	23.5	S06

001081

XVII. PAGE NUMBER 002

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1987

XVIII. COMMENTS

Facility's USEPA I.D. No. I|L|8|1|4|3|6|0|9|4|8|7|

Facility's Illinois EPA I.D. No. 1|9|8|6|2|0|0|1|3|

(1) PP002 XVI LINES 0004 and 0010 COLUMN "C": These materials are classified according to D.O.T. as "Nonexplosive Ammunition" with no assigned D.O.T. hazard class. However, this material contains an explosive material and must be properly managed.

MINIMIZATION STATEMENT:

Minimization efforts include continuous salvaging of product components and materials when possible for reuse, recycling, or reclamation. Each contract has an estimated scrap percent incorporated into the cost of a particular product. In 1985, a statistical quality control (SQC) program was initiated. The SQC program triggers the operators to make adjustments to equipment in order that reject products are not made. As an adjunct to this program and government contract requirements, the "cost of quality" must be justified. The "cost of quality" requirement is further utilized to track those areas generating scrap and provide the ability to address those areas generating increases to the normal scrap rate and focus on ways to decrease the scrap rate. In addition, production places a design emphasis on equipment in order to minimize scrap. The facility also includes a Research and Development (R&D) Group that provides support to the waste minimization efforts. R&D can develop and test products in small quantities to provide a quality product thereby minimizing large quantities of scrap, if production developed a product full-scale without this R&D development effort. In addition, R&D researches material substitutions for present or proposed products for materials with less toxicity or better product. When reviewing proposals for potential contracts, emphasis is placed in the review of environmental concerns including but not limited to new or impact waste streams. The facility also has a CAP program which identifies waste minimization/reduction projects as one area of opportunity in reducing costs to production.

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Waste explosives generated in 1987 decreased when compared to 1986. The ratio of waste generated also decreased when compared to the products produced.

PRIVILEGED AND CONFIDENTIAL
ATTORNEY WORK PRODUCT

DOCUMENT PRODUCTION SOURCE CARD

Building	Department/Office	Floor	Room	Cabinet/Desk
Aamm				

Shelf/Drawer	File/Book Name or Description	Searched By
	IEPA Annual Repat Marion	CLR

Potentially Responsive	Numbered By	Numbers Used
10		

Confidential Document Numbers

Transmittal Box No.

Date Copied

- note Test Range Info not submitted

001111

GENERAL

EPA GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

F I L D 0 0 6 3 1 7 4 7 3

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: OLIN CORP TECHNICAL SYSTEMS OPERATION

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 ALTEKRUSE RICHARD MGR PROCESS	618 985 3721

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 PO DRAWER G

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 MARION	IL	62959

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 ORDILL INDUSTRIAL AREA

001112

B. COUNTY NAME

WILLIAMSON

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 MARION	IL	62959	

A. FIRST	B. SECOND
4 8 2 (specify) Small Arms Ammunition	7 2 8 1 9 (specify) Solid Propellants
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VI. OPERATOR INFORMATION

A. NAME

8 O L I N C O R P O R A T I O N

B. Is the name listed Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 6 1 8 9 8 5 3 7 2 1

E. STREET OR P.O. BOX

P O D R A W E R G

F. CITY OR TOWN	G. STATE	H. ZIP CODE
8 M A R I O N	I L	6 2 9 5 9

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
9 U	9 (specify) See Attached Sheet
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
9	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of intermediate caliber ammunition and manufacture of solid propellant gas generators and ordnance devices.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
E. Redden, Vice President, TSO	[signature]	10-27-80

COMMENTS FOR OFFICIAL USE ONLY

C

US EPA FORM 3510-1

X. EXISTING ENVIRONMENTAL PERMITS

PERMIT NO.	PURPOSE
73030352	Illinois EPA Boiler Operating Permit
73030720	Illinois EPA Boiler Operating Permit
73030353	Illinois EPA Boiler Operating Permit
73030350	Illinois EPA Boiler Operating Permit
73032587	Illinois EPA Boiler Operating Permit
73030719	Illinois EPA Boiler Operating Permit
73030349	Illinois EPA Boiler Operating Permit
73030718	Illinois EPA Boiler Operating Permit
08110033	Illinois EPA Boiler Operating Permit
80060038	Illinois EPA Boiler Operating Permit
06090072	Illinois EPA Dust Collector Operating Permit
04070118	Illinois EPA Dust Collector Operating Permit
07080032	Illinois EPA Dust Collector Operating Permit
06120085	Illinois EPA Dust Collector Operating Permit
05010035	Illinois EPA Dust Collector Operating Permit
0312	Illinois EPA Special Waste Handling Permit

3 RCRA

EPA HAZARDOUS WASTE PERMIT APPLICATION
Consolidated Permits Program
(This information is required under Section 3005 of RCRA.)

F	I	L	D	0	0	6	3	1	7	4	7	3

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

C 8 — FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
5 7	0 1	0 1

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	[illegible]
LITERS	L	TONS PER HOUR	D	HECTARE-METER	[illegible]
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	C
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C | DUP | T/A C | 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	300,000	G		7				
					8				
3					9				
4					10		001115		

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (CODE T04). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If yo handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteris tics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annu basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handle which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriat codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking int account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item I to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process cod contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that posse that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in t extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described b more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annua quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line ent "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 poun per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wast are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimat 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

USE THIS SPACE TO LIST ADDITIONAL ACCESSORY FACILITIES OR OTHER INFORMATION

EPA I.D. NO. (enter from page 1)

F	I	L	D	0	0	6	3	1	7	4	7	3		6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)						LONGITUDE (degrees, minutes, & seconds)					
3	7	4	4	0	0	8	9	0	1	1	5

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
U.S.Gov't.Dept.of Interior,Fish and Wildlife Service	618-997-3344

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
P. O. Box J	Carterville	IL	62918

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Wayne D. Adams Project Manager	Wayne D. Adams	11-10-80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J. E. Redden, Vice President, TSO	J. E. Redden	10-27-80

EPA ID NUMBER (enter from page 1)

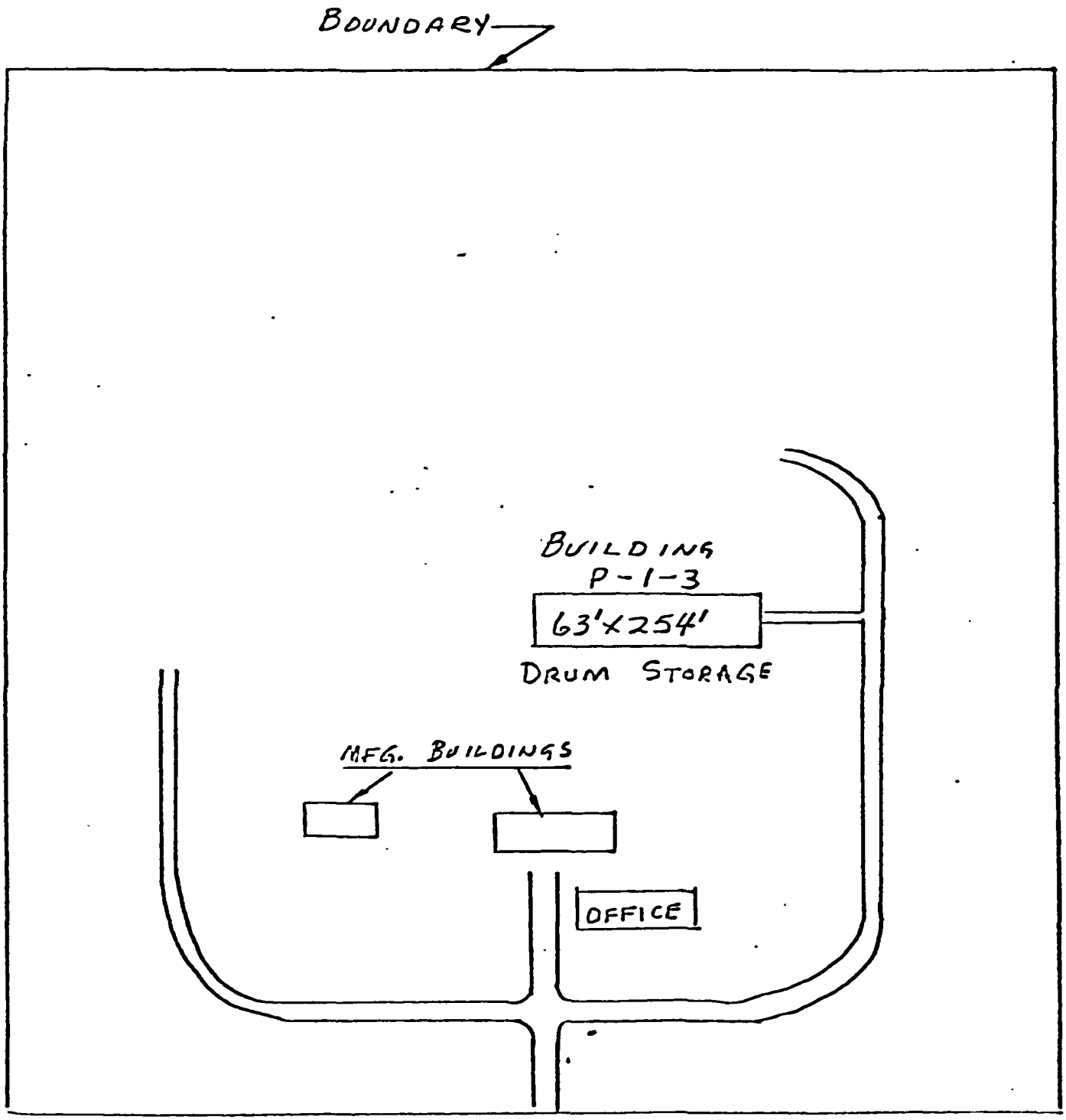
W	I	L	D	0	0	6	3	1	7	4	7	3

FOR OFFICIAL USE ONLY

W	DUP		DUP

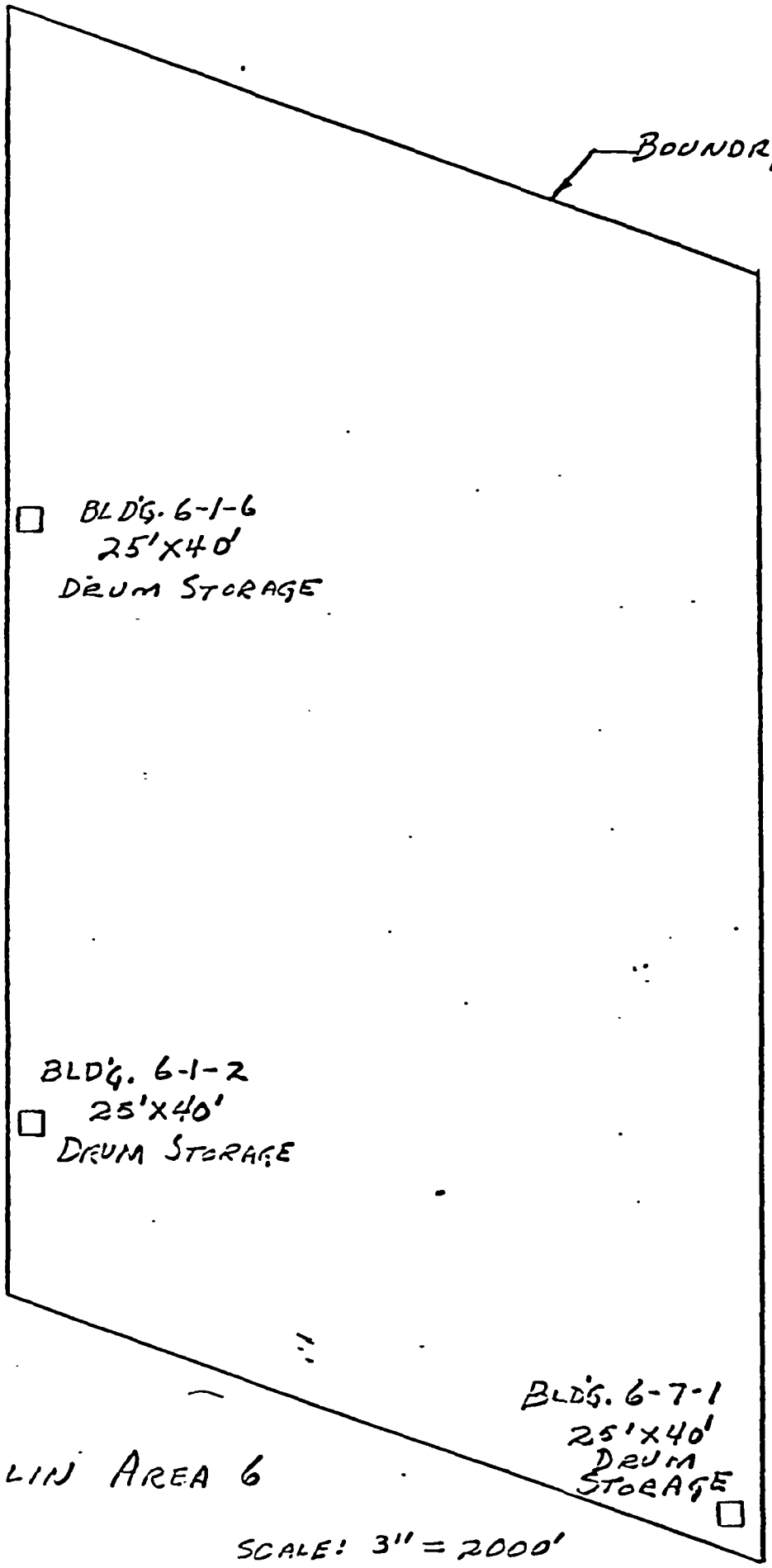
D. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	100,000	P	S01	
2	D003				Included with above.
3	F002	1,000	P	S01	
4	U013	200	P	S01	
5	U102	50	P	S01	
6	U107	50	P	S01	
7	U160	50	P	S01	
8	U196	50	P	S01	
9	U201	100	P	S01	
10	U221	50	P	S01	
11	U223	100	P	S01	
	P105	10	P	S01	
13	U154	200	P	S01	
14	U002	200	P	S01	
15	P081	500	P	S01	
16	U226	150	P	S01	
17	U228	150	P	S01	
18	P009	100	P	S01	
19	P015	50	P	S01	
20	D005	500	P	S01	
21	D006	50	P	S01	
22	D007	50	P	S01	
23	D008	100	P	S01	
	D009	50	P	S01	
25	D010	5	P	S01	
26	D011	50	P	S01	



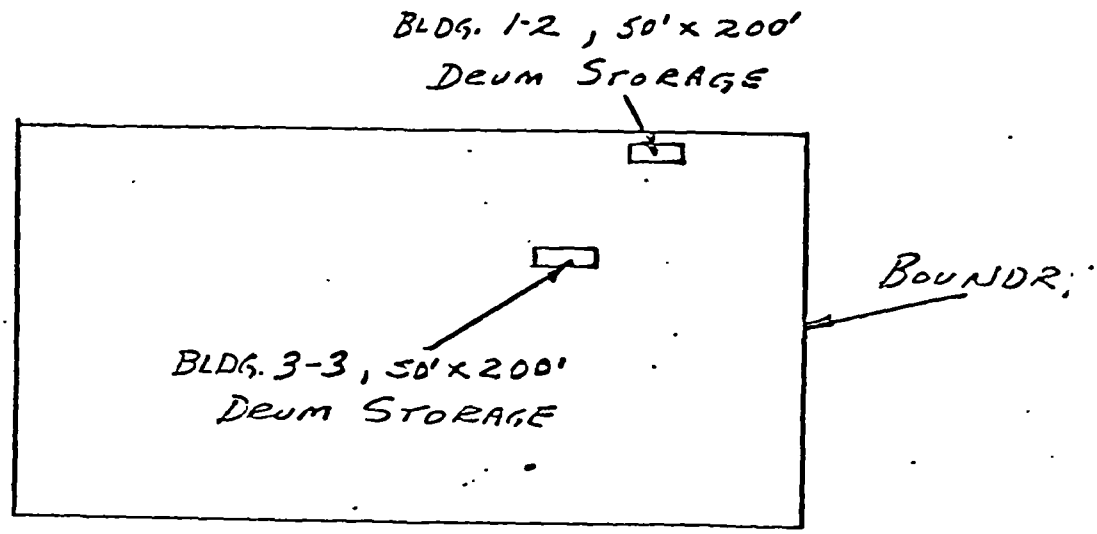
SCALE: 1" = 200'

OLIN P-AREA



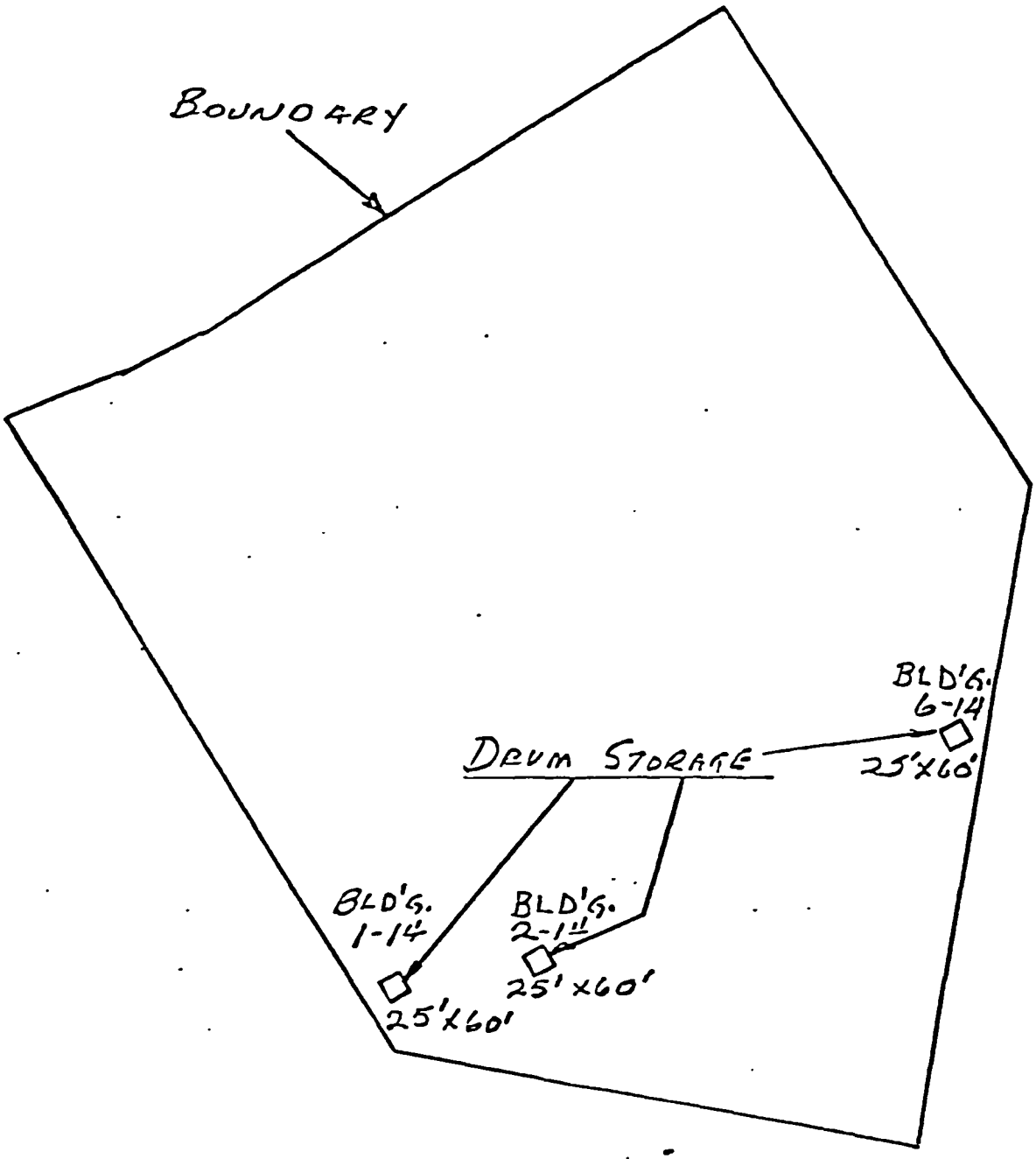
OLIN AREA 6

SCALE: 3" = 2000'



OLIN AREA 7

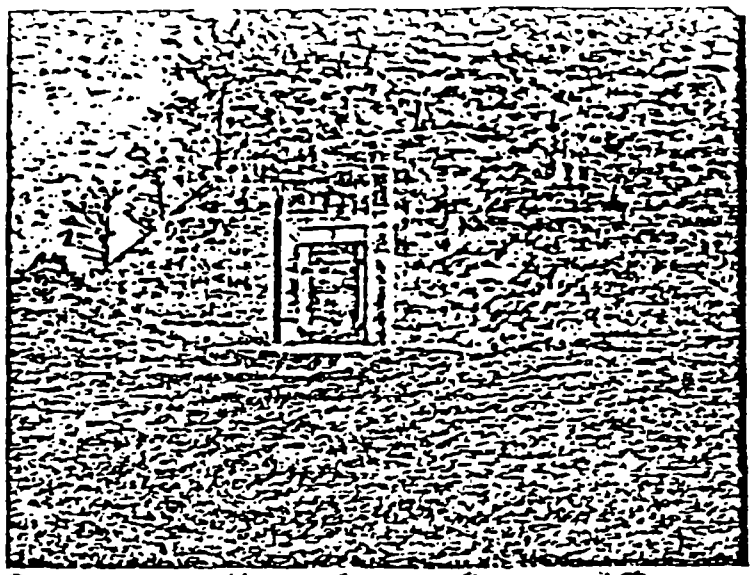
SCALE: 1" = 500'



OLIN AREA 13

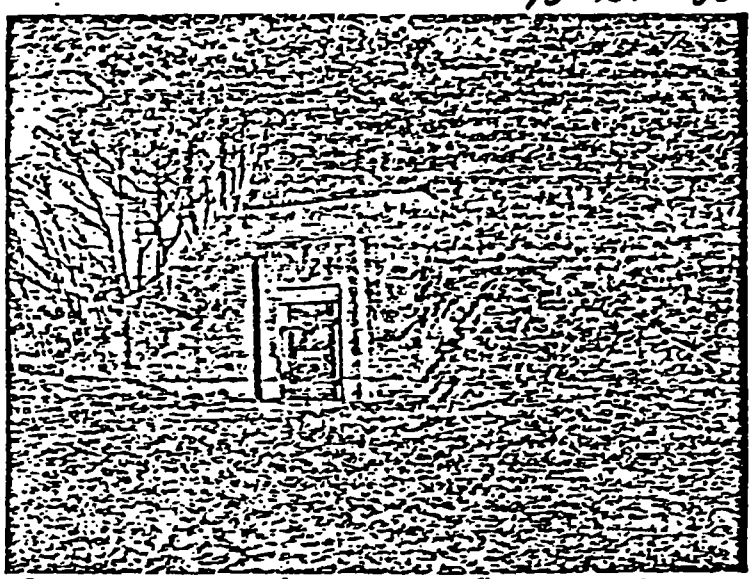
SCALE: 3" = 2000'

001122



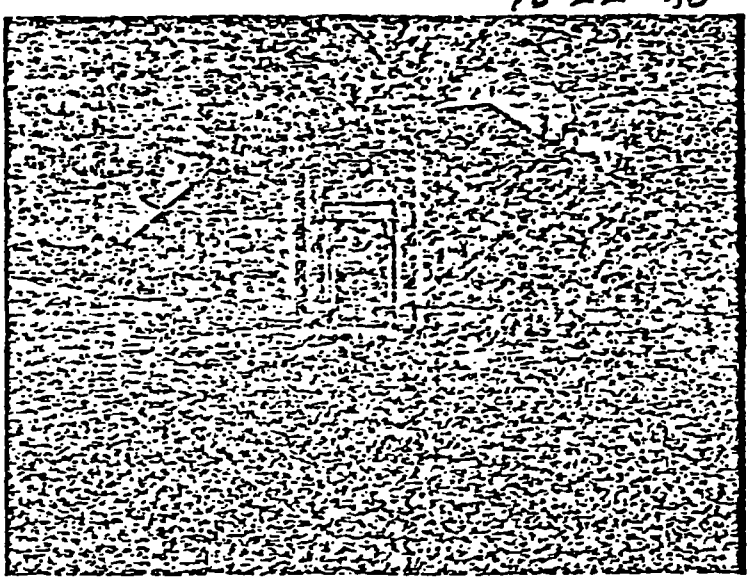
BLDG. 1-14 OLIN AREA 13

10-22-80



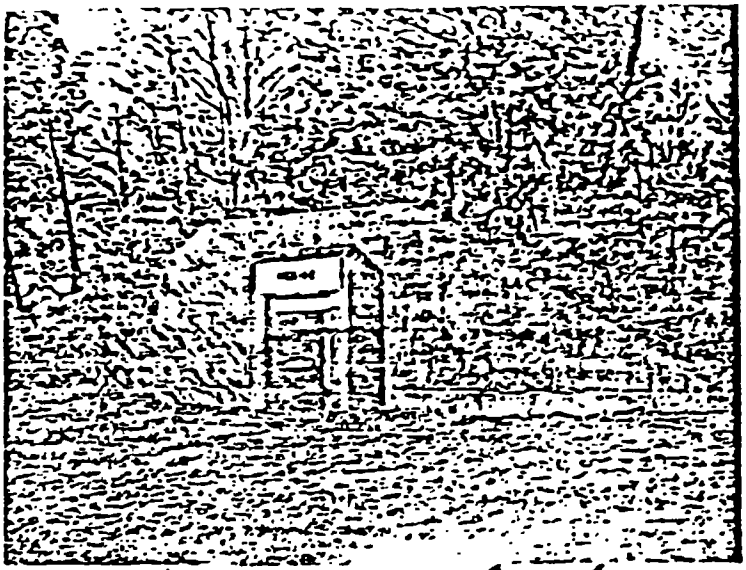
BLDG. 2-14 · OLIN AREA 13

10-22-80



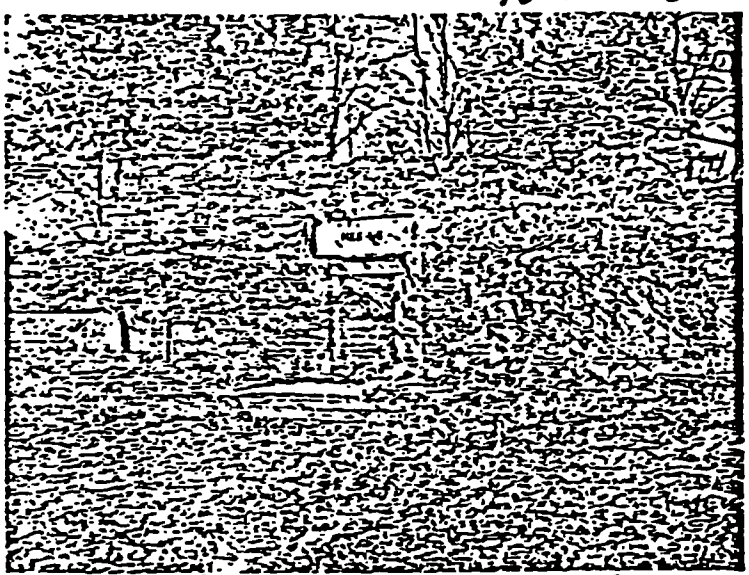
BLDG. 6-14 OLIN AREA 13

10-22-80



BLDG. 6-1-2 OLIN AREA 6

10-22-80



BLDG. 6-1-6 OLIN AREA 6

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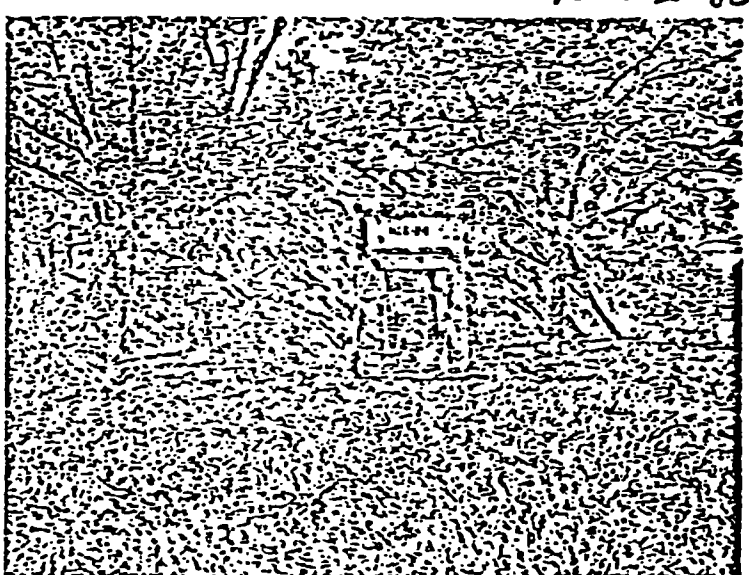
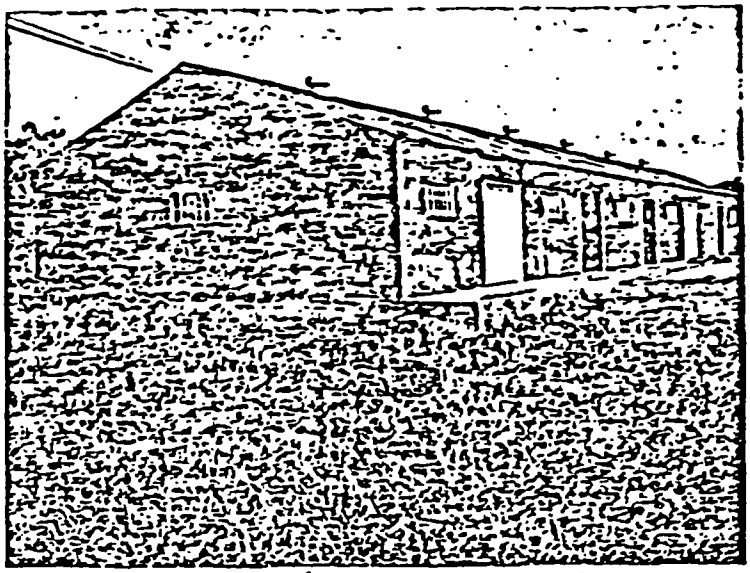


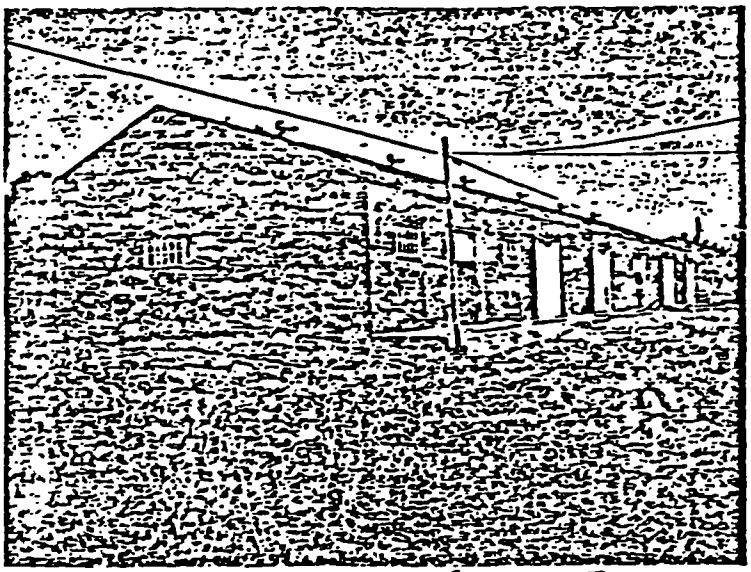
BLDG. 6-7-1 OLIN AREA 6

10-22-80



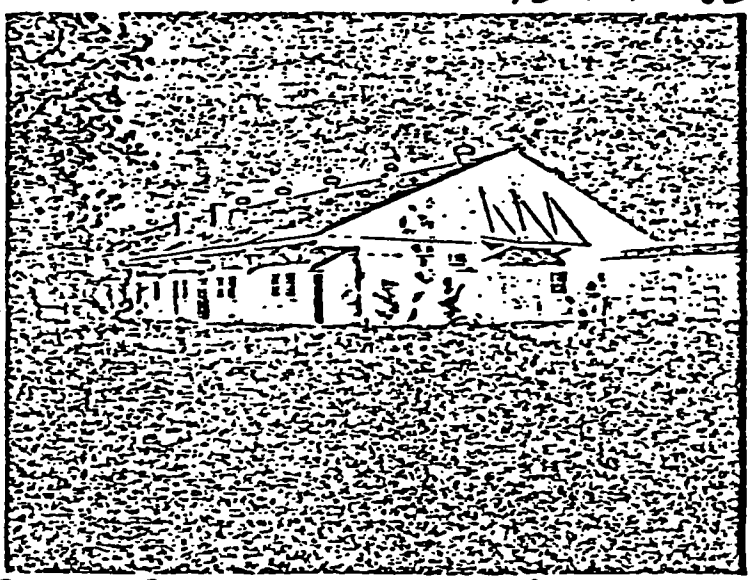
BLDG. 1-2 OLIN AREA 7

10-22-80



BLDG. 3-3 OLIN AREA 7

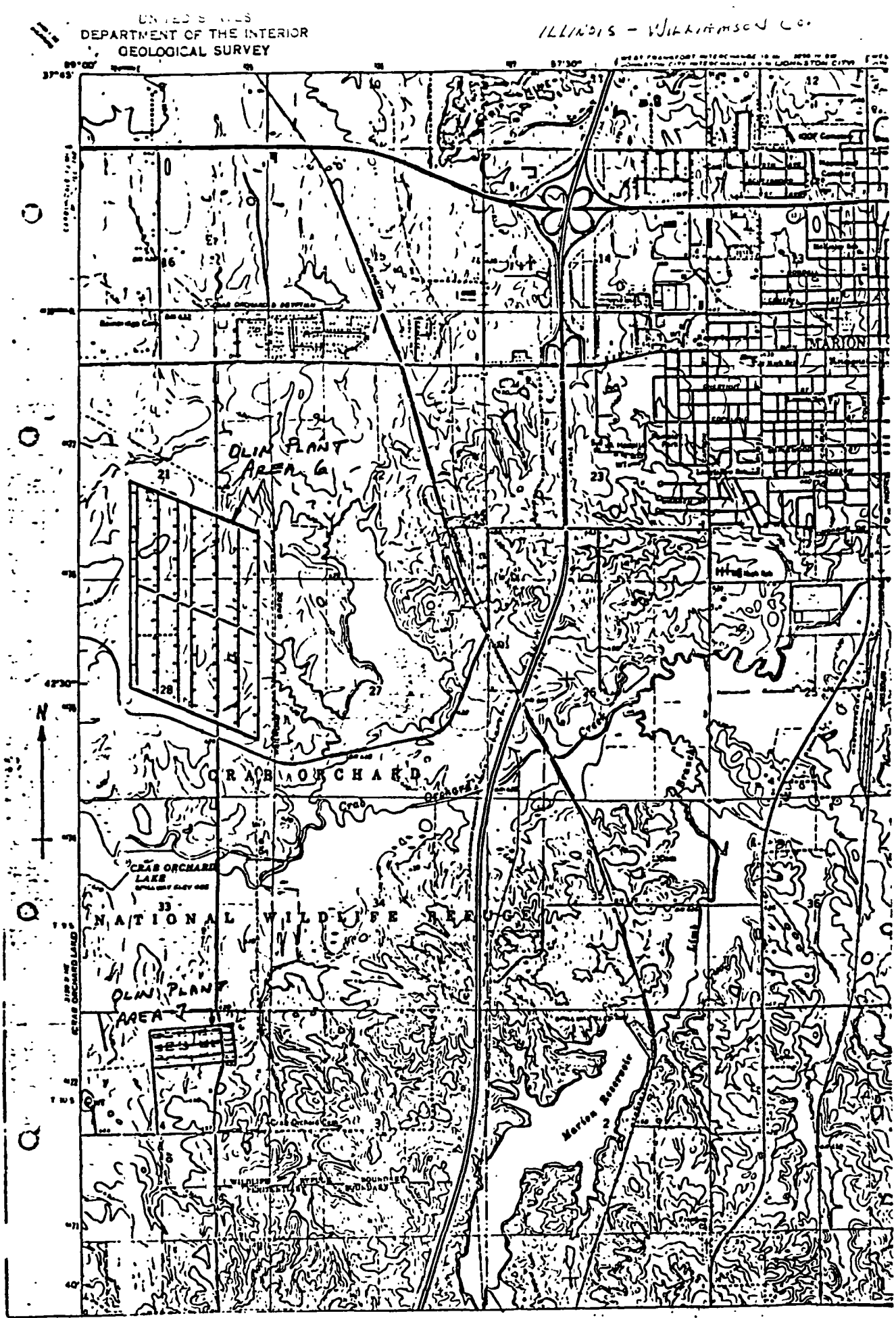
10-22-80



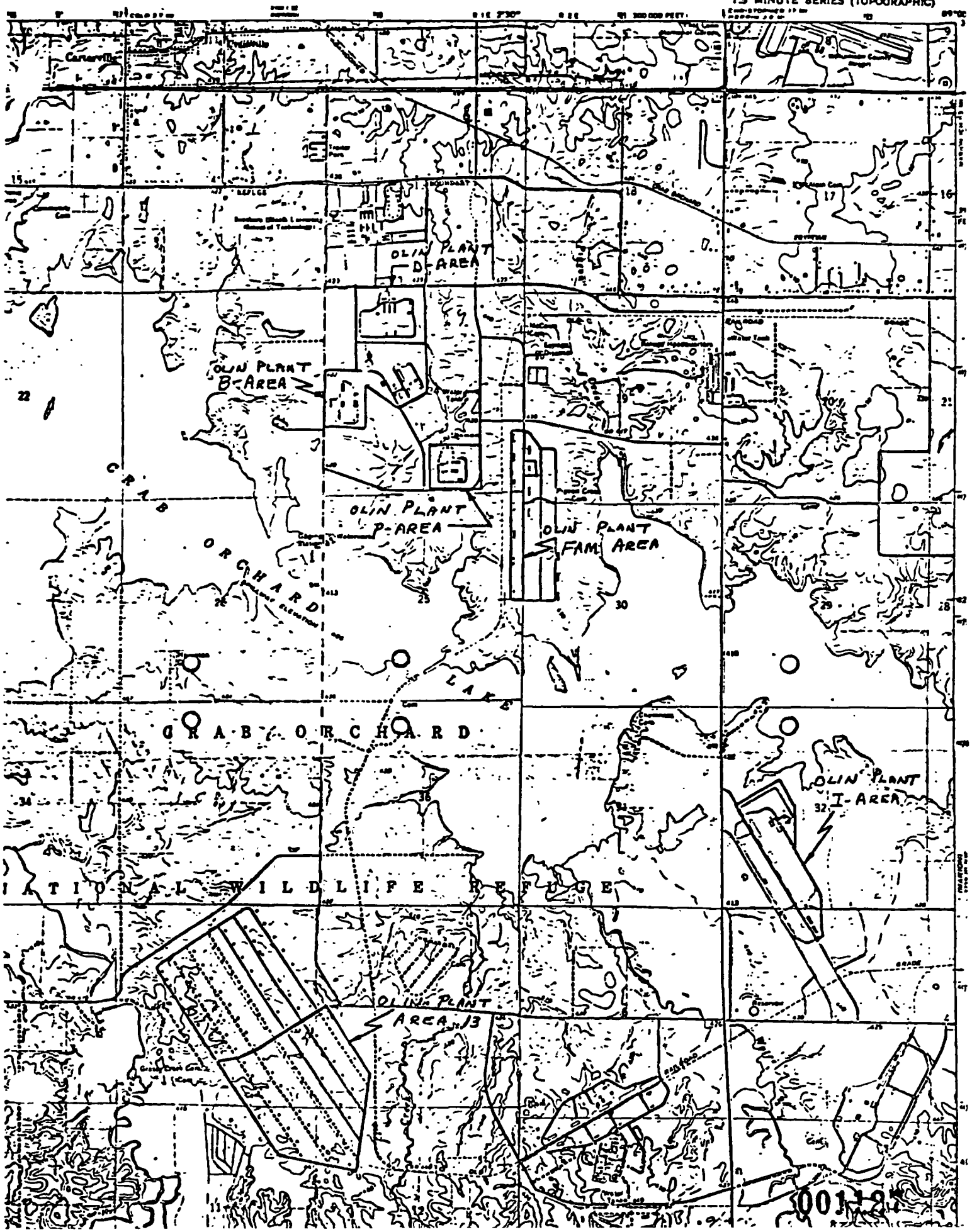
BLDG P-1-3 OLIN P AREA

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ILLINOIS - WILLIAMSON CO.



00112


CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
OLIN PLANT D-AREA
OLIN PLANT B-AREA
OLIN PLANT P-AREA
OLIN PLANT FAM AREA
OLIN PLANT I-AREA
OLIN PLANT AREA J3
CRAB ORCHARD
LAKE
NATIONAL WILDLIFE REFUGE

Olin

P.O. DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-3721

Technical Systems Operation

10 March 1981

U. S. Environmental Protection Agency
Waste Management Branch
230 South Dearborn
Chicago, IL 60604

Attention: Ms. Irene Alexakos

Reference: U.S.EPA Hazardous Waste Permit Application
Form 3510-3 submitted 10 November 1980 for
EPA I.D. Number ILD006317473.

Dear Ms. Alexakos:

As discussed with you during a telecon of 25 February 1981, the Olin Corporation submitted the referenced form to the EPA thinking that it covered all hazardous waste activities at the Marion, Illinois, Olin Corporation plant. However, further examination of CFR 40 has indicated that, in addition to the storage activity covered in the referenced submission, certain other activities should be considered as hazardous waste treatment. The purpose of this submission is to provide information to allow revision of the original application so that it will also cover the above mentioned treatment activities. The comments below are keyed to the Item Number on Form 3510-3:

ITEM III, C

Line 2A (Process Code) - add "T04"
Line 3A (Process Code) - add "T04"
Line 4A (Process Code) - add "T04"
Line 5A (Process Code) - add "T04"

Line 2B,1 (Amount) - add "5"
Line 3B,1 (Amount) - add "10"
Line 4B,1 (Amount) - add "10"
Line 5B,1 (Amount) - add "25"

Line 2B,2 (Unit) - add "U"
Line 3B,2 (Unit) - add "U"
Line 4B,2 (Unit) - add "U"
Line 5B,2 (Unit) - add "U"

ITEM III,C (PROCESS)

The process from Line 2, above, consists of collecting explosive materials from an explosive tracer milling operation in a wet vacuum cleaner, filtering the explosive from the water slurry, and adding No. 2 fuel oil to the water filtrate. The filtered explosive and the water/oil mixture are sent off-site to an Olin operated incinerator facility. This process is performed in Building I-1-12.

The process from Line 3, above, consists of collecting explosive materials from an explosive milling operation on a high explosive projectile in a wet vacuum cleaner and filtering the explosive from the water slurry. The filtrate water is recycled and the filtered explosive is sent off-site to an Olin operated incinerator. This process is performed in Buildings I-1-12 and I-1-23.

The process from Line 4, above, consists of collecting dust from an explosive mixing operation in a wet vacuum cleaner and filtering the explosive material from the water slurry. The water is discarded and the filtered explosive is sent off-site to an Olin operated incinerator. This operation is performed in Buildings D-1-25, D-1-43, and D-1-44.

The process from Line 5, above, consists of adding #2 fuel oil to explosive type wastes to desensitize the waste. The desensitized waste is sent to an off-site incinerator operated by Olin. This operation is conducted in Buildings P-1-1, I-1-12, D-1-4, D-1-11, D-1-7, and D-1-25.

Operation of the off-site incinerator is covered under previously submitted Hazardous Waste Permit Application Form 3510-3 for EPA I.D. Number ILD000802801.

ITEM IV

Line 27A (Waste No.) - add "D001"
Line 28A (Waste No.) - add "D003"

Line 27B (Annual Quantity) - add "6,000"

Line 27C (Unit) - add "G"

Line 27D,1 (Process Code) - add "T04"

Line 28D,2 (Process Description) - add "Included with above"

Facility drawings and photographs are attached.

It is hoped that the information supplied herewith is sufficient to allow revision of Form 3510-3. If further information or clarification is required, please contact the undersigned. Olin regrets the oversight which prevented inclusion of this information in the original submission.

Very truly yours,

OLIN CORPORATION

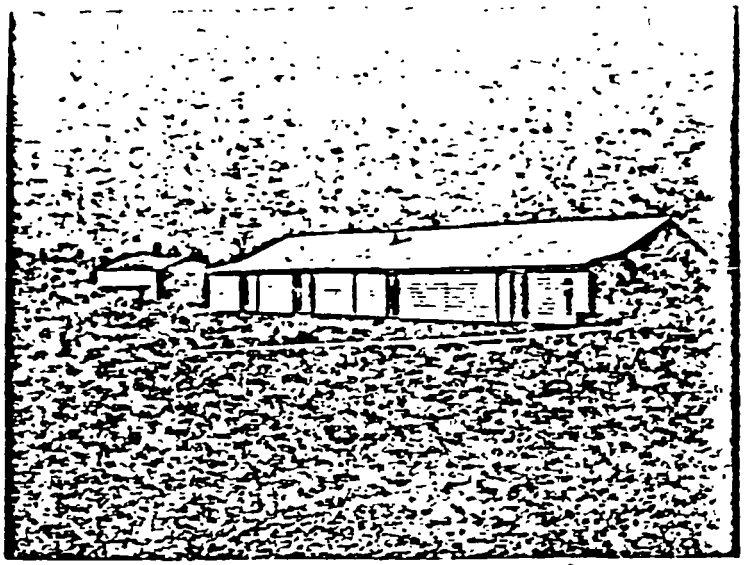
R. D. Altekruse

CONCURRED AND APPROVED:

J. E. Redden
Vice President,
Technical Systems
Operation,
Olin Corporation

/jw

Attachments

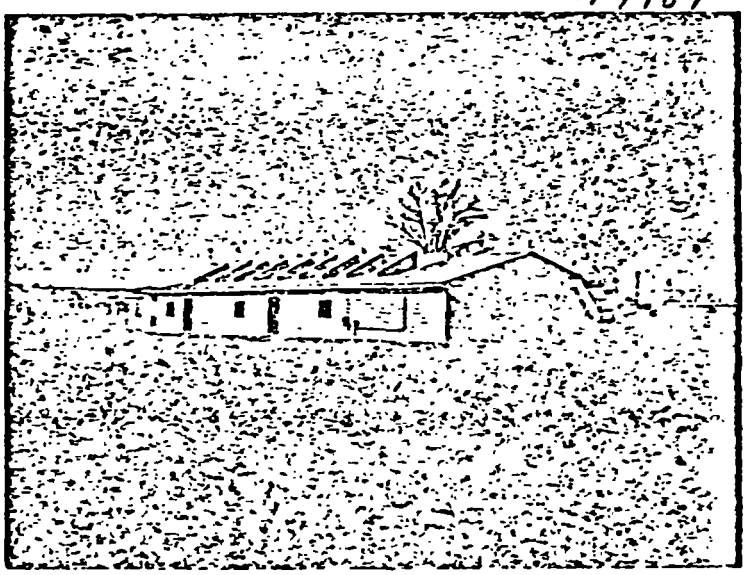


BLDG D-1-4 OLIN D-AREA

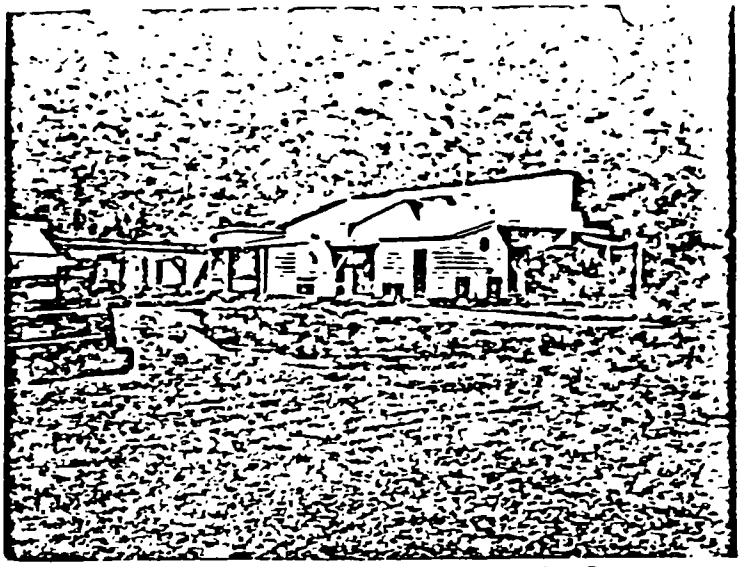
3/9/81

BLDG D-1-7 OLIN D-AREA

3/9/81

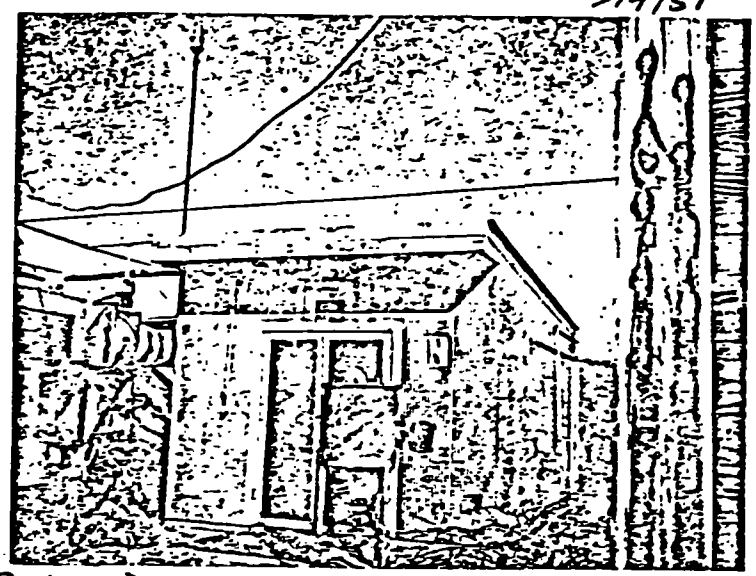


BLDG D-1-11 OLIN D-AREA



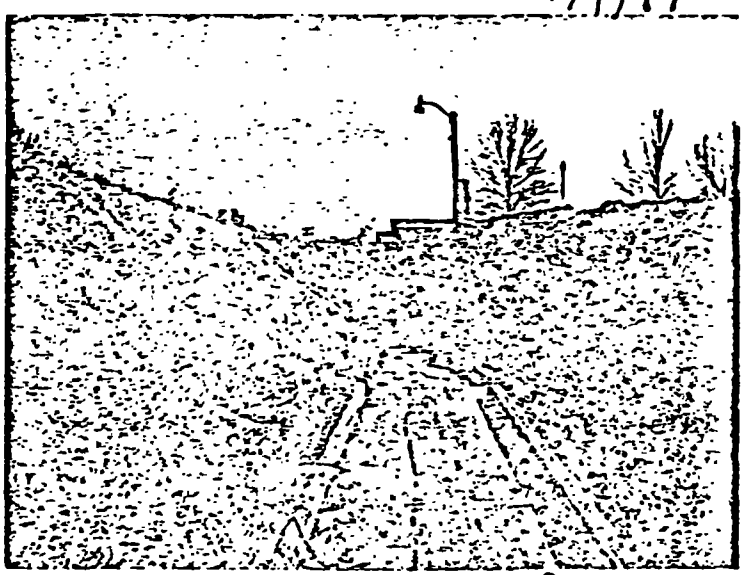
BLDG D-1-25 OLIN D-AREA

3/9/81



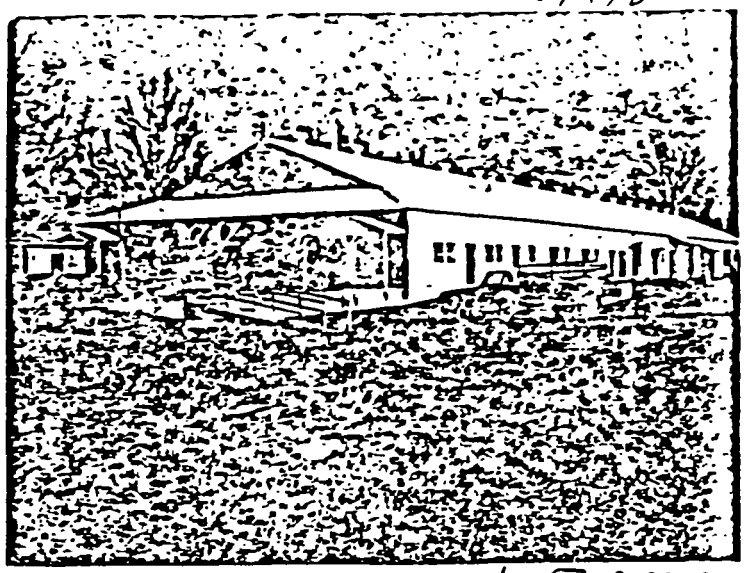
BLDG. D-1-43 OLIN D-AREA

3/9/81



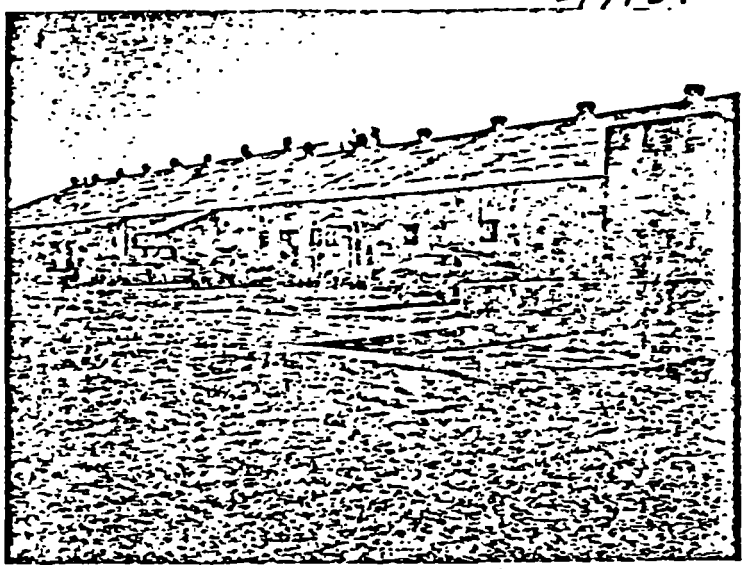
BLDG D-1-44 OLIN D-AREA

3/4/8



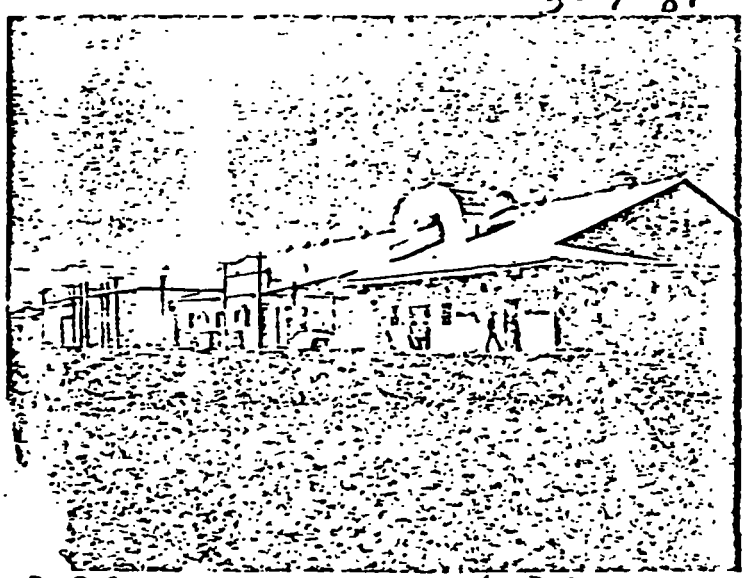
BLDG I-1-12 OLIN I-AREA

3/4/81



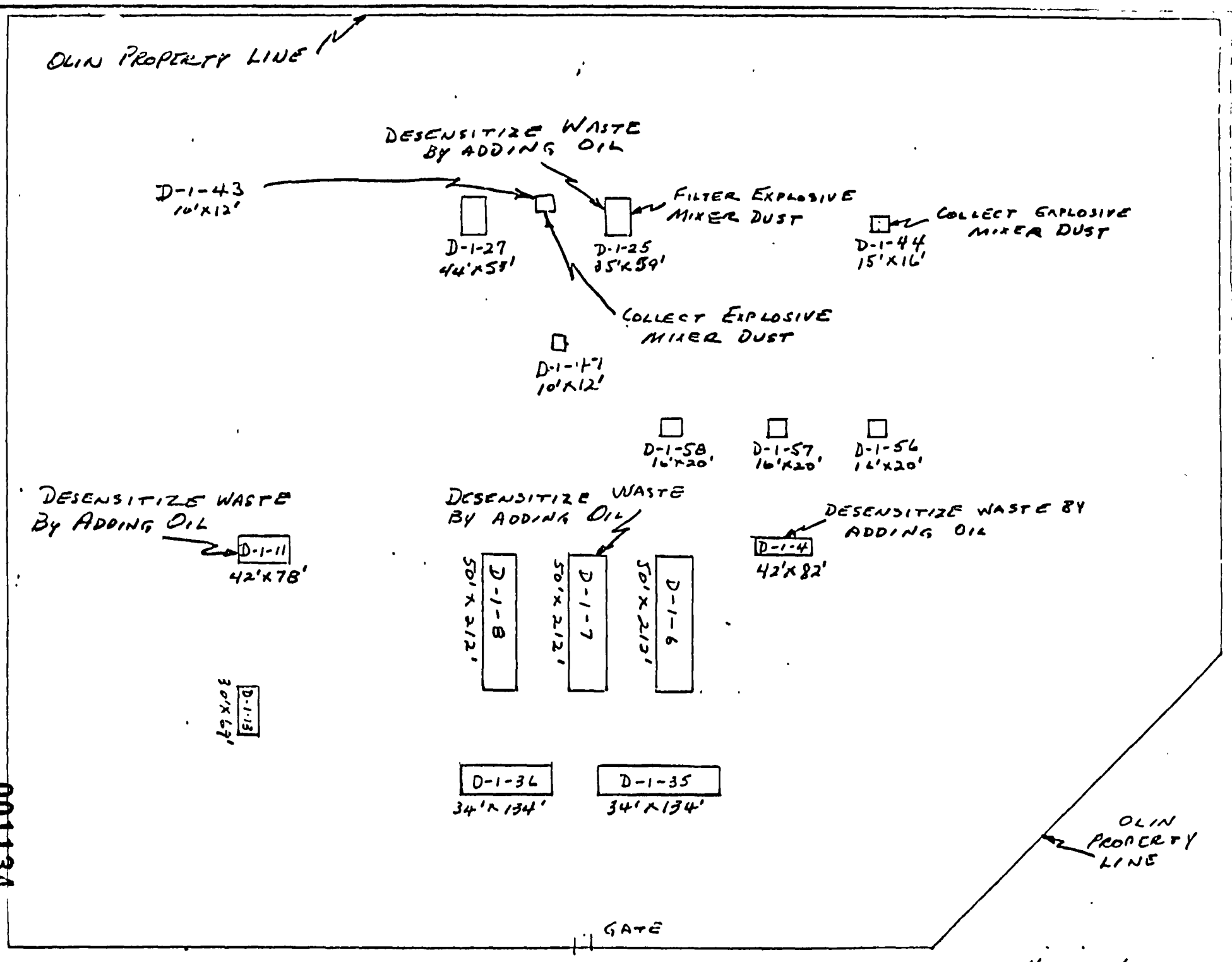
BLDG I-1-23 OLIN I-AREA

3-9-81

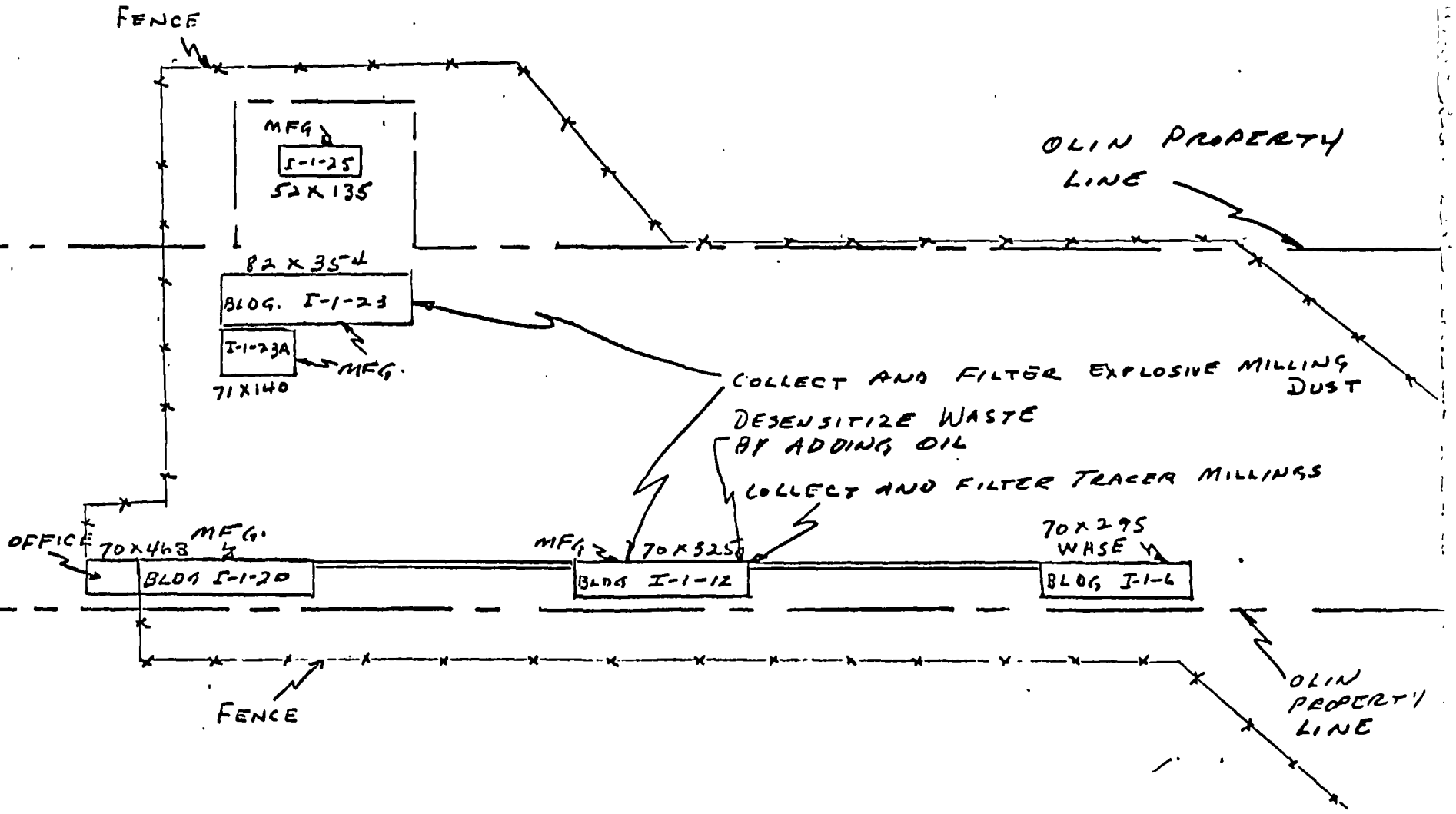


BLDG P-1-1 OLIN PARCA

0011134

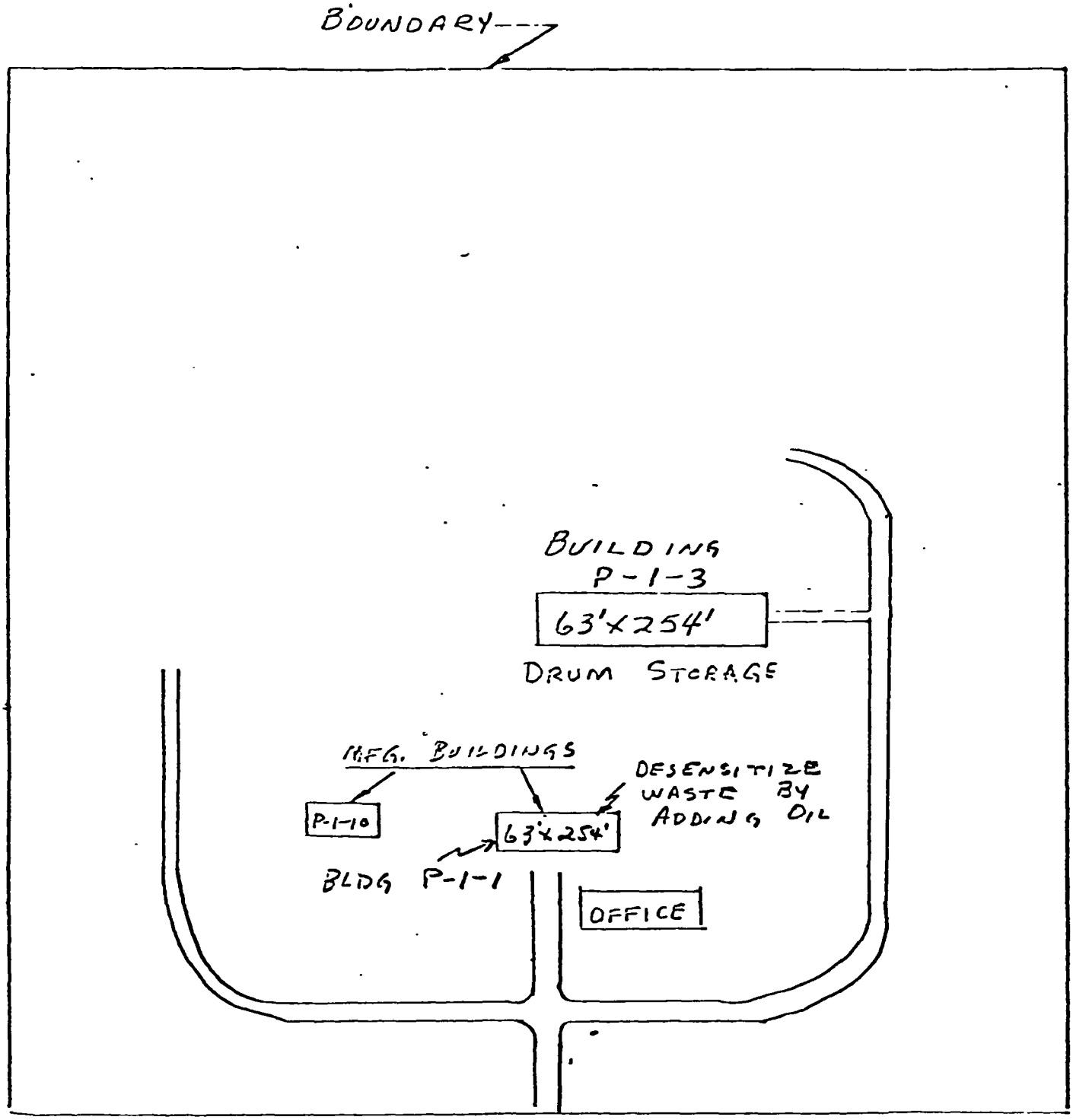

OLIN PROPERTY LINE
DESENSITIZE WASTE BY ADDING OIL
D-1-43
10'X12'
D-1-27
44'X59'
D-1-25
85'X59'
FILTER EXPLOSIVE MIXER DUST
COLLECT EXPLOSIVE MIXER DUST
D-1-44
15'X16'
COLLECT EXPLOSIVE MIXER DUST
D-1-47
10'X12'
D-1-58
16'X20'
D-1-57
16'X20'
D-1-56
16'X20'
DESENSITIZE WASTE BY ADDING OIL
D-1-11
42'X78'
DESENSITIZE WASTE BY ADDING OIL
DESENSITIZE WASTE BY ADDING OIL
D-1-4
42'X82'
D-1-8
50'X212'
D-1-7
50'X212'
D-1-6
50'X212'
D-1-13
30'X67'
D-1-36
34'X134'
D-1-35
34'X134'
OLIN PROPERTY LINE
GATE
SCALE - 1"=200'

0011135



OLIN I-AREA

SCALE 1" = 300'



SCALE: 1" = 200'

OLIN P-AREA

Olin

P.O. DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-3721

Technical Systems Operation

10 November 1980

U. S. Environmental Protection Agency
RCRA Activities
P. O. Box 7861
Chicago, IL 60680

Gentlemen:

Submitted herewith are two (2) completed General Information Forms, EPA Form 3510-1 and two (2) completed Hazardous Waste Permit Application Forms, EPA Form 3510-3. We are submitting two of each form under EPA I.D. Number ILD006317473 because a portion of Olin's Technical Systems Operations is operated by Olin Corporation on Olin owned property and a portion is operated by Olin on U. S. Government owned property. Thus, one set of forms covers Olin owned property and the other set covers U. S. Government owned property.

Olin would be pleased to respond to any requests for further informaion or clarification.

Sincerely your,

OLIN CORPORATION

R. D. Altekruse

/jw

FORM 1 GENERAL

EPA

U. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F I L D 0 0 6 3 1 7 4 7 3

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, a
it in the designated space. Review the infc
ation carefully; if any of it is incorrect, c
through it and enter the correct data in
appropriate fill-in area below. Also, if an
the preprinted data is absent *(the area to
left of the label space lists the informa
that should appear)*, please provide it in
proper fill-in area(s) below. If the labe
complete and correct, you need not comp
Items I, III, V, and VI *(except VI-B w
must be completed regardless)*. Complet
Items if no label has been provided. Refe
the instructions for detailed item des
tions and for the legal authorizations u
which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to ar
questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third colun
if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activi
is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: O L I N C O R P T E C H N I C A L S Y S T E M S O P E R A T I O N

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 A L T E K R U S E R I C H A R D M G R P R O C E S S	6 1 8 | 9 8 5 | 3 7 2 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O D R A W E R G

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 M A R I O N	I L	6 2 9 5 9

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 O R D I L L I N D U S T R I A L A R E A

B. COUNTY NAME

W I L L I A M S O N

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 M A R I O N	I L	6 2 9 5 9	

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3482 (specify) Small Arms Ammunition	2819 (specify) Solid Propellants
C. THIRD	**D. FOURTH**
(specify)	(specify)

V. OPERATOR INFORMATION

A. NAME

OLIN CORPORATION

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL M = PUBLIC (other than federal or state)
S = STATE O = OTHER (specify)
P = PRIVATE
P (specify)

D. PHONE (area code & no.)
A 618 985 3721

E. STREET OR P.O. BOX
P O DRAWER G 120 LONG RIDGE ROAD

203 356 2000

F. CITY OR TOWN
MARION STAMFORD

G. STATE
IL CT

H. ZIP CODE
62959 Agent 06904

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
9 U	9 (specify) See Attached Sheet
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
9	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of intermediate caliber ammunition and manufacture of solid propellant gas generators and ordnance devices.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
E. Redden, Vice President, TSO	E. Redden	10-27-80

COMMENTS FOR OFFICIAL USE ONLY

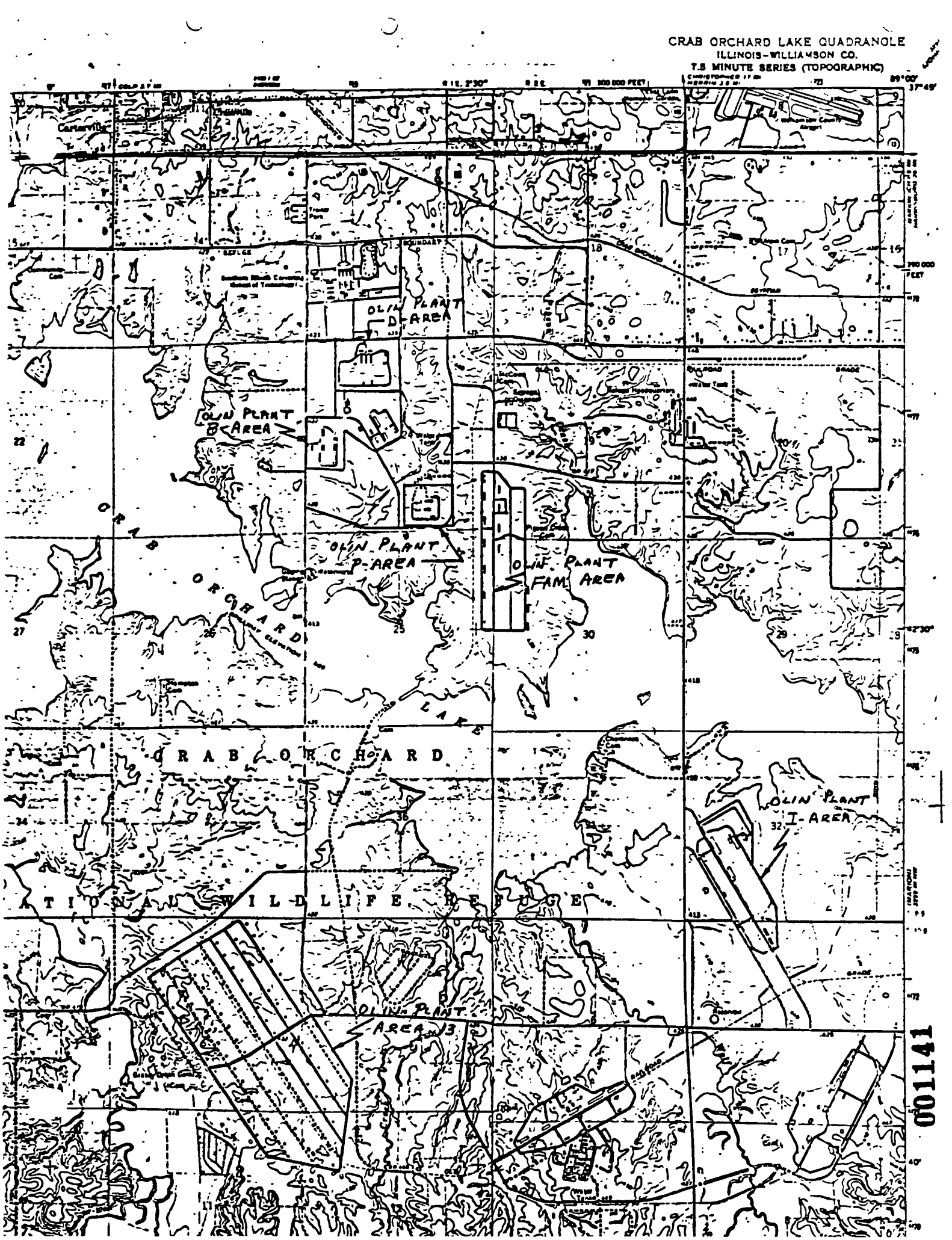
C

001139

US EPA FORM 3510-1

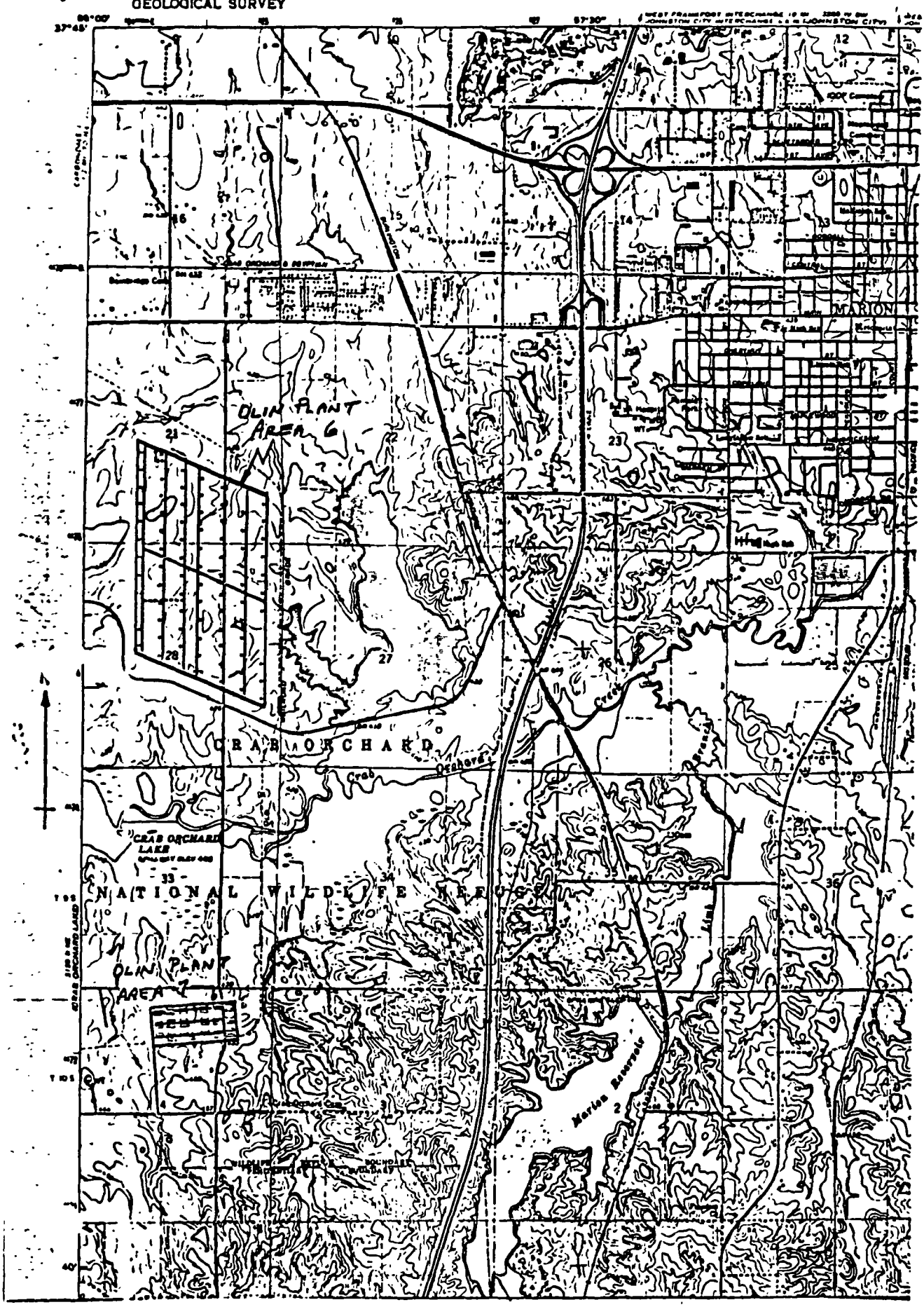
X. EXISTING ENVIRONMENTAL PERMITS

PERMIT NO.	PURPOSE
73030352	Illinois EPA Boiler Operating Permit
73030720	Illinois EPA Boiler Operating Permit
73030353	Illinois EPA Boiler Operating Permit
73030350	Illinois EPA Boiler Operating Permit
73032587	Illinois EPA Boiler Operating Permit
73030719	Illinois EPA Boiler Operating Permit
73030349	Illinois EPA Boiler Operating Permit
73030718	Illinois EPA Boiler Operating Permit
08110033	Illinois EPA Boiler Operating Permit
80060038	Illinois EPA Boiler Operating Permit
06090072	Illinois EPA Dust Collector Operating Permit
04070118	Illinois EPA Dust Collector Operating Permit
07080032	Illinois EPA Dust Collector Operating Permit
06120085	Illinois EPA Dust Collector Operating Permit
05010035	Illinois EPA Dust Collector Operating Permit
0312	Illinois EPA Special Waste Handling Permit


CRAB ORCHARD LAKE QUADRANGLE
ILLINOIS-WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
OLIN PLANT D-AREA
OLIN PLANT B-AREA
OLIN PLANT P-AREA
OLIN PLANT FAM. AREA
OLIN PLANT I-AREA
OLIN PLANT AREA 13
CRAB ORCHARD
ORCHARD
LAKE
ATIONAL WILDLIFE REFUGE
001141

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MARION QUADRANGLE
ILLINOIS - WILLIAMSON CO.



001142

DEFI

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

CRAB ORCHARD NATIONAL WILDLIFE REFUGE
P.O. BOX J
CARTERVILLE ILLINOIS 62918

June 10, 1981

RECEIVED
JUN 11 1981
I.E.P.A. - D.L.P.C.
STATE OF ILLINOIS

Illinois Environmental Protection Agency,
Residual Management Section
Division Land and Noise Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attn: Sally A. Smith
Solid Waste Unit

Gentlemen:

On or about March 25, 1981, I signed as land owner for U. S. Fish and Wildlife Service a permit application to your office from Olin Corporation.

By authority of this letter, I am requesting that my name, Wayne D. Adams on behalf of the U. S. Fish and Wildlife Service, be withdrawn from that application and any permits issued relative to said application.

Certain unresolved questions has caused the Fish and Wildlife Service to re-evaluate their position in regard to hazardous waste handling at this installation. The Fish and Wildlife Service may or may not approve hazardous waste storage at this installation, depending on additional information and documentation being requested from Olin Corporation.

Sincerely,

Wayne D. Adams
Project Manager

Copies to:

Olin Corp. - Attn: Dick Owen
Area Office, N.Kansas City, MO
Regional Office, MN--Attn: Earl Markwell

001143

Olin

P.O. DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 [illegible]

Technical Systems Operation

U. S. Environmental Protection Agency
Waste Management Branch
230 South Dearborn
Chicago, IL 60604

Attention: MS. Irene Alexakos

Reference: U. S. EPA Hazardous Waste Permit Application Form 3510-3 submitted 10 November 1980 for EPA I.D. Number ILD006317473.

Dear Ms. Alexakos:

The Olin Corporation submitted the referenced form to the EPA with the approval of Mr. Wayne Adams, Project Manager, Crab Orchard Wildlife Refuge, agent for the Owner, the U. S. Fish and Wildlife Service. On 10 June 1981 Mr. Adams informed the U. S. EPA that he was requesting that his name be withdrawn from the application. Negotiations between the Olin Corporation and the Fish and Wildlife Service have resulted in agreement as to revisions in the application which would make it acceptable to both the Olin Corporation and the Fish and Wildlife Service.

The purpose of this submission is to request that the referenced application be revised as follows:

1. Page 3 of Form 3510-3 - Delete the following:

LINE NO.	EPA NO.	EST.QUANTITY	PROCESS CODE
3	F002	1000P	S01
9	U201	100P	S01
10	U221	50P	S01
11	U223	100P	S01
16	U226	150P	S01
17	U228	150P	S01
19	P015	50P	S01
20	D005	500P	S01
21	D006	50P	S01
23	D008	100P	S01
24	D009	50P	S01

2. Page 5 of Form 3510-3 - Delete entire page.

3. Page 5A of Form 3510-3 - Delete entire page.

4. Page 5B of Form 3510-3 - Delete entire page.

5. Page 5C of Form 3510-3 - Substitute enclosed revised page 5C for original page 5C.

6. Photographs - Delete photographs of Buildings 6-1-2, 6-1-6, 6-7-1, 1-2, 3-3 and P-1-3. Add enclosed photographs of Buildings 3-9, 3-10 and 3-13.

It is hoped that the information supplied herewith is sufficient to allow revision of Form 3510-3. If further information or clarification is required please contact the undersigned.

Very truly yours,

OLIN CORPORATION

R. D. Altekruse

Concurred and approved by the Owner:

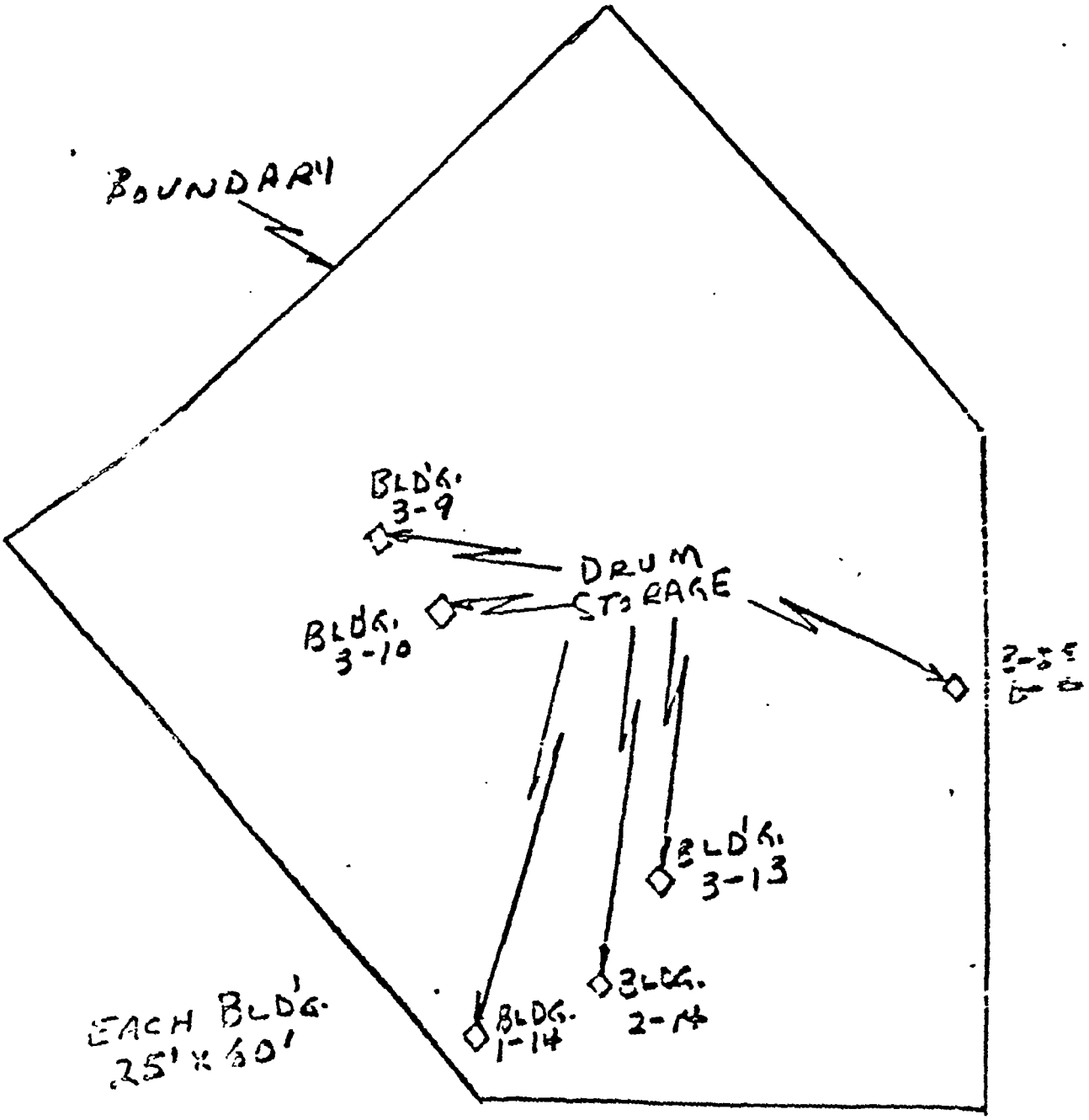
Date [illegible]

Wayne D. Adams
Project Manager
Crab Orchard Wildlife Refuge

Concurred and approved by the Operator:

Date APR 5, 1982

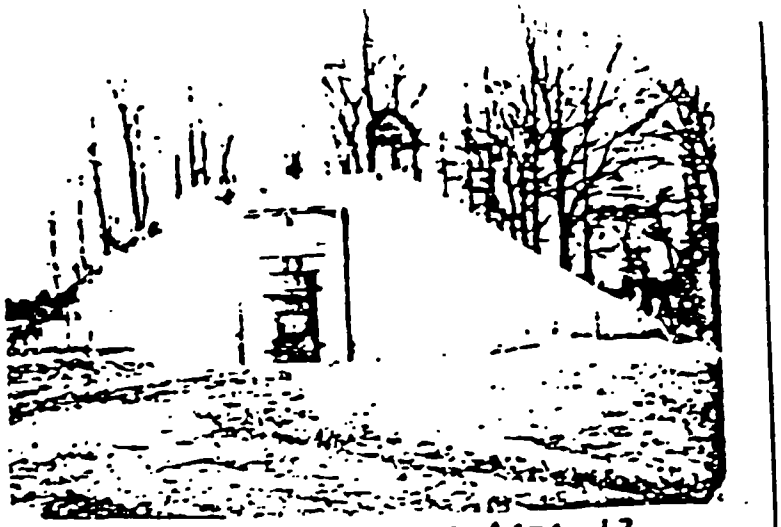
J. E. Redden
Vice President
Technical Systems Operation



OLIN AREA 13

SCALE: 3" = 200'

REVISED PAGE 5C OF 8

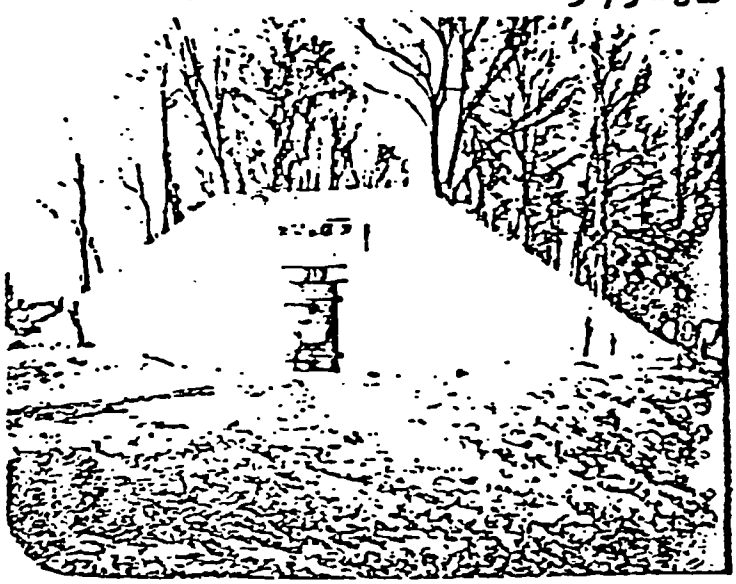


BLDG 3-9 OLIN AREA 13

3-15-82

BLDG 3-10 OLIN AREA 13

3-15-82



BLDG 3-13 OLIN AREA 13

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Crab Orchard National Wildlife Refuge
P.O. Box J
Carterville, Illinois 62918

IN REPLY REFER TO:

February 18, 1982

Mr. Richard L. Owen, Manager
Administration Services
Olin Corporation
Post Office Drawer L
Marion, Illinois 62959

Dear Mr. Owen:

This letter is in response to your revised request of 1/5/82 concerning Special Waste storage in Refuge buildings.

We have reviewed your revised request and it does meet with our approval. However, we request that Olin revise the permit applications to U. S. EPA and Illinois EPA to reflect these changes prior to our approval signature, as landowner, on the permit application. We also request Olin to continue the monthly reporting of Special Waste stored in Refuge buildings.

Upon revision of permit applications, please advise this office for our review and approval signatures.

Sincerely,

Wayne D. Adams
Project Manager

Attachments (2)

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Olin

P.O. DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

Technical Systems Operation

Environmental Protection Agency
Division of Land/Noise Pollution
Control
2200 Churchill Road
Springfield, IL 62706

Attention: Ms. Sallie A. Smith

Reference: Williamson County
Marion/Olin Storage

Dear Ms. Smith:

Submitted herewith, in duplicate, are the following:

1) A Certificate of Local Zoning Approval.

2) Further amendments to the "Application for Permit to Develop a Solid Waste Management Site" submitted to your office under an Olin letter dated 24 March 1981 and amended by an Olin letter to your office dated 22 October 1981.

3) Further clarification of the above permit application.

Please amend the Permit Application submitted on 24 March 1981 and amended on 22 October 1981 as follows:

1. Eliminate Buildings P-1-3, 6-1-2, 6-1-6 and 6-7-1 from the application and add Buildings 3-9, 3-10 and 3-13.

2. Substitute the enclosed revised Attachment 10 for the original Attachment 10 showing location of the Storage Buildings.

Legal descriptions of the three (3) added storage sites are:

Building 3-9 located on less than 1 acre in NW¼ of SE¼ of SE¼ of Section 2, Township 10S, Range 1E, Third Principal Meridian.

Building 3-10 located on less than 1 acre in SW¼ of SE¼ of SE¼ of Section 2, Township 10S, Range 1E, Third Principal Meridian.

Building 3-13 located on less than 1 acre in NE¼ of NE¼ of NE¼ of Section 11, Township 10S, Range 1E, Third Principal Meridian.

Olin will limit its Special Waste Storage in the buildings covered by the "Permit Application", as amended, to those materials listed in an Olin letter to Mr. Wayne Adams, Project Manager, Crab Orchard National Wildlife Refuge, dated 5 January 1982.

Olin will limit time of storage of "Ignitable" and "Reactive" wastes and asbestos wastes to one year and will limit time of storage of other Special and Hazardous Wastes to 45 days after authorization for disposal is obtained from the Illinois Environmental Protection Agency.

We trust that this information, submitted with the concurrence of the land owners agent, will be sufficient to allow permit approval. If further information or clarification is required, Olin will be pleased to attempt to comply with your request.

Very truly yours,

OLIN CORPORATION

R. D. Altekruse

Concurred and approved by the Operator:

Date APR 5, 1982

J. E. Redden
Vice President
Technical Systems Operation

Concurred and approved by the Owner:

Date May 13 1982

Wayne D. Adams
Project Manager
Crab Orchard Wildlife Refuge

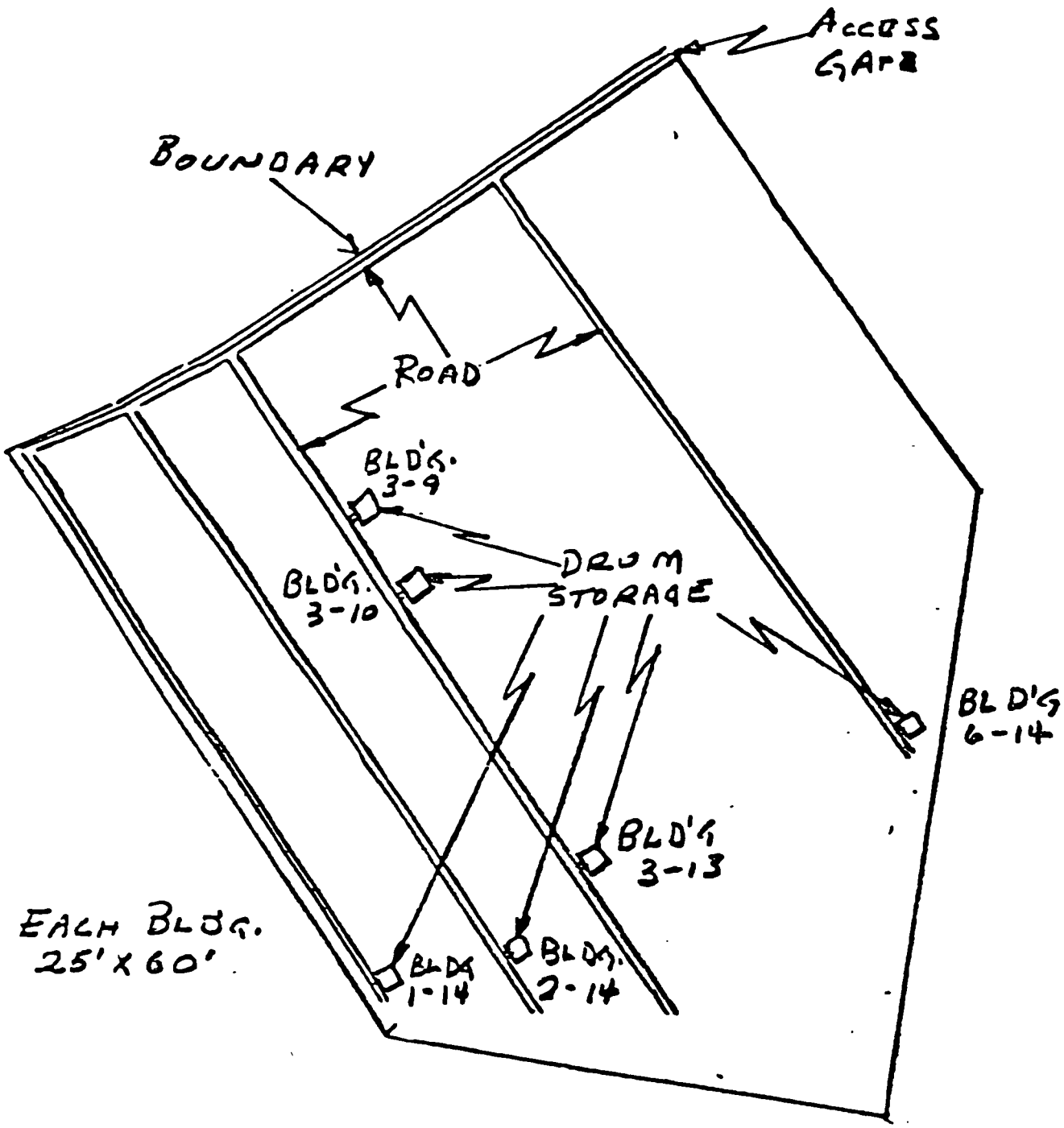
CERTIFICATE OF LOCAL ZONING APPROVAL

This is to certify that establishment of a non-regional Solid Waste Management Site by the Olin Corporation on the Crab Orchard National Wildlife Refuge located in rural Williamson County Illinois does not violate any Williamson County siting/zoning regulations. This also certifies that the Williamson County Board of Commissioners has local siting/zoning jurisdiction over the proposed facility and that the undersigned have authority to certify on behalf of the Williamson County Board of Commissioners.

John Hamilton,
Chairman of the Board — Date 1/19/82

William Mattingly,
Williamson County Commissioner — Date 1/19/82

Curtis Palmer,
Williamson County Commissioner — Date 1/19/82



OLIN AREA 13

SCALE: 1" = 200'

SIGNATURE OF PROFESSIONAL ENGINEER

George W Bentz

IL. REG. No. 062-024289

REVISED

ATTACHMENT 10

00115D

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.	IL 814 360 9487
NAME OF INSTALLATION	~~IL D[illegible]~~
INSTALLATION MAILING ADDRESS	OLIN CORP DRAWER G MARION, IL 62959
III LOCATION OF INSTALLATION	ORDILL INDUSTRIAL AREA MARION, IL 62959

[illegible] label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F — T/A C: 1 — APPROVED — DATE RECEIVED (yr., mo., & day)

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3

CITY OR TOWN: 4 — ST. — ZIP CODE

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5

CITY OR TOWN: 6 — ST. — ZIP CODE

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title) — PHONE NO. (area code & no.)

REVISED: BARTON G. W. AGR REG. COMPLIANCE 618 985 3211

~~ALTEKRUSE RICHARD D MGR PROCESS 618 985 3721~~

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: SOLIN CORPORATION

B. TYPE OF OWNERSHIP (enter the appropriate letter into box): F = FEDERAL, M = NON-FEDERAL — M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [X] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

WFD063174733

IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F003	F005	F002		
7	**8**	**9**	**10**	**11**	**12**

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste fro specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
~~U213~~ DELISTED	U102 DMP	U107 DNP	U160 DOP	U162 METH METH	U196 PYR
37	**38**	**39**	**40**	**41**	**42**
U201 SR	U221 TDA	U223 TDI	P105 SODIUM AZIDE	U154 METH ETH	U002 2-PR
43	**44**	**45**	**46**	**47**	**48**
P081 NG	U080 DCM	U226 TCE	U228 TRIC	P009 PIC	P015

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterin hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

- [X] 1. IGNITABLE (D001)
- [ ] 2. CORROSIVE (D002)
- [X] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the informatic I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for su mitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE (Type or print)	DATE SIGNED
	J.E.REDDEN VICE PRESIDENT, TSO	

EPA Form 8700-12 (6-80) REVERSE

001154

I.D. – FOR OFFICIAL USE ONLY

W	I	L	D	0	0	6	3	1	7	4	7	3	1

DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	**8**	**9**	**10**	**11**	**12**

HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

ADDED July '82

31	32	33	34	35	36
P024	U158	U188	U056	U131	
37	**38**	**39**	**40**	**41**	**42**
U112	U220	U003	U213		
43	**44**	**45**	**46**	**47**	**48**
U159	U212	U044	U019		

LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☐ 4. TOXIC (D000)

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED

EPA Form 8700-12 (6-80) REVERSE

ATTACH A

ATTACH A

001155

GENERAL

EPA GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

F ILD006317473

LABEL ITEMS	
EPA I.D. NUMBER	ILD006317473
FACILITY NAME	OLIN CORPORATION
FACILITY MAILING ADDRESS	PO DRAWER "G" MARION, IL 62959
FACILITY LOCATION	ORDILL INDUSTRIAL AREA MARION, IL 62959

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, it in the designated space. Review the inf ation carefully; if any of it is incorrect, through it and enter the correct data i appropriate fill-in area below. Also, if a the preprinted data is absent (the area t left of the label space lists the inform that should appear), please provide it i proper fill-in area(s) below. If the la complete and correct, you need not com Items I, III, V, and VI (except VI-B must be completed regardless). Comple Items if no label has been provided. Re the instructions for detailed item de tions and for the legal authorizations which this data is collected.

I. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to a questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third colu if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activ is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK YES	NO	AT
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP OLIN CORP TECHNICAL SYSTEMS OPERATION

IV. FACILITY CONTACT

	A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)		
2	BARTON G W MGR REG COMPLIANCE ~~ALTEKRUSE RICHARD MGR PROCESS~~	618	985	3211

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 PO DRAWER G

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 MARION	IL	62959

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 ORDILL INDUSTRIAL AREA

B. COUNTY NAME

WILLIAMSON

001156

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 MARION	IL	62959	

EPA Form 3510-1 (6-80)

CONTINUE ON RE

A. FIRST		B. SECOND	
4 8 2 (specify) Small Arms Ammunition		7 2 8 1 9 (specify) Solid Propellants	
C. THIRD		**D. FOURTH**	
(specify)		7 (specify)	

OPERATOR INFORMATION

A. NAME

OLIN CORPORATION

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)

P (specify)

D. PHONE (area code & no.)

A 203 356 2000

E. STREET OR P.O. BOX

120 LONG RIDGE ROAD

F. CITY OR TOWN | **G. STATE** | **H. ZIP CODE** | **IX. INDIAN LAND**

STAMFORD | CT | 06904

Is the facility located on Indian lands? ☐ YES ☒ NO

C. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
U	9 (specify) See Attached Sheet
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
	9 (specify)

XI. Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Manufacture of intermediate caliber ammunition and manufacture of solid propellant gas generators and ordnance devices.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. OFFICIAL TITLE (Type or print)	B. SIGNATURE	C. DATE SIGNED
R. Redden, Vice President, TSO	R. Redden	10-27-80

COMMENTS FOR OFFICIAL USE ONLY

July 1982

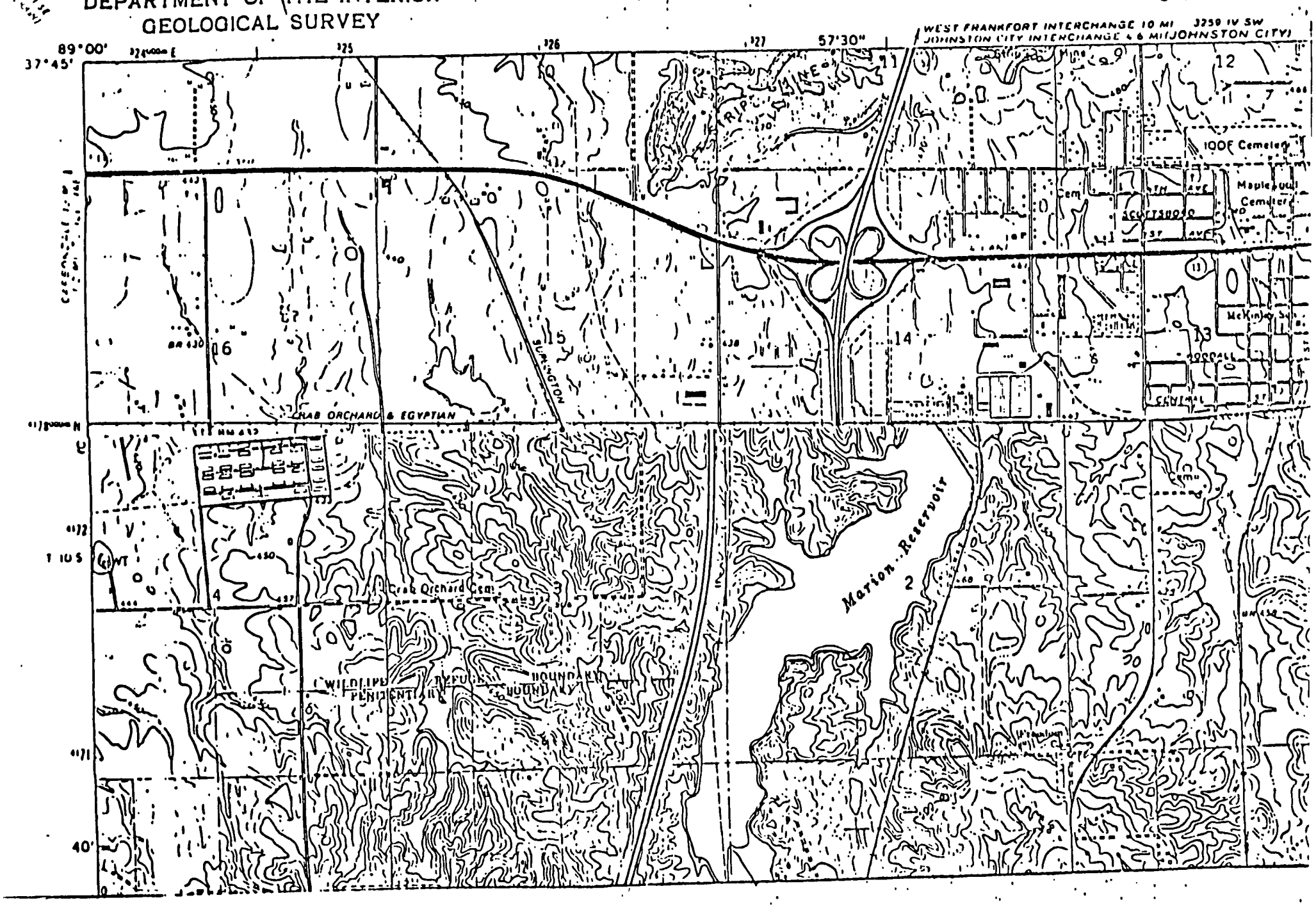
US EPA FORM 3510-1

X. EXISTING ENVIRONMENTAL PERMITS

	PERMIT NO.	PURPOSE
	73030352	Illinois EPA Boiler Operating Permit
	73030720	Illinois EPA Boiler Operating Permit
	73030353	Illinois EPA Boiler Operating Permit
	73030350	Illinois EPA Boiler Operating Permit
SCRAPPED '82	~~[illegible]~~ 82040075 ~~23020719~~	Illinois EPA Boiler Operating Permit (NEW BOILER)
		Illinois EPA Boiler Operating Permit
SCRAPPED '82	~~[illegible]~~ 82040082 ~~23030718~~	Illinois EPA Boiler Operating Permit (NEW BOILER)
		Illinois EPA Boiler Operating Permit
	08110033	Illinois EPA Boiler Operating Permit
	80060038	Illinois EPA Boiler Operating Permit
	06090072	Illinois EPA Dust Collector Operating Permit
	04070118	Illinois EPA Dust Collector Operating Permit
	07080032	Illinois EPA Dust Collector Operating Permit
	06120085	Illinois EPA Dust Collector Operating Permit
	05010035	Illinois EPA Dust Collector Operating Permit
	0312	Illinois EPA Special Waste Handling Permit
	1981-SB-OP	ILLINOIS EPA WASTE MANAGEMENT FACILITY PERMIT FOR RURAL WILLIAMSON COUNTY
	1982-9-DE	ILLINOIS EPA WASTE MANAGEMENT FACILITY PERMIT FOR ORDILL INDUSTRIAL AREA

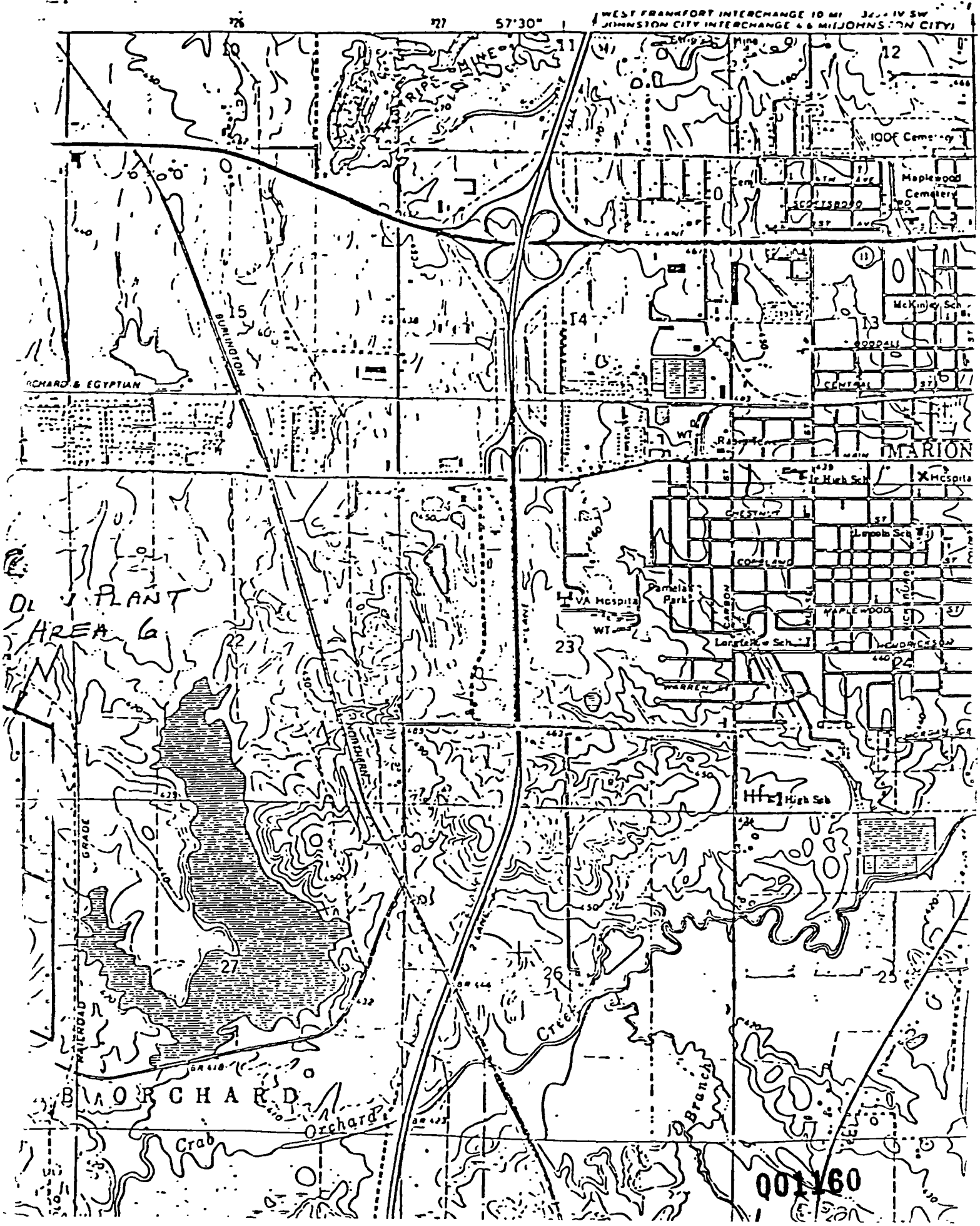
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

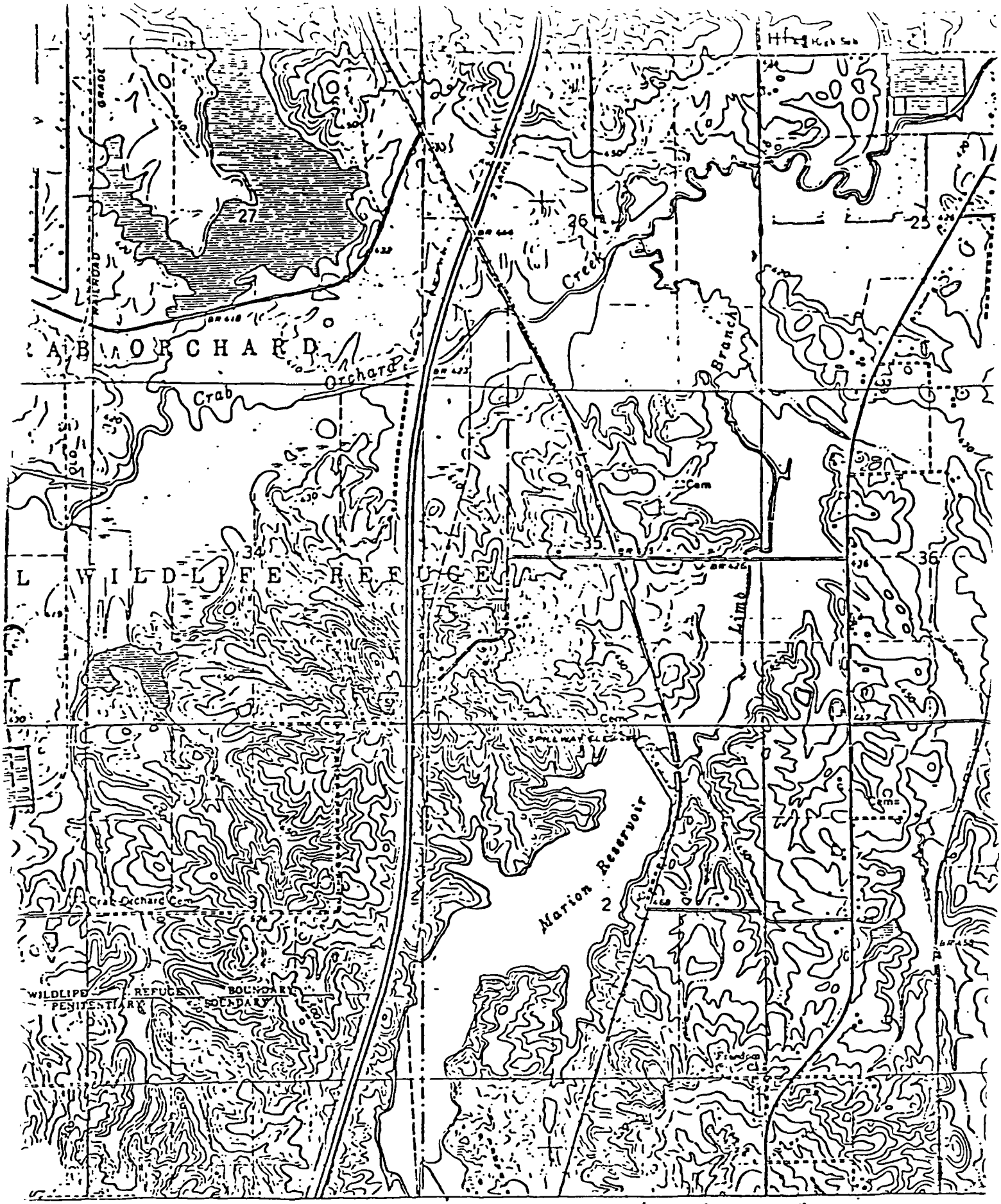
ILLINOIS - WILLIAMS



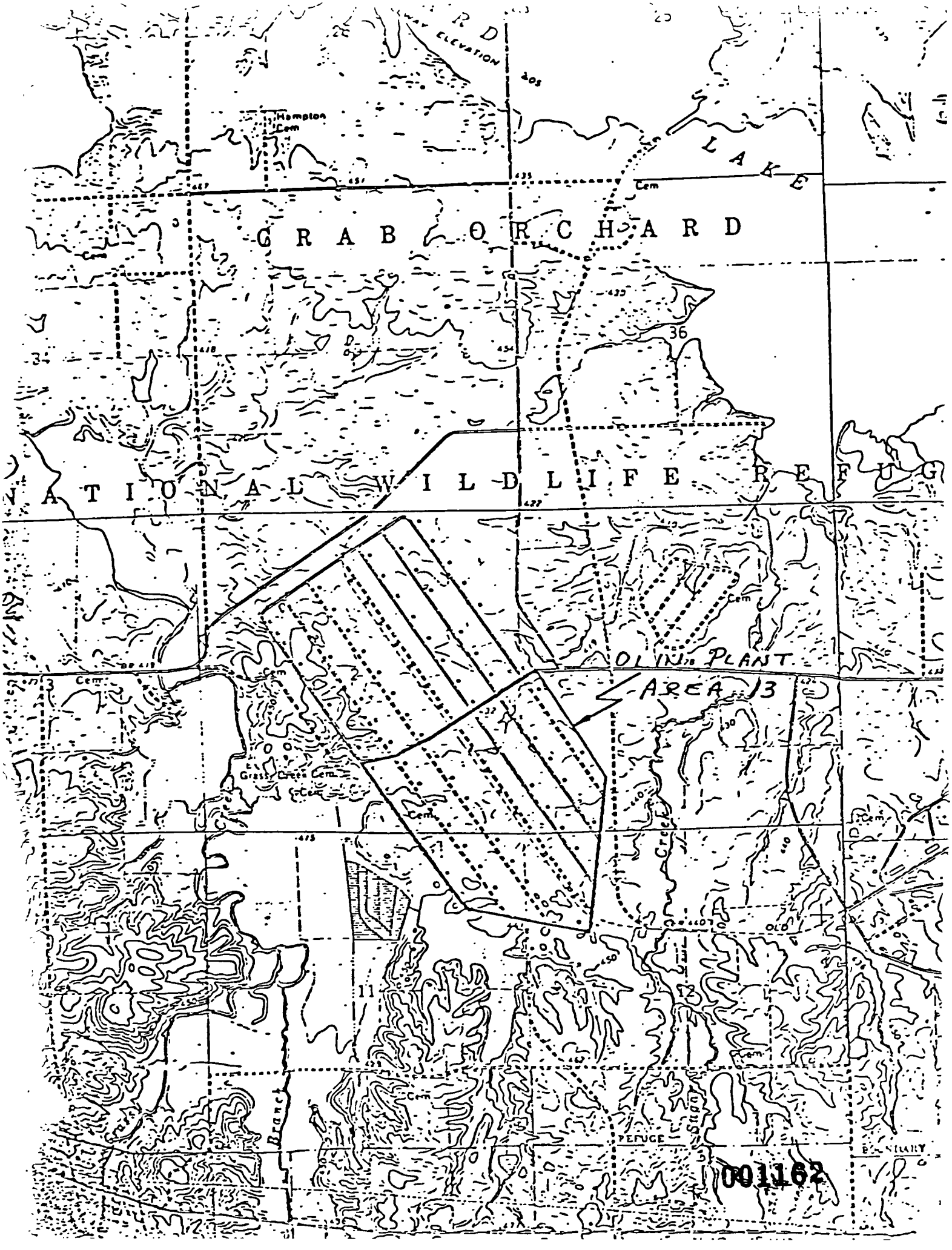
NTERIOR
EY

ILLINOIS – WILLIAMSON Co.





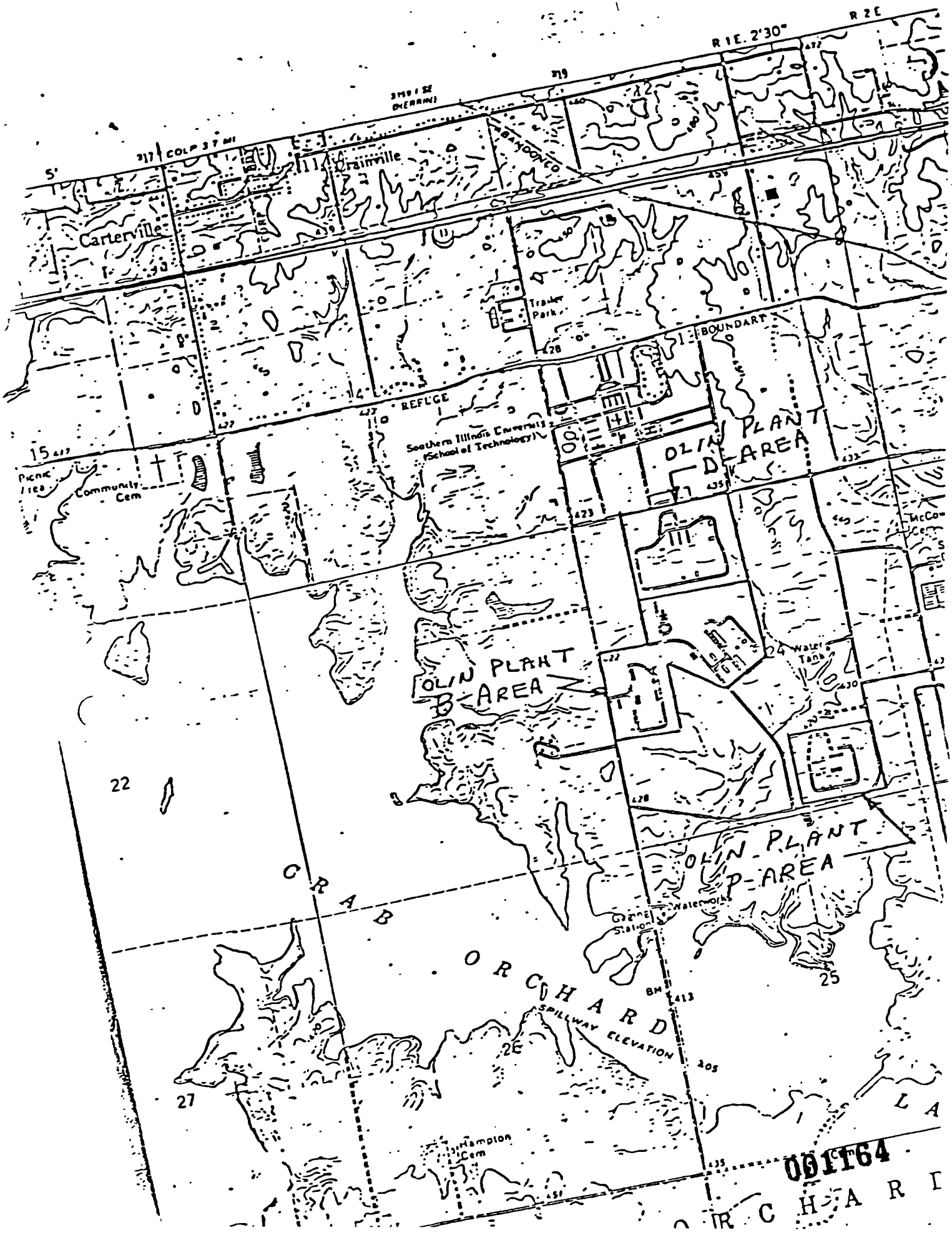
27
26
25
Creek
Branch
Crab
Orchard
34
35
36
Limb
Cem
Marion Reservoir
2
Crab Orchard Cem
WILDLIFE REFUGE BOUNDARY
PENITENTIARY BOUNDARY

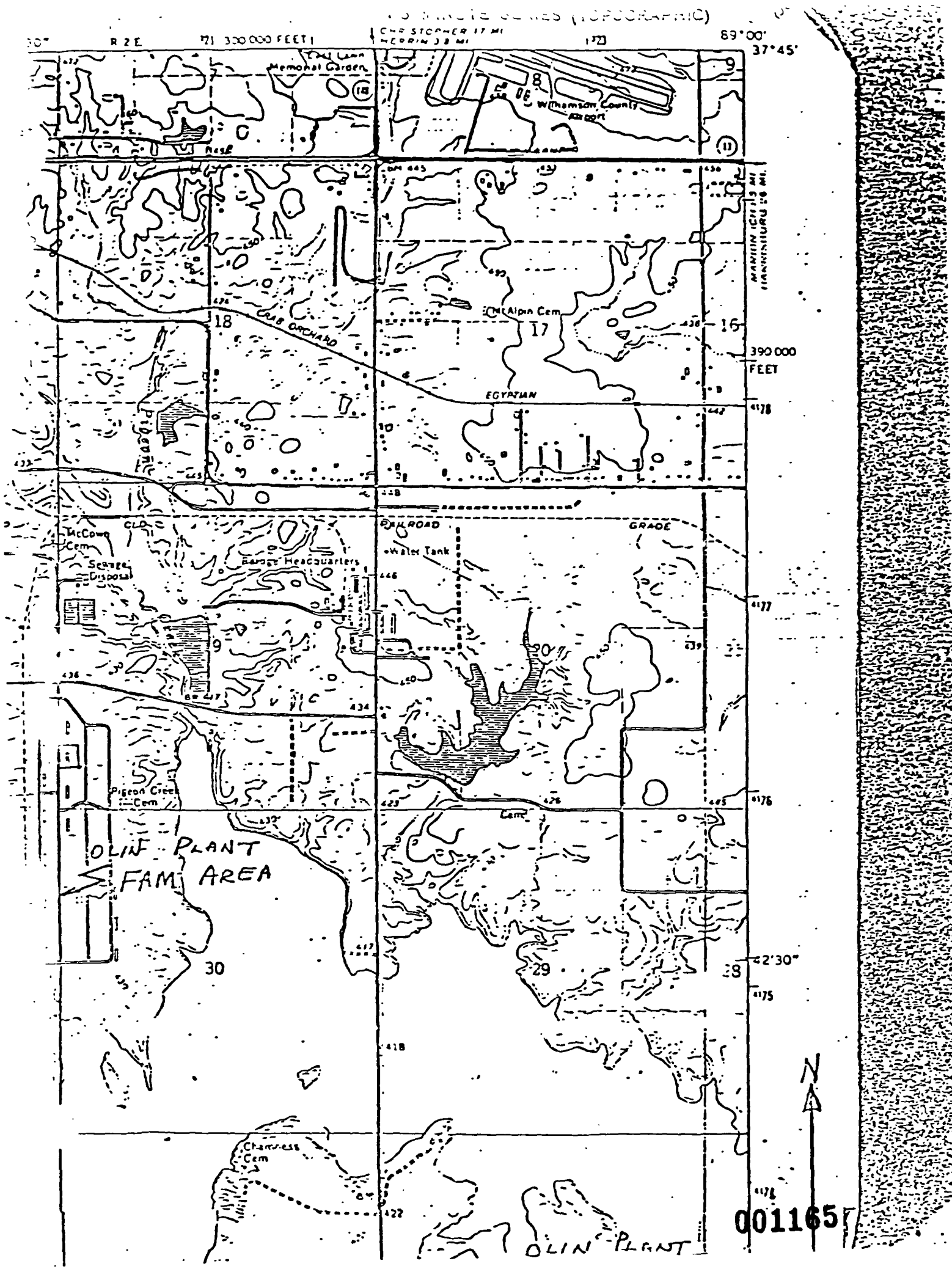


Hampton Cem
LAKE
CRAB ORCHARD
NATIONAL WILDLIFE REFUG
OLIN PLANT
AREA 13
Grassy Creek Cem
Cem
Branch
Creek
REFUGE
BOUNDARY
36
11

001162

001163


R 1 E. 2'30"
R 2 E
Carterville
Crainville
Trailer Park
BOUNDARY
REFUGE
Southern Illinois University (School of Technology)
Picnic Area
Community Cem
OLIN PLANT D-AREA
OLIN PLANT B-AREA
OLIN PLANT P-AREA
Water Tank
Waterworks
Gaging Station
CRAB ORCHARD
SPILLWAY ELEVATION
Hampton Cem
22
25
27
001164



R 2 E
300 000 FEET
CHRISTOPHER 17 MI
HERRIN 3.8 MI
89°00'
37°45'
East Lawn Memorial Garden
Williamson County Airport
Mt Alpin Cem
CRAB ORCHARD
EGYPTIAN
390 000 FEET
McCown Cem
Sewage Disposal
Barge Headquarters
Water Tank
RAILROAD
GRADE
Pigeon Creek Cem
OLIN PLANT FAM AREA
Cem
42'30"
Chamness Cem
OLIN PLANT
N

001165

RCRA

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
57	01	01

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR OR GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	B
ACRES	K
HECTARES	F

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	U	
1	S01	360,000	G	
2	T04	90	U	
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8	ADDED MARCH 1981			
9	REVISED: (PLEASE NOTE THE AMOUNT WAS 50 AND IS NOW 90)			

C. DUP D 1

EPA Form 3510-3 (6-80)

001166

AUGUST 1982

CONTINUE ON REVERSE

ACE FOR ... ITIONAL PROCESS CODES OR ... R DESCRIBING OTHER PROCESSES (code ...). FOR EACH PROCESS ENTERED HERE ... CLUDE DESIGN CAPACITY.

... ATTACHMENT "I"
ILD 006317473

(ADDED MARCH 1981
REVISED TO DATE)

SCRIPTION OF HAZARDOUS WASTES

HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If yo ...le hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number(s) from 40 CFR, Subpart C that describes the characteri and/or the toxic contaminants of those hazardous wastes.

IMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annu ... For each ...aracteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste(s) that will be handle ...h possess t... t characteristic or contaminant.

IT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropria ...es are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

...ility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking in ...nt the appropriate density or specific gravity of the waste.

OCESSES
PROCESS CODES:
...or listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item I ... indicate how the waste will be stored, treated, and/or disposed of at the facility.
...or non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process cod ...ontained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that posse ...hat characteristic or toxic contaminant.
...Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in t... xtreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

...ROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described b ... one EPA Hazardous Waste Number shall be described on the form as follows:
...lect one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annu... ...uantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line en... "included with above" and make no other entries on that line.
...epeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

...LE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 poun ...of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two was... ...ive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estima... ...nds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	A 0 5 4	900	P	T 0 3 D 8 0	
	0 0 2	400	P	T 0 3 D 8 0	
3	D 0 0 1	100	P	T 0 3 D 8 0	
4	D 0 0 2				included with above

Attachment "I"
ILD 006317473
III. Processes (c)

Line 2 T04

(1) Dewatering HEI millings from the Hoffmans in I-1-12, I-1-23, and I-1-49 (Treatment Code T40 - 25 gallons/day).

The process consists of collecting explosive materials from an explosive milling operation on a high explosive projectile in a wet vacuum cleaner and filtering the explosive from the water slurry. The filtrate water is recycled and the filtered explosive is sent off-site to an Olin operated (incinerator) Treatment Facility. This process is performed in Buildings I-1-12, I-1-23, and I-1-49.

(2) Dewatering and oil addition to millings from the I-1-12 Trace Operation and from an explosive API Milling operation (Treatment Code T40 - 5 gallons/day).

The process consists of collecting explosive materials from milling operation in a wet vacuum cleaner, filtering the explosive from the water/slurry, and adding No. 2 fuel oil to the water filtrate. The filtered explosive and the water/oil mixture are sent off-site to an Olin operated (incinerator) Treatment Facility. This process is performed in building I-1-12.

(3) Filtering of dust from the D-1-43 and D-1-44 Mixer Operations (Treatment Code T40 - 10 gallons/day).

The process consists of collecting dust from an explosive mixing operation (Igniter mixes, Fluid Ball Powder and Methylene Chloride) in a wet vacuum cleaner and filtering the explosive material from the water - methylene chloride slurry. The water, methylene chloride solution, is discharged into a sump and the filtered explosive is sent off-site to an Olin operated (incinerator) Treatment Facility. This operation is performed in buildings D-1-43 and D-1-44.

(4) Addition of oil to desensitize wastes in the "P" Area (5 gallons/day).

Addition of oil and/or water to desensitize wastes in the "I" Area (20 gallons/day)

Addition of oil or ethylene glycol to desensitize wastes in the "D" Area (15 gallons/day).

(Treatment Code T47)

The process consists of adding No. 2 fuel oil, water or ethylene glycol to explosive type wastes to desensitize the waste. The desensitized waste is sent to an off-site (incinerator) Treatment Facility operated by Olin. The various operations are conducted in Buildings P-1-1, D-1-4, D-1-7, D-1-8, D-1-11, D-1-46, and I-1-12.

(5) Filtering of HEI/HE Mix from the D-1-11 operation (Treatment Code T40 - 1 gallon/day)

The process consists of filtering an explosive HEI/HE mix from Dalco Solv for solvent recovery. The solvent is reused in the manufacturing area and the explosive filtrate waste is sent off-site to an Olin operated (incinerator) Treatment Facility. This operation is conducted in building D-1-11.

(6) Filtering of Explosives from washing interior of buildings D-1-46 and D-1-47 (Treatment Code T40 - 1 gallon/day).

The process consists of washing the interior buildings and equipment contaminated with explosive (Igniter mixes and Fluid Ball Powder "A") wastes with water. The contaminated water is filtered before being discharged into a sump. The explosive filtrate waste is sent off-site to an Olin operated (incinerator) Treatment Facility. This operation is conducted in buildings D-1-46 and D-1-47.

EPA I.D. NUMBER (enter from page 1) W 1 4 0 0 0 6 3 7 2 4 7 3 3 1

FOR OFFICIAL USE ONLY

W DUP 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (If a code is not entered in D(1))
01	D001	100,000	P	S01	
02	D003				Included with above.
3	~~D002~~	~~1,000,000~~	~~P~~	~~S01~~	DELETED APRIL 198
4	~~U013~~	~~200,000~~	~~P~~	~~S01~~	
5	U102	50,000	P	S01	
6	U107	50,000	P	S01	
7	U160	50,000	P	S01	
8	U196	50,000	P	S01	
9	~~U201~~	~~100,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
10	~~U221~~	~~50,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
11	~~U222~~	~~100,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
	P105	10,000	P	S01	
13	U154	200,000	P	S01	
14	U002	200,000	P	S01	
15	P081	500,000	P	S01	
	~~U226~~	~~150,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
17	~~U228~~	~~150,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
18	P009	100,000	P	S01	
19	~~P015~~	~~50,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
20	~~P015~~	~~500,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
21	~~D006~~	~~50,000~~	~~P~~	~~S01~~	DELETED APRIL 19
22	D007	50,000	P	S01	
23	~~D008~~	~~100,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
	~~D009~~	~~50,000~~	~~P~~	~~S01~~	DELETED APRIL 1982
25	D010	5,000	P	S01	
26	D011	50,000	P	S01	

001170

EPA FORM 2615-3 (5-80) 21,400 G TO 4 ADDED MARCH 1981 CONT

28 D003 PAGE 3 A OF 5 INCLUDED WITH ABOVE REV

EPA I.D. NO. (enter from page 1)

I	L	D	0	0	6	3	1	7	4	7	3		6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail)*.

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground-level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail)*.

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)						LONGITUDE (degrees, minutes, & seconds)					
3	7	4	4	0	0	8	9	0	1	1	5

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
U.S.Gov't.Dept.of Interior,Fish and Wildlife Service	618-997-3344

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
P.O. Box J	Carterville	IL	62918

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Wayne D. Adams Project Manager	Wayne D. Adams	11-10-80

X. OPERATOR CERTIFICATION

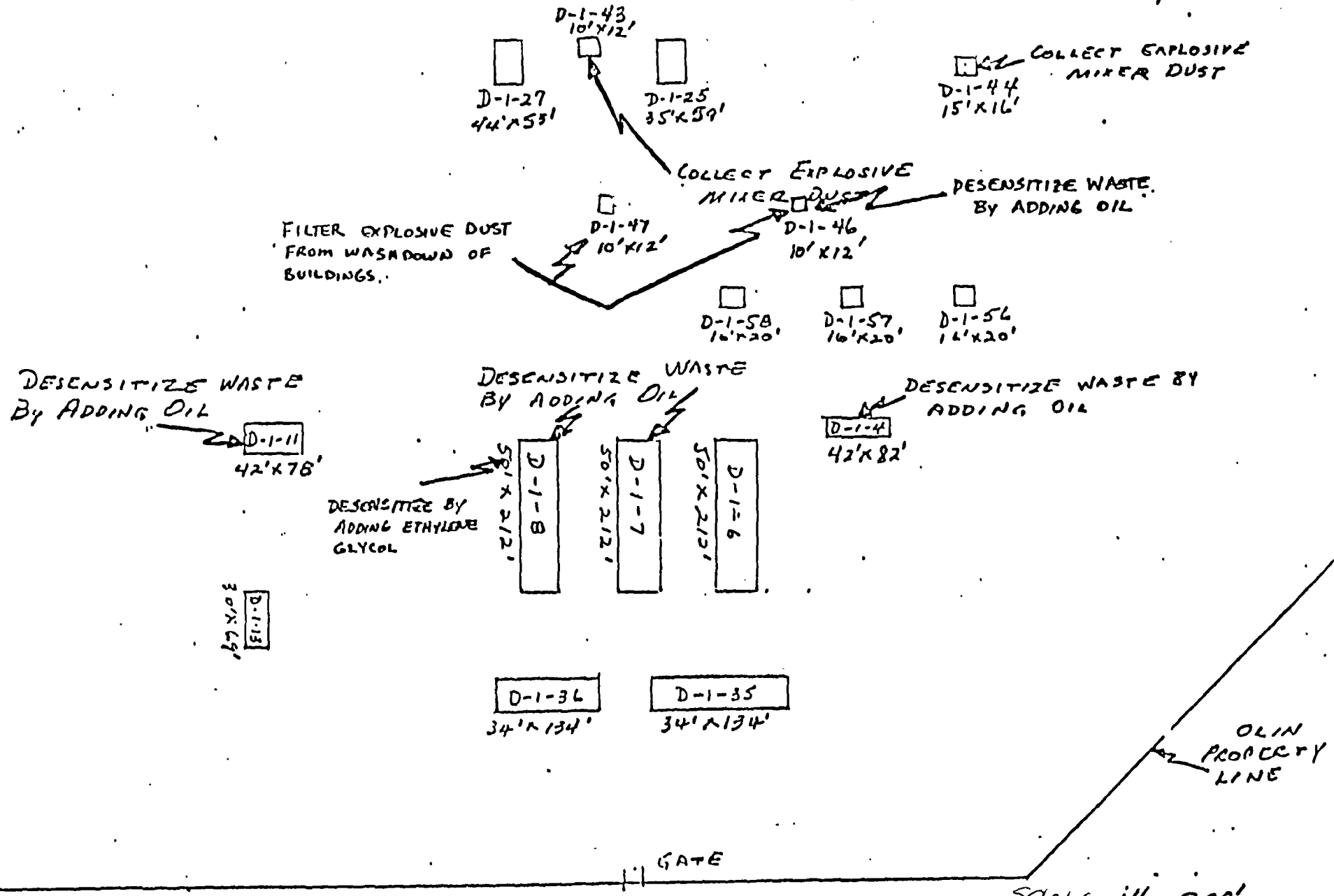
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J. E. Redden, Vice President, TSO		10-27-80

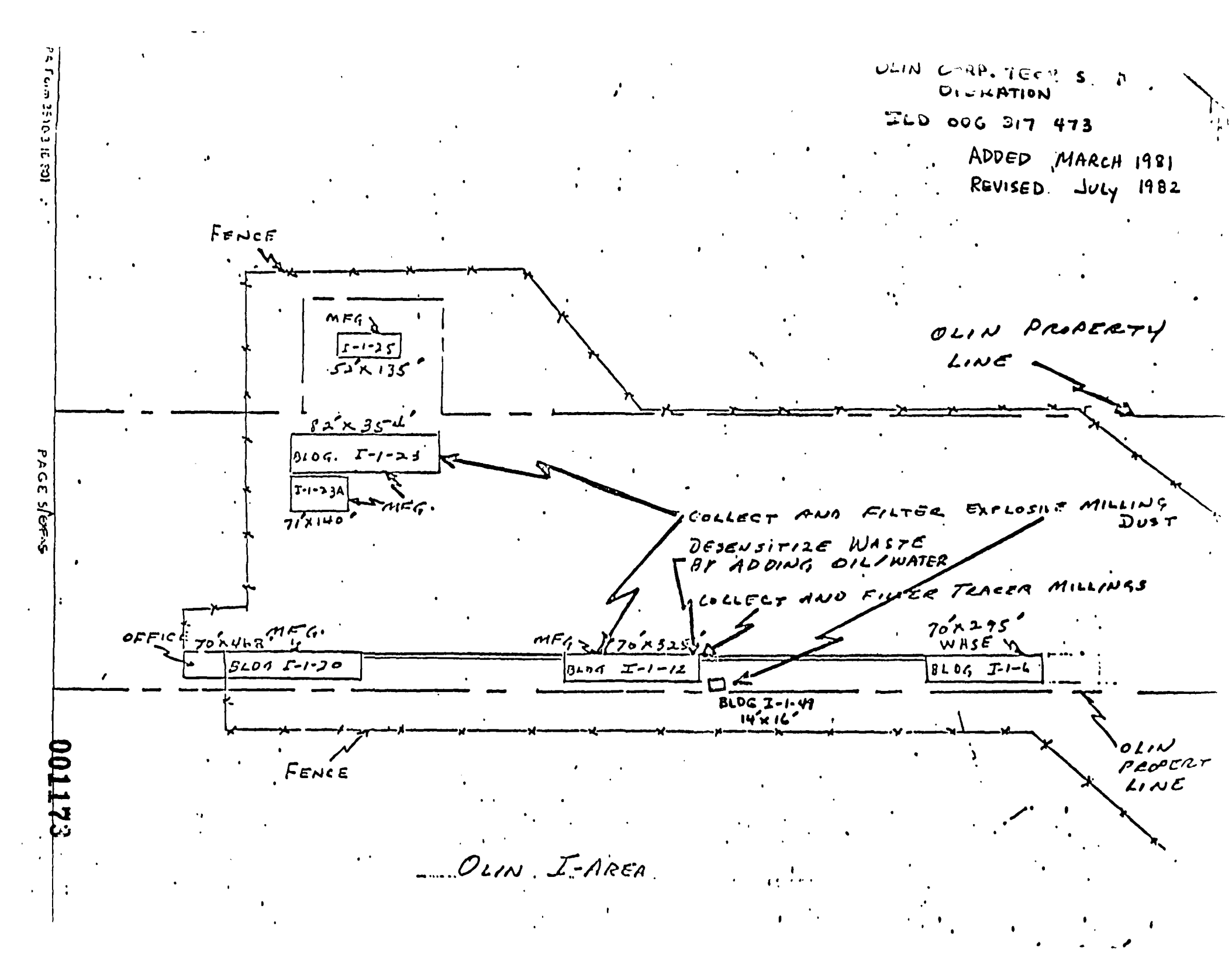
001172

OLIN PROPERTY LINE

ADDED MARCH 1981
REVISED JULY 1982



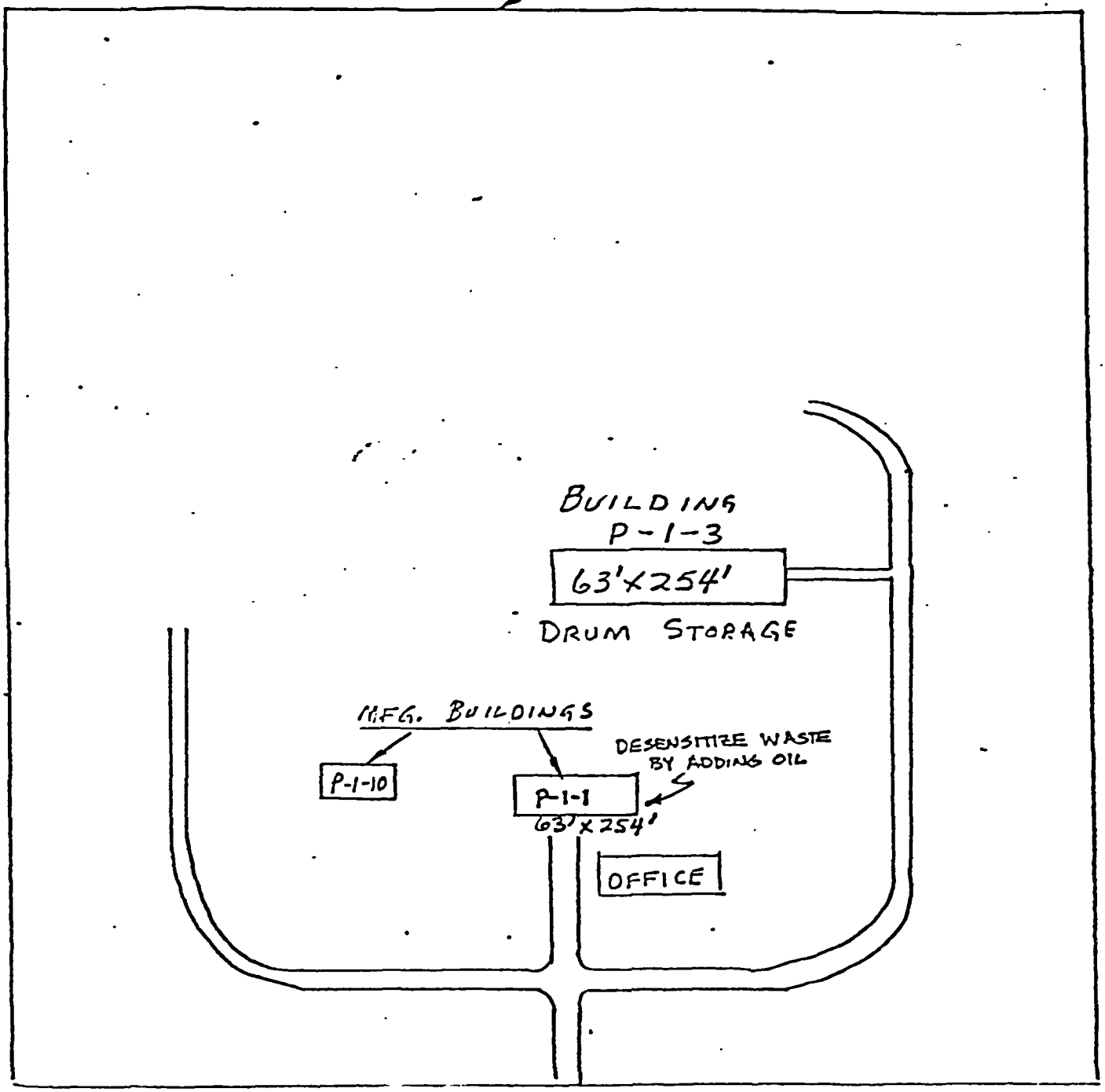
SCALE 1" = 200'


OLIN CORP. TECH S
DIGRATION
SLD 006 317 473
ADDED MARCH 1981
REVISED JULY 1982
FENCE
MFG
I-1-25
52'X 135'
OLIN PROPERTY LINE
82'X 35'-4"
BLDG. I-1-23
I-1-23A
MFG.
71'X140'
COLLECT AND FILTER EXPLOSIVE MILLING DUST
DESENSITIZE WASTE BY ADDING OIL/WATER
COLLECT AND FILTER TRACER MILLINGS
OFFICE
70'X46'
MFG.
BLDG I-1-20
MFG
70'X325'
BLDG I-1-12
70'X295'
WHSE
BLDG I-1-6
BLDG I-1-49
14'X16'
FENCE
OLIN PROPERTY LINE
OLIN I-AREA
PAGE 5 OF 5
0011173

OLIN CORP. - TECH. SYSTEMS OPERATION
ILD 006 317 473
~~ILD 006 317 473~~

368

REVISED JULY 1982



SCALE: 1" = 200'

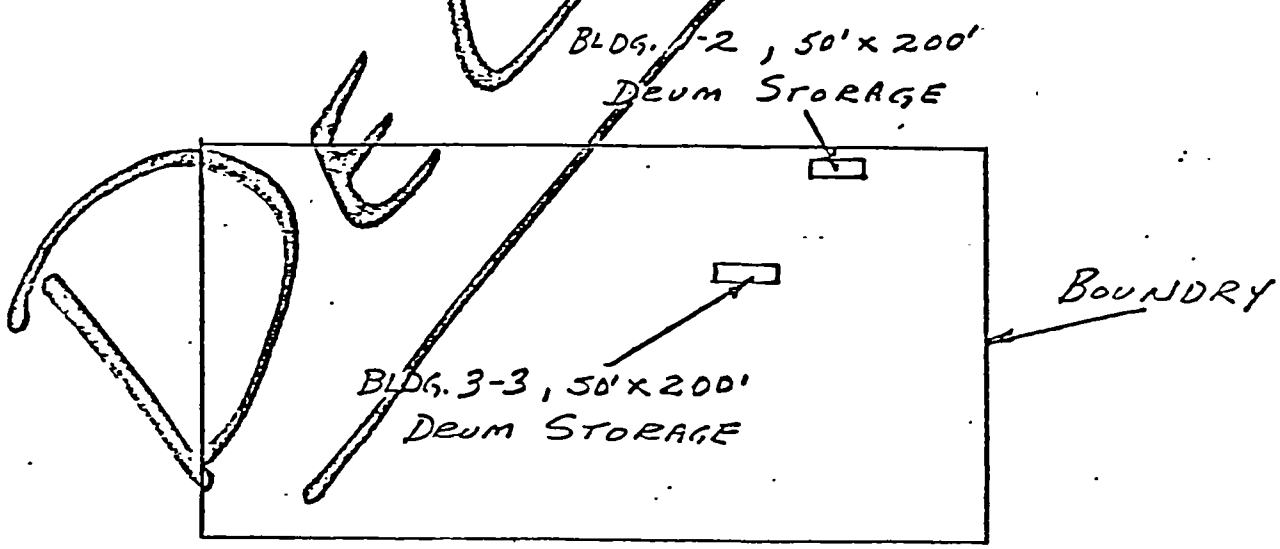
OLIN P-AREA

001174

OLIN CORP. - TECH SERVICES OPERATION
ILD 006317 473 ~~[illegible]~~ 368

DELETE APRIL 1982

DELETE



OLIN AREA 7

SCALE: 1" = 500'

001175

OLIN CORP - TECH. SYSTEMS OPERATION
ILD006317473
~~ILD006317473~~ ~~[illegible]~~ 368

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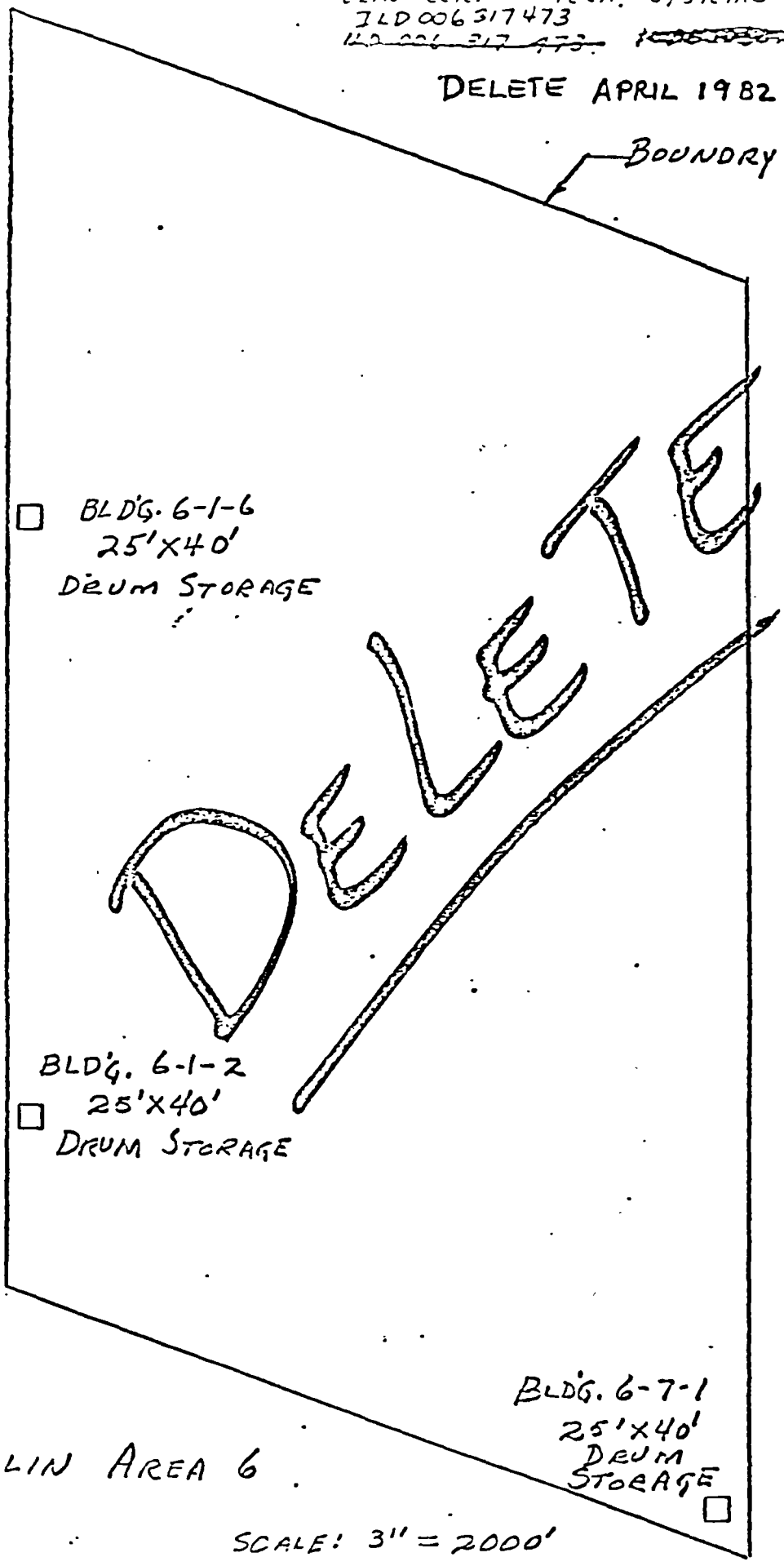


OLIN AREA 6

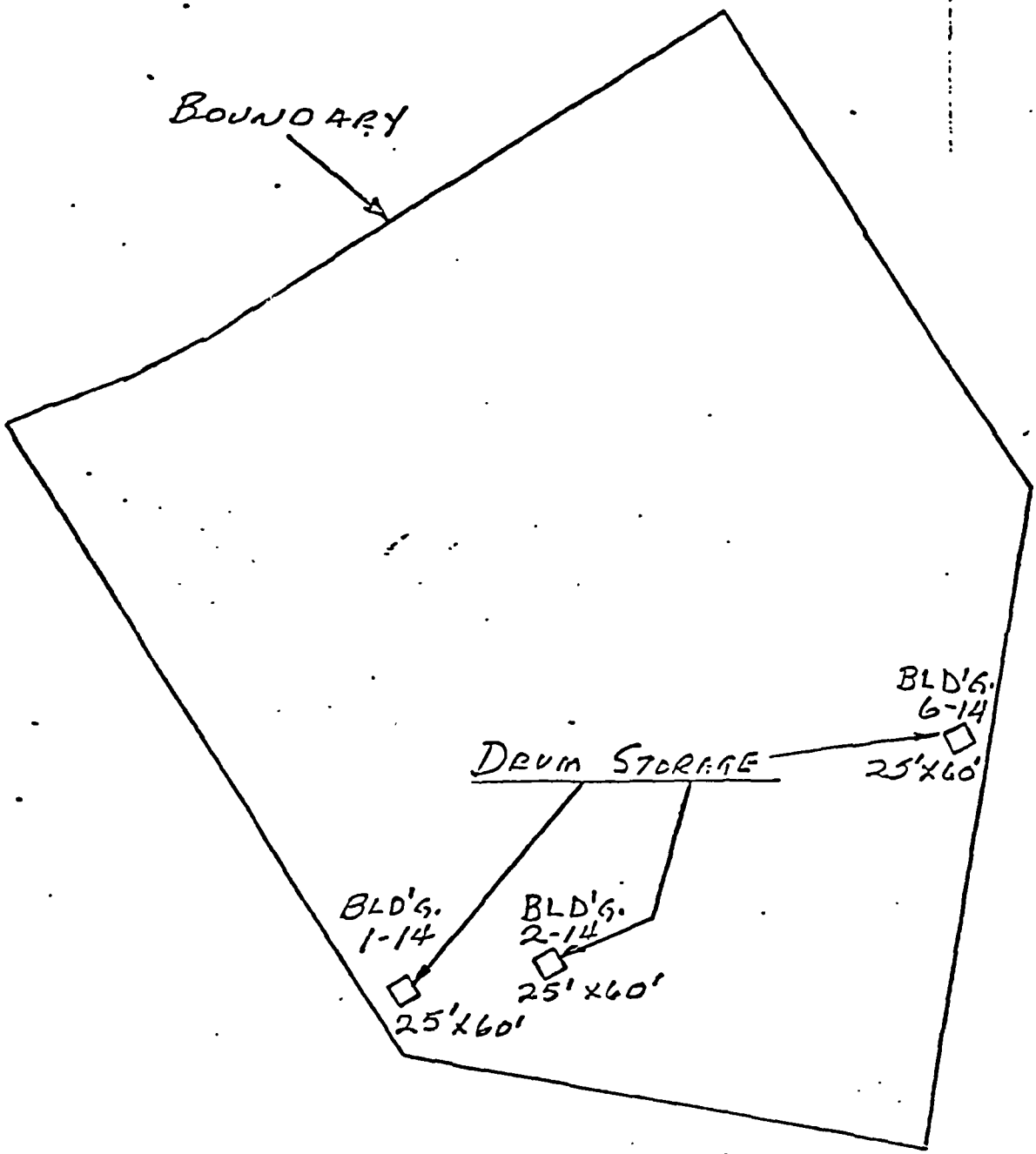
SCALE: 3" = 2000'

001176

A Form 3510-3 (5-80)

PAGES SUPERSEDED

OLIN CORP. - TECH. SYSTEMS OPERATION
NJD 006 317 473
ADDED APRIL 1982 369

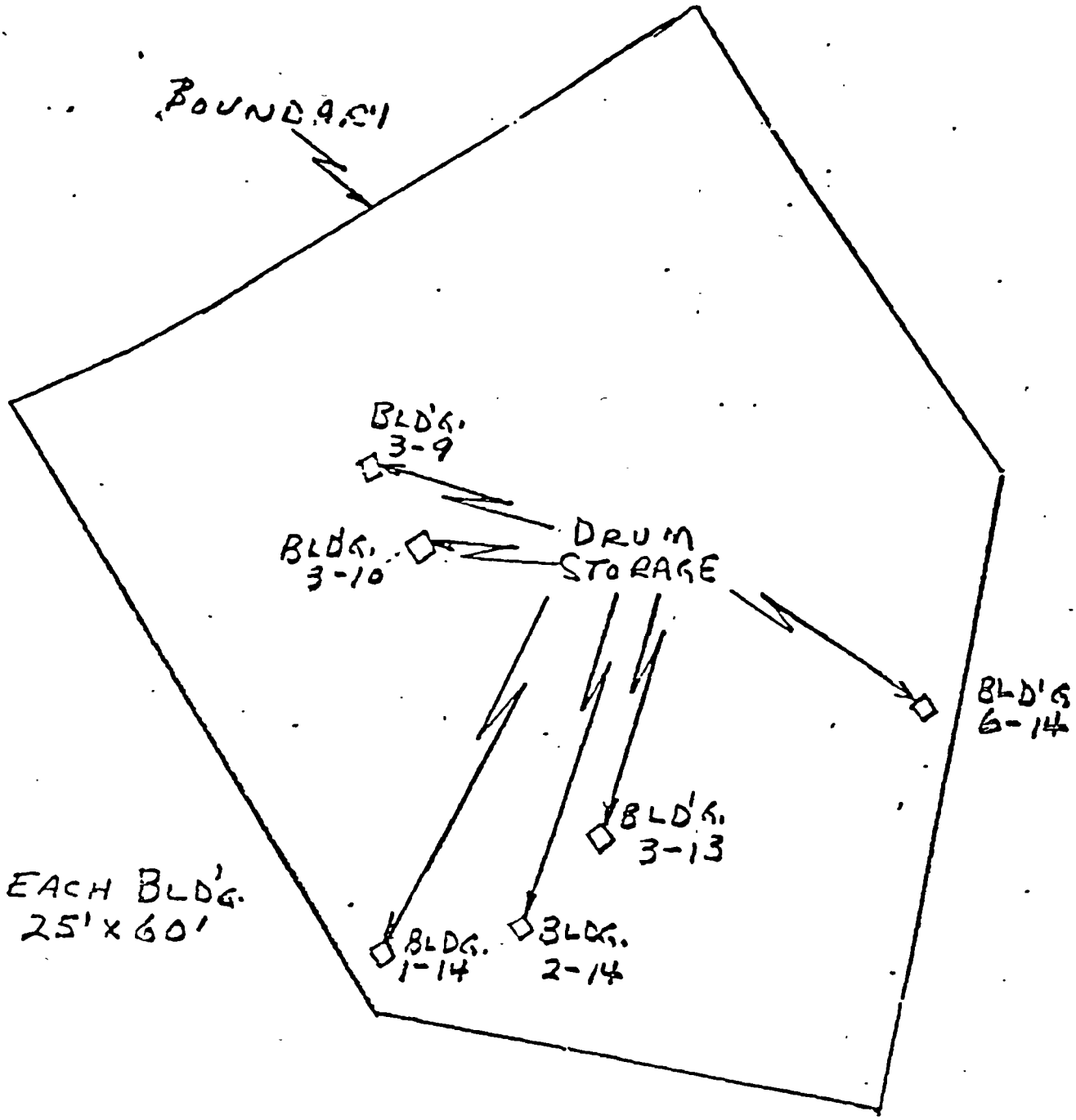


OLIN AREA 13

SCALE: 3" = 2000'

001177

ADDED APRIL 1982



OLIN AREA 13

SCALE: 3" = 200'

REVISED PAGE 5C OF 5

001178

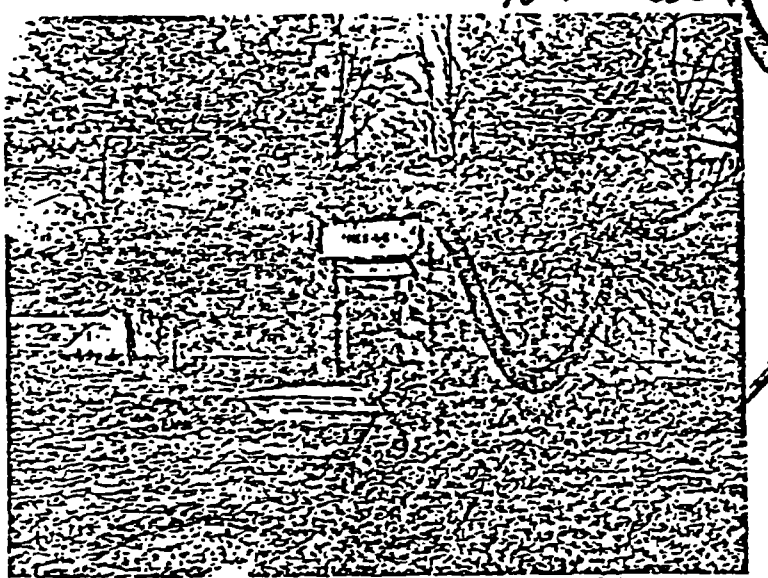
368

ILD006377473

DELETED APR '82

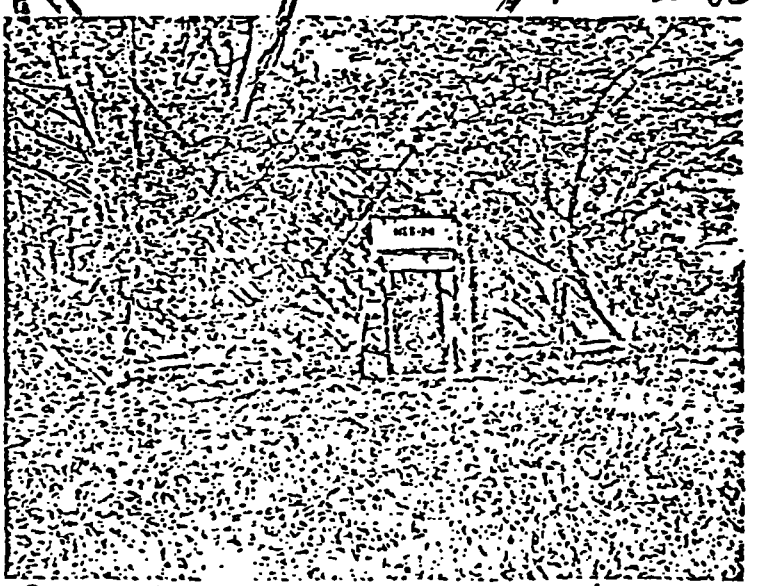
BLDG. 6-1-2 OLIN AREA 6

10-22-80



BLDG. 6-1-4 OLIN AREA 6

10-22-80



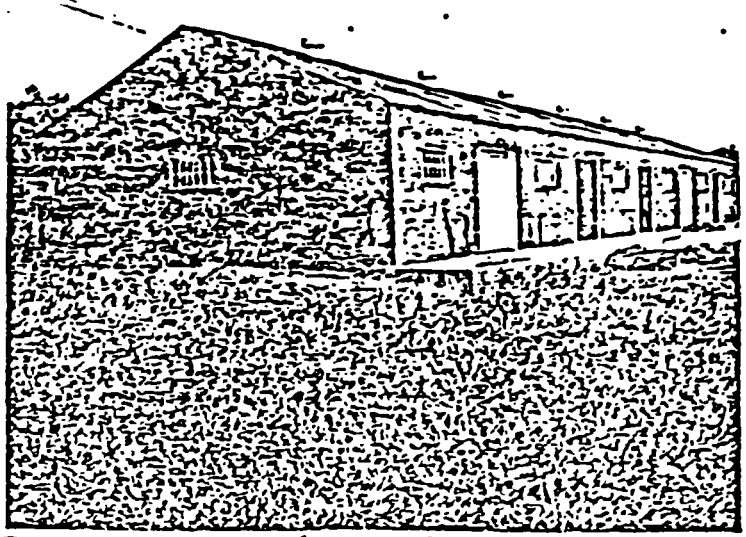
BLDG. 6-7-1 OLIN AREA 6

001179

36

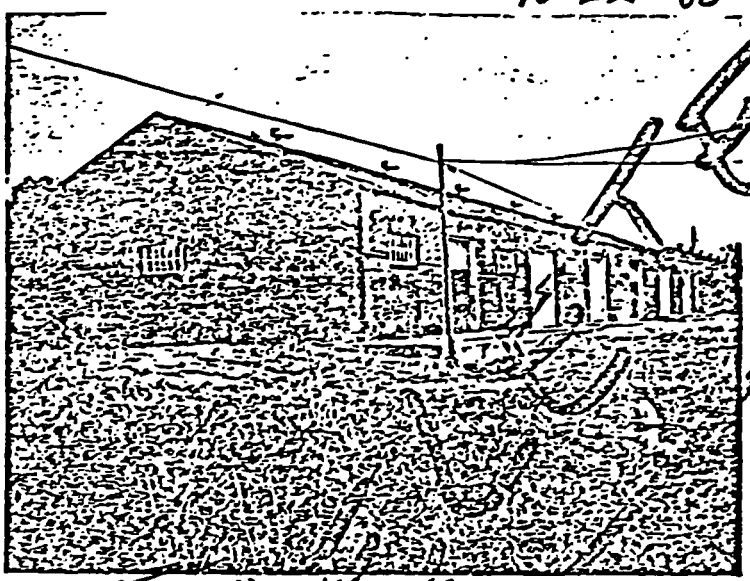
ILD006317473

DELETED APR '82



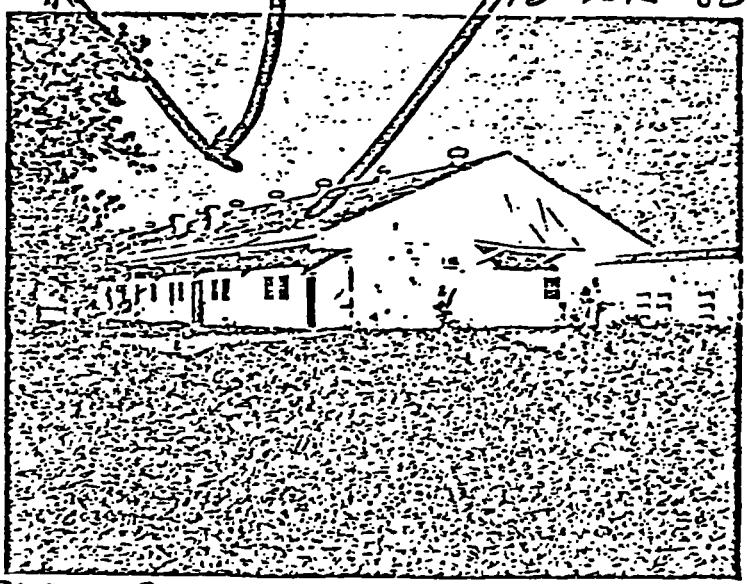
BLDG. 1-2 OLIN AREA 7

10-22-80



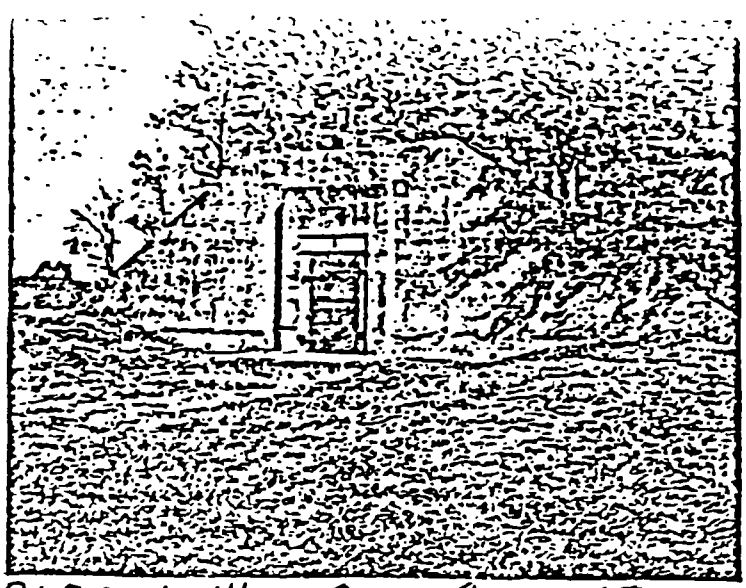
BLDG. 3-3 OLIN AREA 7

10-22-80



BLDG P-1-3 OLIN P AREA

001180



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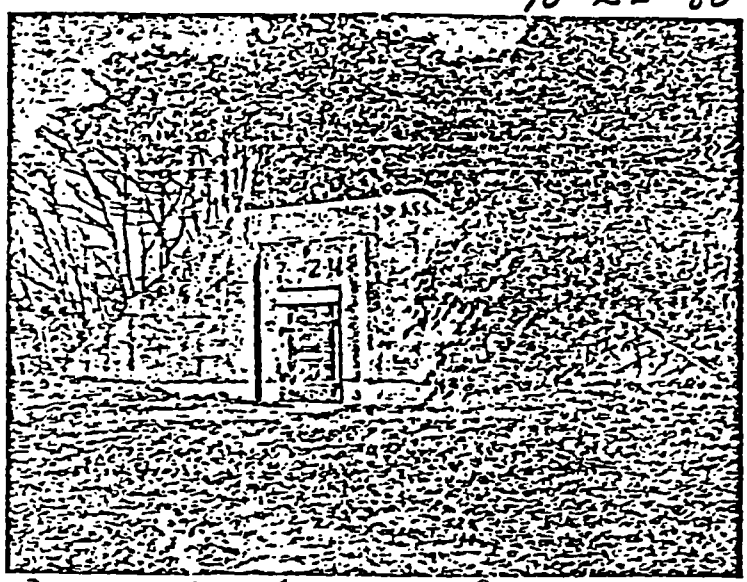
10-22-80



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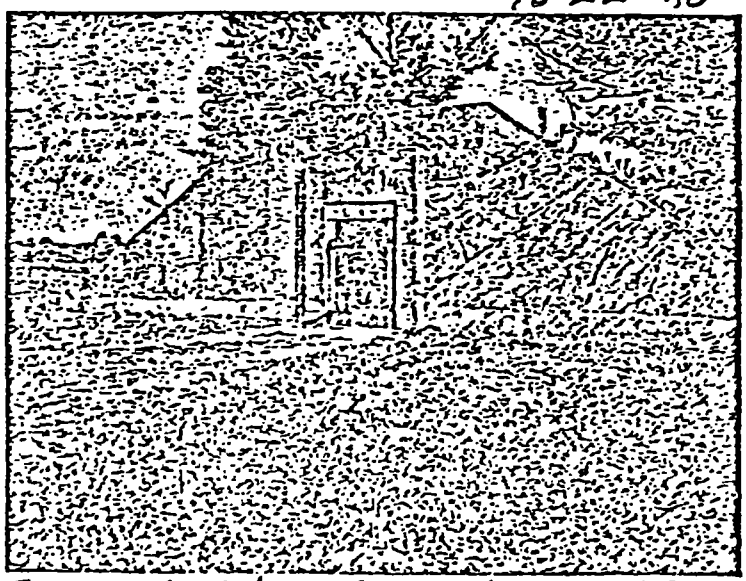
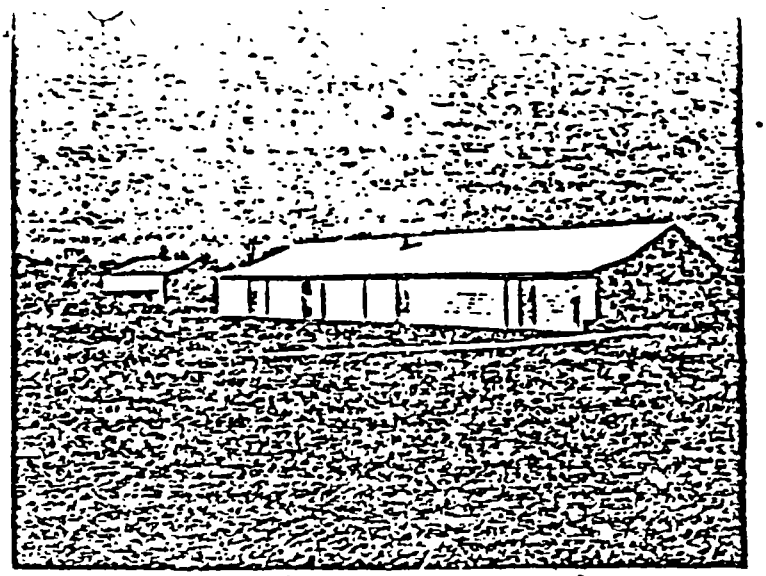
10-22-80



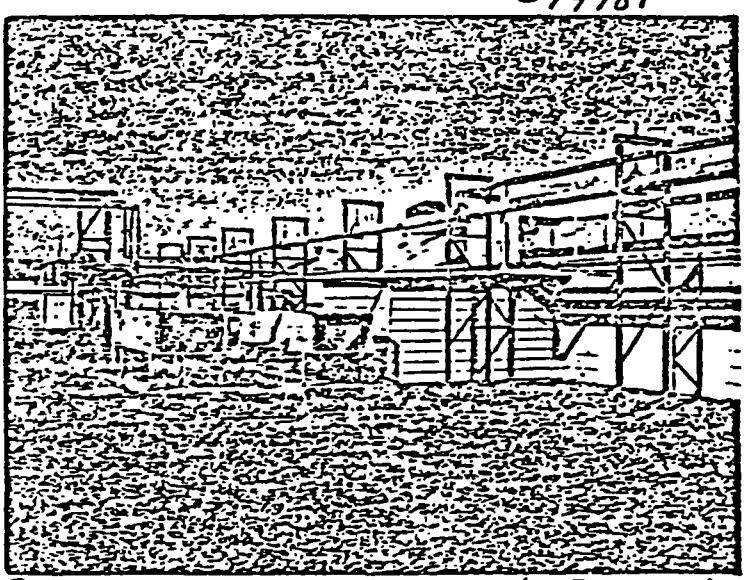
BLDG 6-14 OLIN AREA 13

ILD 006 317 47:



BLDG D-1-4 OLIN D-AREA

3/9/81



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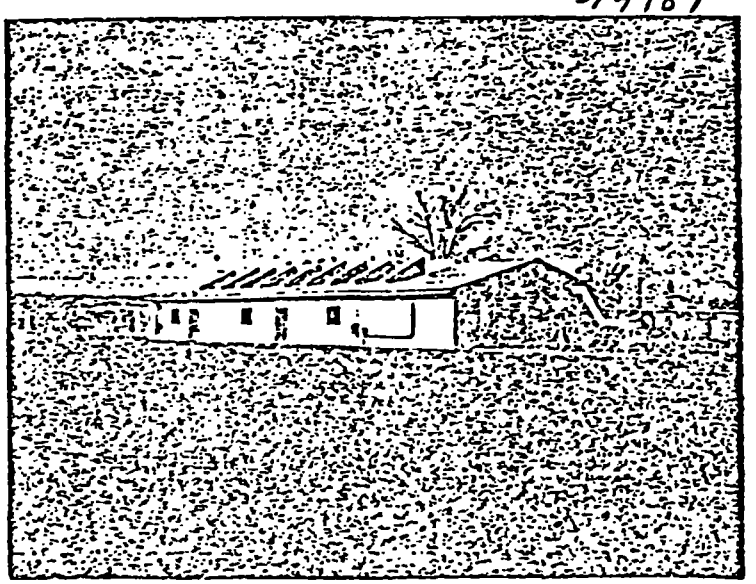
3/9/81



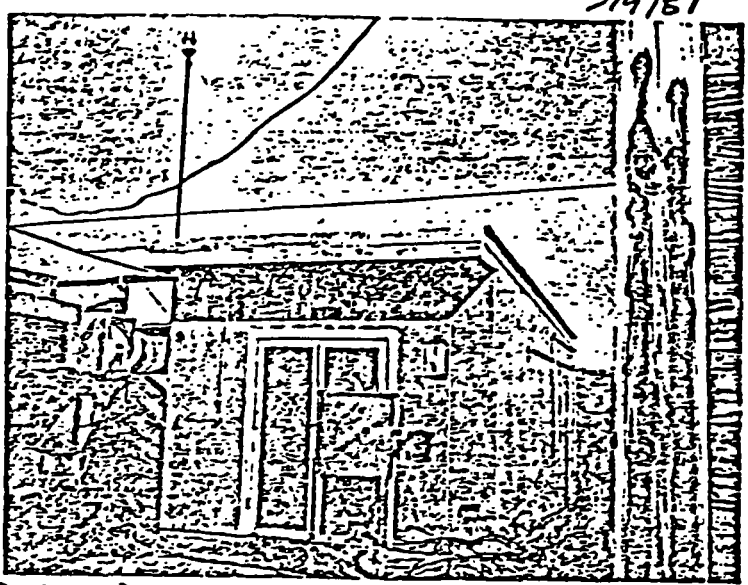
BLDG D-1-11 OLIN D-AREA

001182

FILE 2 OF
PHOTOS

BLDG D-1-25 OLIN D-AREA

3/9/81



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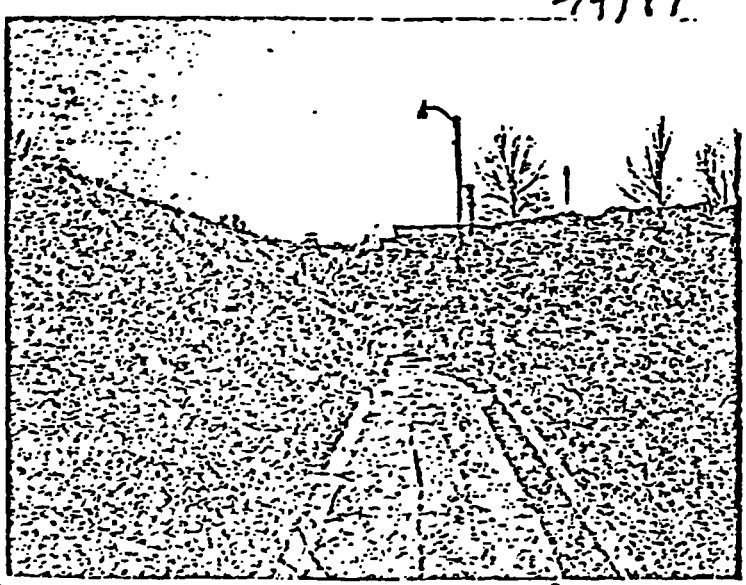
3/9/81



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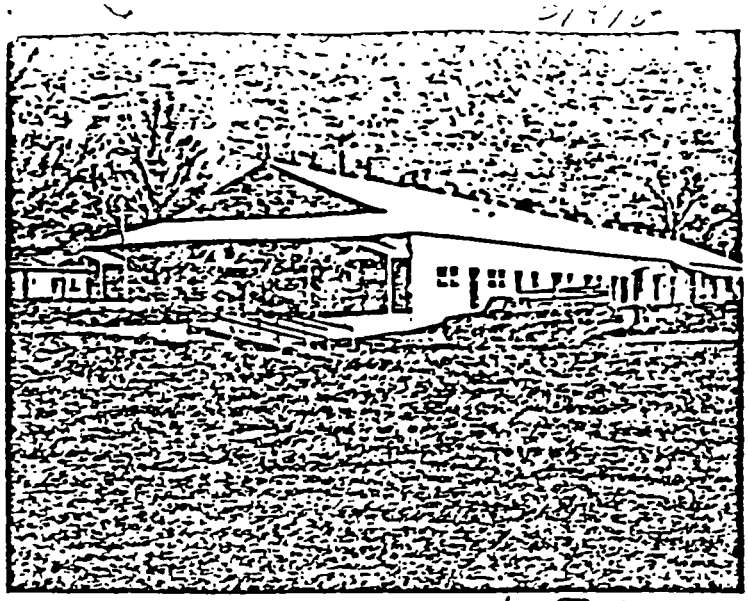
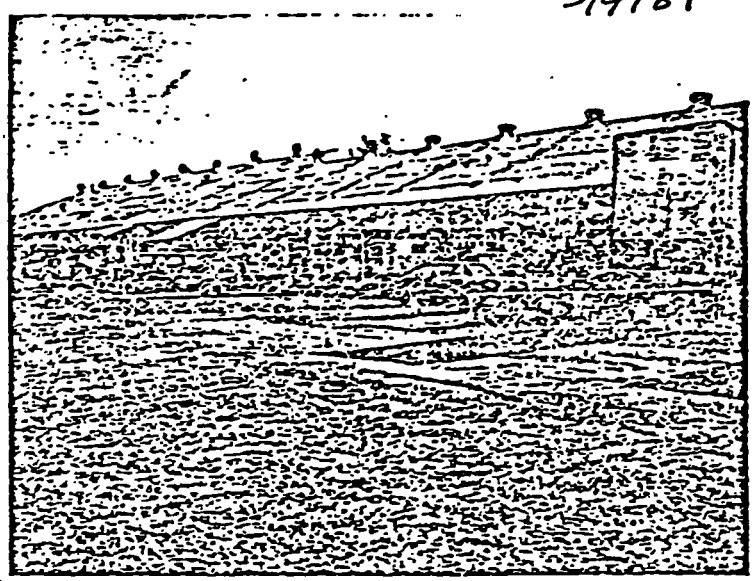
ILD006 31747.



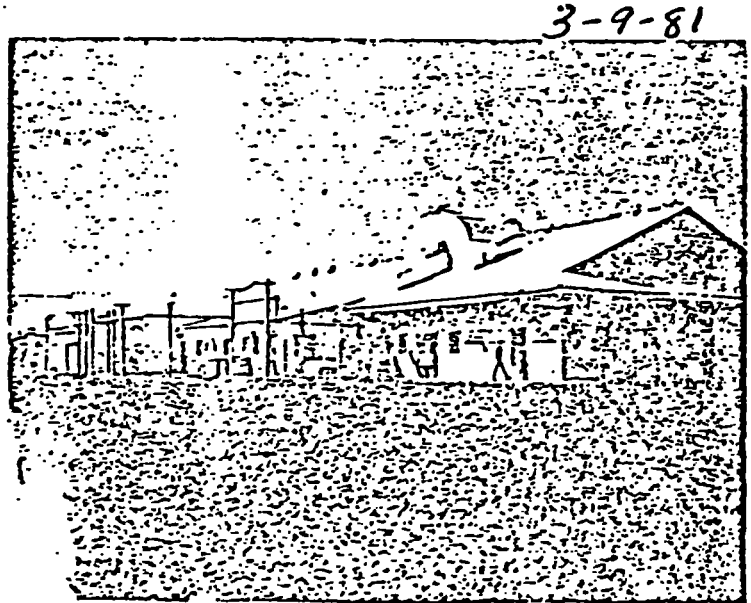
BLDG I-1-12 OLIN I-AREA

3/9/81



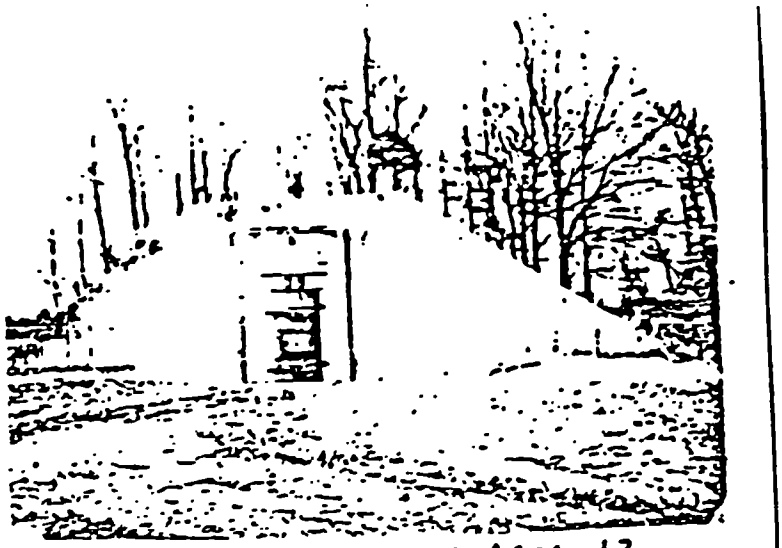
BLDG I-1-23 OLIN I-AREA

3-9-81



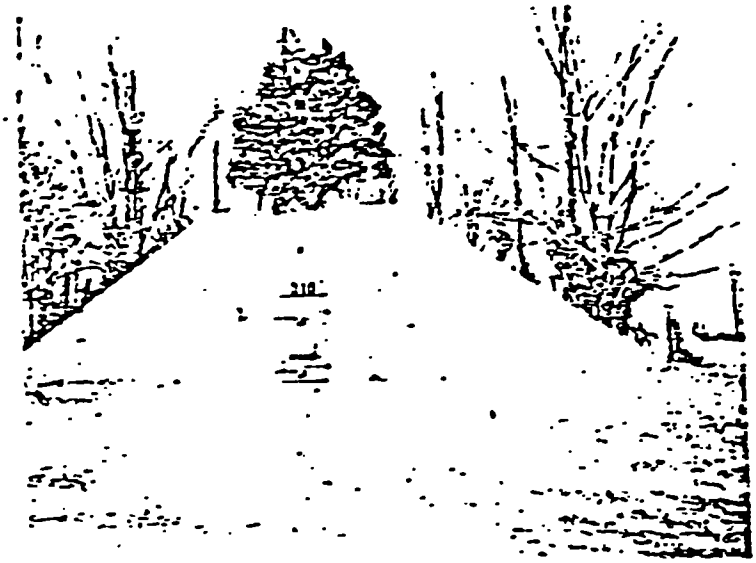
BLDG P-1-1 OLIN P-AREA

001184



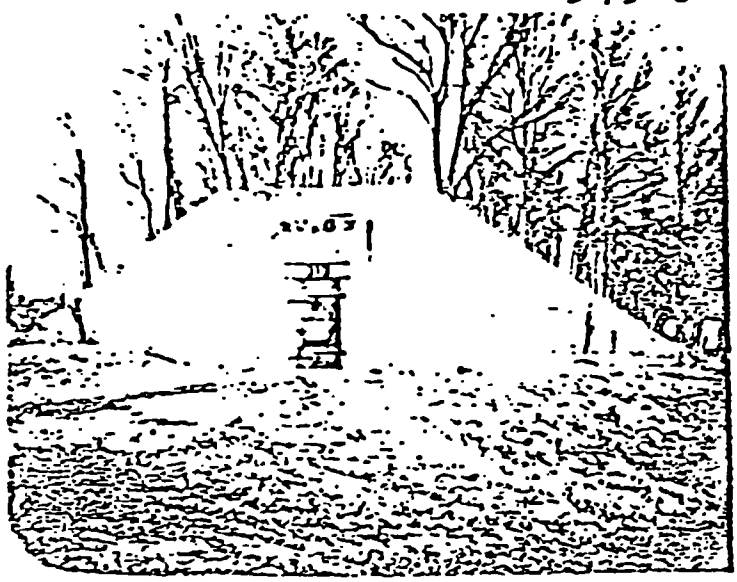
BLDG 3-9 OLIN AREA 13

3-15-82



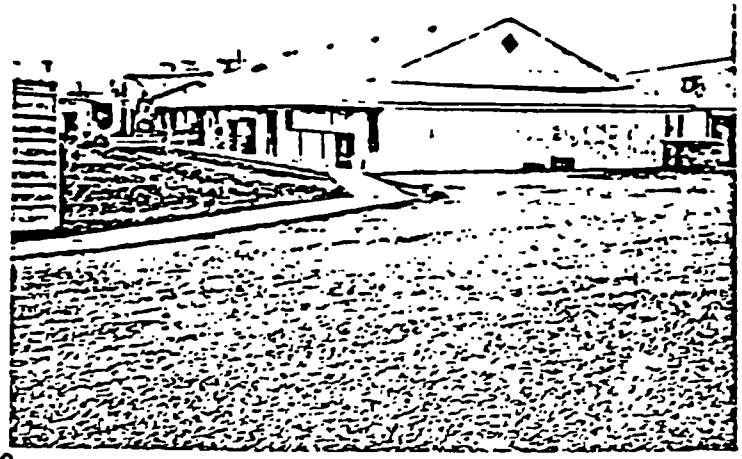
BLDG 3-10 OLIN AREA 13

3-15-82



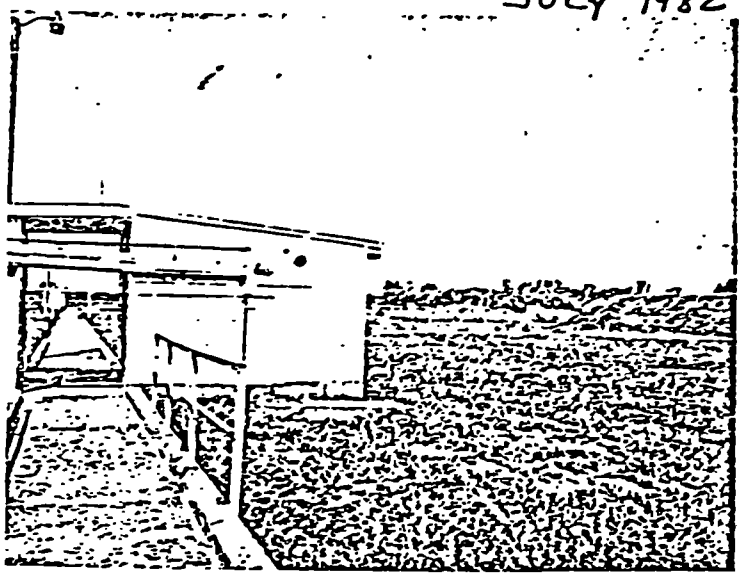
BLDG 3-13 OLIN AREA 13

001185



BLDG D-1-8 OLIN D-AREA

JULY 1982



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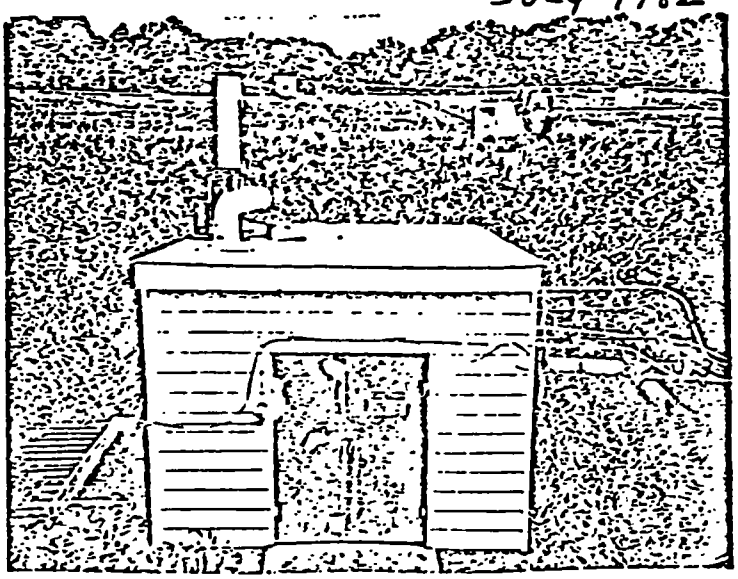
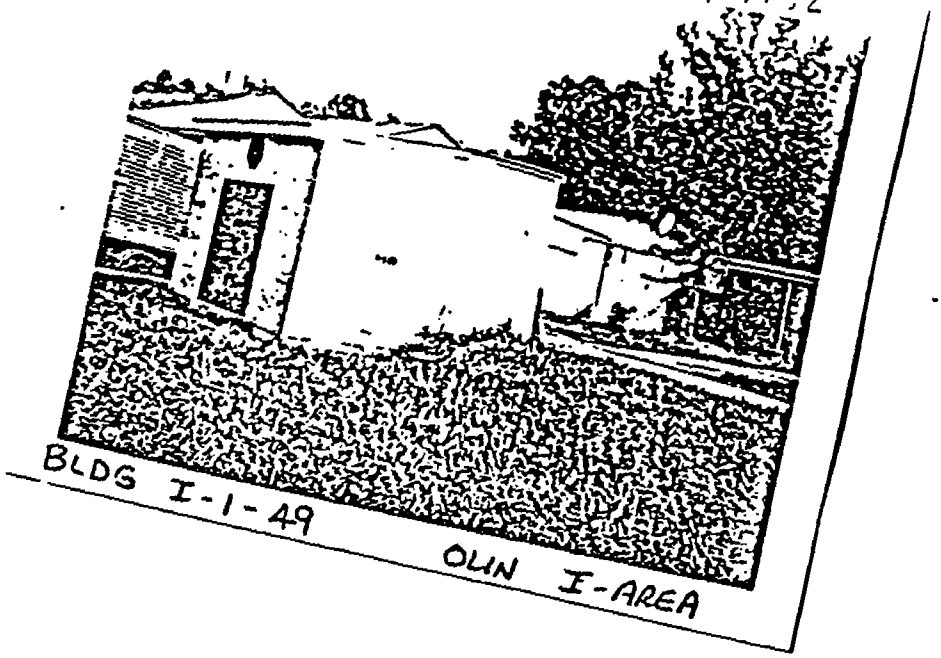
JULY 1982



BLDG D-1-47 OLIN D-AREA

JULY 1[illegible]2



BLDG I-1-49 OLIN I-AREA

SYS

FLD

ADD

ORDNANCE PRODUCTS

23 February 1987

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Gregory T. Zak, Manager
Compliance Assurance Unit

REFERENCE: IEPA Hazardous Waste Generator
Report for 1986
Generator's USEPA No. IL8143609487
Generator's IEPA No. 1998620013

Dear Mr. Zak:

Enclosed herewith are the original and one (1) copy of the IEPA Hazardous Waste Generator Annual Report for 1986 for Olin Corporation with the above referenced identification numbers.

If further information or clarification is required, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AHJ/kc

Encl.

001083

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

20 GENERATOR ANNUAL HAZARDOUS WASTE REPORT 20

This report is for the calendar year ending December 31, 1986

FOR AGENCY USE ONLY

FOR AGENCY USE (L,P,H,W,C) (1-5) CARD TYPE (20) (6-7) TRANS CODE (A) (8) DATE ENTERED (9-14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print-type with elite type (12 characters per inch)

I. NON-REGULATED STATUS

Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the calendar year covered by this report. Circle the one numeric code 1 thru 5 that best describes your status during the entire year (see instructions for explanation of codes) and explain in Comment Section.

1 (15) No Hazardous Waste Shipped Off-Site

2 (15) Small Quantity Generator

3 (15) Exempt

4 (15) Beneficial Use

5 (15) Closed

B This installation's Non-Regulated Status is expected to apply:

6 (16) For 1986 only, explain in Comment Section.

7 (16) Permanently, explain in Comment Section.

8 (16) Other, explain in Comment Section.

II. REGULATED STATUS

See instructions for completing this and following sections.

III. GENERATOR'S USEPA I.D. NUMBER

(1-12) I L 8 1 4 3 6 0 9 4 8 7

IV. GENERATOR'S ILLINOIS I.D. NUMBER

(20-38) 1 9 9 8 6 2 0 0 1 3

V. NAME OF INSTALLATION

OLIN CORPORATION

VI. INSTALLATION MAILING ADDRESS

P.O. BOX 278

Street or P.O. Box

MARION — ILLINOIS 62959

City or Town — State — Zip Code

VII. LOCATION OF INSTALLATION (if different than section VI above)

ORDILL INDUSTRIAL AREA RT. 148 SOUTH

Street or Route number

MARION — ILLINOIS 62959

City or Town — State — Zip Code

VIII. INSTALLATION CONTACT

HEINZ, JR. ARTHUR

Name (last and first)

(618) 985-8211

Phone No. (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes 1981, Chapter 111-1/2, Sections 1004 and 1021 (d)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ARTHUR HEINZ, JR., DIRECTOR — [signature] — 2/23/87

Print or Type Name — Title — Signature of Authorized Representative — Date Signed

001084

Page 001 of 005 (40-42)

DETACH HERE

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1986 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L P H W C] (1–5) CARD TYPE [5 0] (6–7) TRANS CODE [A] (8) [0 2] (9) [2 8] / [8 7] (14)

X. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

XI GENERATOR'S ILLINOIS EPA I.D. NO. (30–39): 1 9 9 8 6 2 0 0 1 3

XII FACILITY'S USEPA I.D. NO. (41–52): O H D 0 8 7 4 3 3 7 4 4

XIII. FACILITY'S ILLINOIS EPA I.D. NO. (53–62): 9 3 9 0 2 5 0 0 0 1

XIV. FACILITY'S NAME / ADDRESS

Name: CECOS INTERNATIONAL Phone: 513 . 724 6114

5092 ABER ROAD (Street / P.O. Box) WILLIAMSBURG (City) OH. (State) 45176 (Zip)

XV WASTE IDENTIFICATION

A. LINE NO	B. DESCRIPTION OF WASTE	C. USEPA Hazard Code	D. RCRA HAZARDOUS WASTE NO (see instructions)	E. AMOUNT OF WASTE (gallons only)	F. DENSITY (lbs. / gal.)
0 0 0 1 (63–66)	4,4'-METHYLENEBIS(2-CHLOROANILINE)	1 5 (67–68)	U 1 5 8 (69–72)	8 2 5 (85–93)	4 . 6 (94–96)
0 0 0 2 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 3 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 4 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 5 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 6 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 7 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 8 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 0 9 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)
0 0 1 0 (63–66)		(67–68)	(69–72)	(85–93)	(94–96)

XVII. PAGE NUMBER 0 0 2

001085

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1986 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) [02]/[28]/[87] (9–14)

X GENERATOR'S USEPA I.D. NO. [IL|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|3] (30–39)

XII FACILITY'S USEPA I.D. NO. [OH|D|0|0|0|8|1|6|6|2|9] (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [9|3|9|0|6|1|0|0|0|2] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name: CECOS INTERNATIONAL Phone: 513 681 - 5738

4879 SPRING GROVE AVE., CINCINNATI OHIO 45242

Street (P.O. Box) City State Zip

XV. WASTE IDENTIFICATION

A. LINE NO	B. DESCRIPTION OF WASTE	C. UNIFORM Hazard Code	D. RCRA HAZARDOUS WASTE NO (see instructions)	E. AMOUNT OF WASTE (gallons only)	F. DENSITY (lbs. / gal.)
0001 (63–66)	SPENT TRICHLOROETHYLENE (SOLIDIFIED)	13 (67–68)	F001 (69–72) (73–76) (77–80) (81–84)	2220 (85–93)	6.5 (94–96)
0002 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0003 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0004 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0005 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0006 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0007 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0008 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0009 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)
0010 (63–66)		(67–68)	(69–72) (73–76) (77–80) (81–84)	(85–93)	(94–96)

XVII. PAGE NUMBER 003

001086

60

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

60

This report is for the calendar year ending December 31, 1986

FOR AGENCY USE ONLY

FOR AGENCY USE (1-5) | CARD TYPE (6-7) | TRANS CODE (8) | (9-14)

FOR AGENCY USE	CARD TYPE	TRANS CODE	
LPHWC	60	A	02/28/87

X. GENERATOR'S USEPA I.D. NO. (18-29): ILL814360948 7

XI. GENERATOR'S ILLINOIS EPA I.D. NO. (30-39): 1998620013

V./VI. GENERATOR'S NAME/ADDRESS

Name: OLIN CORPORATION Phone: (618) 985 - 8211

P.O. BOX 278 (Street (P.O. Box)) | MARION (City) | ILLINOIS (State) | 62959 (Zip)

XVIII. LIST OF TRANSPORTATION SERVICES (HAULERS) USED:

A. LINE NO. (61-64)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA I.D. NO. (95-106)	D. TRANSPORTER'S ILLINOIS EPA I.D. NO (107-113)
0001	CECOS INTERNATIONAL 5092 ABER ROAD, WILLIAMSBURG, OHIO	OHD018743374	15121

001087

XVII. PAGE NUMBER 0004

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1986

XVI. COMMENTS

Facility's USEPA I.D. No. I I L 8 1 1 4 3 6 0 9 4 8 7

Facility's Illinois EPA I.D. No. 1 9 9 8 6 2 0 0 1 3

WASTE MINIMIZATION STATEMENT:

A. 4,4'-Methylenebis (2-chloroaniline) was generated as a result of decontaminating a building and manufacturing equipment and removal of residual material. This material is not planned to be used further at the facility since it has been eliminated as a process chemical from the manufacturing operation.

This one time volume increase in comparison to previous years was due to the elimination and decontamination efforts. The toxicity of the material remained the same.

B. Spent trichloroethylene was generated from the vapor degreasers at the facility. This material has now been replaced with 1,1,1 trichloroethane. The phase out of trichloroethylene for use in vapor degreasers was completed in 1985 with the remaining waste shipped for disposal in 1986. This final shipment completed this elimination effort. The toxicity of trichlorethylene remained the same.

OLIN CORPORATION
Ordnance Products
P.O. Drawer G
MARION, IL 62959

680100

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Gregory T. Zak, Manager
Compliance Assurance Unit

Gen. Ordill

PS Form 3811, July 1982 — RETURN RECEIPT

- SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☒ Show to whom and date delivered ..... $ ——
   - ☐ Show to whom, date, and address of delivery .. $ ——
2. ☐ RESTRICTED DELIVERY ..... $ ——
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $ ——

3. ARTICLE ADDRESSED TO: Ill EPA, Div of Land, 2200 Churchill Rd, Springfield, Ill 62706
   ARTICLE NUMBER: P366 829 808
4. TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☒ CERTIFIED ☐ COD ☐ EXPRESS MAIL
   (Always obtain signature of addressee or agent)
   I have received the article described above.
   SIGNATURE ☐ Addressee ☐ Authorized agent
5. DATE OF DELIVERY
6. ADDRESSEE'S ADDRESS (Only if requested)
7. UNABLE TO DELIVER BECAUSE:

POSTMARK (may be on reverse side)

7a. EMPLOYEE'S INITIALS

* GPO: 1982-370-865

Gen Ordill

PS Form 3800, Feb. 1982

Sent to	Ill EPA
Street and No.	2200 Churchill Rd.
P.O., State and ZIP Code	Springfield, Ill 62706
Postage	$
Certified Fee	X
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	X
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	

P 366 829 808
RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

CERTIFIED MAIL
P 366 829 808

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

24 February 1986

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
2200 Churchill Road
Springfield, Illinois 62706

ATTENTION: Mr. Gregory T. Zak, Manager
Compliance Assurance Unit

REFERENCE: IEPA Hazardous Waste Generator Annual
Report for 1985
Facility USEPA No. IL8143609487
Facility IEPA No. 1998620013

Dear Mr. Zak:

Enclosed herewith is the IEPA Hazardous Waste Generator Annual Report for 1985 and one (1) copy for Olin Corporation with the above referenced facility numbers.

If further information or clarification is required, please contact the undersigned.

Very truly yours,

Arthur Heinz, Jr.
Director

JMS:AH/kc

Encl.

001090

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

20 GENERATOR ANNUAL HAZARDOUS WASTE REPORT 20

This report is for the calendar year ending December 31, 1985

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [2|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [/ /] (9–14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print/type with elite type (12 characters per inch)

I. NON-REGULATED STATUS

A. Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the calendar year covered by this report. Circle the one numeric code (1 thru 5) that best describes your status during the entire year (see instructions for explanation of codes), and explain in Comment Section.

[1] (15) Non-handler
[2] (15) Small Quantity Generator
[3] (15) Exempt
[4] (15) Beneficial Use
[5] (15) Closed

B. This installation's Non-Regulated Status is expected to apply:

[6] (16) For 1985 only, explain in Comment Section.
[7] (16) Permanently, explain in Comment Section.
[8] (16) Other, explain in Comment Section.

II. REGULATED STATUS

See instructions for completing this and following sections.

III. GENERATOR'S USEPA I.D. NUMBER (17–28)

I L 8 1 4 3 6 0 9 4 8 7

IV. GENERATOR'S ILLINOIS I.D. NUMBER (29–38)

1 9 9 8 6 2 0 0 1 1 3

V. NAME OF INSTALLATION

OLIN CORPORATION

VI. INSTALLATION MAILING ADDRESS

P.O. DRAWER G
Street or PO Box

MARION IL. 62959
City or Town State Zip Code

VII. LOCATION OF INSTALLATION (if different than section VI above)

ORDILL INDUSTRIAL AREA
Street or Route number

MARION IL. 62959
City or Town State Zip Code

VIII. INSTALLATION CONTACT

HEINZ, JR. ARTHUR
Name (last and first)

618-985-8211
Phone No (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 111-1/2, Sections 1004 and 1021 (f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ARTHUR HEINZ, JR. DIRECTOR Arthur Heinz, Jr. 2/25/86
Print/Type Name Title Signature of Authorized Representative Date Signed

001091

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1985 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

X. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

XI. GENERATOR'S ILLINOIS EPA I.D. NO. (30–39): 1 9 9 8 6 2 0 0 1 3

XII. FACILITY'S USEPA I.D. NO. (41–52): L A D 0 0 0 6 1 8 2 9 8

XIII. FACILITY'S ILLINOIS EPA I.D. NO. (53–62): 9 2 2 0 6 3 0 0 0 1

XIV. FACILITY'S NAME / ADDRESS

Name CECOS INTERNATIONAL Phone (504) 686-7252

I-12 & HIGHWAY 63, LIVINGSTON LA. 70754

Street (P.O. Box) City State Zip

XV. WASTE IDENTIFICATION

A. LINE NO. (63–66)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–72, 73–76, 77–80, 81–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal.) (94–96)
0001	SPENT TRICHLOROETHYLENE (SOLIDIFIED)		F001	165	7.7
0002					.
0003					.
0004					.
0005					.
0006					.
0007					.
0008					.
0009					.
0010					.

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XVII. PAGE NUMBER 002 (15–17)

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

60

This report is for the calendar year ending December 31, 1985 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [6|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|3] (30–39)

V./VI. GENERATOR'S NAME/ADDRESS

Name OLIN CORPORATION Phone (618) 985 - 8211

P.O. DRAWER G (Street (P.O. Box)) MARION (City) IL. (State) 62959 (Zip)

XVIII. LIST OF TRANSPORTATION SERVICES (HAULERS) USED:

A. LINE NO. (61–64)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA I.D. NO. (95–106)	D. TRANSPORTER'S ILLINOIS EPA I.D. NO (107–113)
0|0|0|1	MR. FRANK INDUSTRIAL DISPOSAL INC. 201 W. 155TH ST., S. HOLLAND, ILLINOIS	I|L|D|0|6|9|5|0|6|1|6|0	0|0|7|9

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001093

XVII PAGE NUMBER 0 0 3

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1985 (cont.)

XVI . COMMENTS

Generator's USEPA ID. No. |I|L|8|1|4|3|6|0|9|4|8|7|

Generator's Illinois EPA ID No. |1|9|9|8|6|2|0|0|1|3|

The minimization statement, as described in the instructions, should be completed below.

MINIMIZATION STATEMENT:

Spent trichloroethylene was generated from the vapor degreasers at the facility. Trichloroethylene has now been substituted with 1,1,1 trichloroethane. The phase out of trichloroethylene for use in vapor degreasers was completed in 1985.

The volume of this waste increased in comparison to previous years due to elimination efforts. The toxicity of trichloroethylene remained the same.

DETACH HERE

001094

Olin

P O DRAWER G, MARION, ILLINOIS 62959 • PHONE AC 618 985-8211

ORDNANCE PRODUCTS

25 February 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
2200 Churchill Road
Springfield, Illinois 62706

Attn: Mr. Gregory T. Zak, Manager
Compliance Assurance Unit

Reference: 1984 Annual Generator Reports and Facility (TSD) Annual Hazardous Waste Report

Dear Mr. Zak:

Enclosed herewith as required by law are the following 1984 annual reports and one photocopy of each:

1) Annual Generator Report
USEPA No. IL8143609487
IEPA No. 1998620013

2) Annual Generator Report
USEPA No. ILD000802801
IEPA No. 1998620011

3) Annual Facility Report
USEPA No. ILD000802801
IEPA No. 1998620011

If further information or clarification is needed, please contact the undersigned.

Very truly yours,

O L I N

Arthur Heinz, Jr.,
Director

Encl.

001095

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

20 GENERATOR ANNUAL HAZARDOUS WASTE REPORT 20

This report is for the calendar year ending December 31, 1984

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [2|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print/type with elite type (12 characters per inch)

I. NON-REGULATED STATUS

Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the calendar year covered by this report. Circle the one numeric code (1 thru 5) that best describes your status during the entire year (see instructions for explanation of codes), and explain in Comment Section

[1] (15) Non-handler
[2] (15) Small Quantity Generator
[3] (15) Exempt
[4] (15) Beneficial Use
[5] (15) Closed

This installation's Non-Regulated Status is expected to apply:

[6] (16) For 1984 only, explain in Comment Section.
[7] (16) Permanently, explain in Comment Section.
[8] (16) Other, explain in Comment Section.

II. REGULATED STATUS

See instructions for completing this and following sections.

III. GENERATOR'S USEPA I.D. NUMBER (17–28)

I L 8 1 4 3 6 0 9 4 8 7

IV. GENERATOR'S ILLINOIS I.D. NUMBER (29–38)

1 9 9 8 6 2 0 0 1 3

V. NAME OF INSTALLATION

Olin Corporation

VI. INSTALLATION MAILING ADDRESS

P.O. Drawer G

Street or P O Box

Marion — IL — 62959

City or Town — State — Zip Code

VII. LOCATION OF INSTALLATION (if different than section VI above)

Ordill Industrial Area

Street or Route number

Marion — IL — 62959

City or Town — State — Zip Code

VIII. INSTALLATION CONTACT

Heinz, Jr. Arthur

Name (last and first)

(618) 985-8211

Phone No (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 111-1/2, Sections 1004 and 1021 (f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Arthur Heinz, Jr. Director — Arthur Heinz Jr. — 2/25/85

Print/Type Name — Title — Signature of Authorized Representative — Date Signed

Page 001 of 003 (40–42)

001096

DETACH HERE

GENERAL MANAGER
OLIN CORPORATION
P.O. DRAWER G
MARION IL 62959

ILL 143 609 487 1990 86200 13

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1984 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO.. [1|9|9|8|6|2|0|0|1|3] (30–39)

XII. FACILITY'S USEPA I.D. NO. [O|H|D|0|8|7|4|3|3|7|4|4] (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D. NO. [9|3|9|0|2|5|0|0|0|1] (53–62)

XIV. FACILITY'S NAME / ADDRESS

Name CECOS International Phone (513) 724-6114

5092 Aber RD. (Street (P.O. Box)) Williamsburg (City) OH (State) 45176 (Zip)

XV. WASTE IDENTIFICATION

A. LINE NO	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (67–68)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (69–72, 73–76, 77–80, 81–84)	E. AMOUNT OF WASTE (gallons only) (85–93)	F. DENSITY (lbs. / gal) (94–96)
0001 (63–66)	4,4'-Methylenebis (2-chloroaniline)	15	U158	165	3.5
0002 (63–66)					
0003 (63–66)					
0004 (63–66)					
0005 (63–66)					
0006 (63–66)					
0007 (63–66)					
0008 (63–66)					
0009 (63–66)					
0010 (63–66)					

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001097

XVII. PAGE NUMBER 002 (15–17)

60 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY GENERATOR ANNUAL HAZARDOUS WASTE REPORT 60

This report is for calendar year ending December 31 1984 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [6|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

X. GENERATOR'S USEPA I.D. NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI. GENERATOR'S ILLINOIS EPA I.D. NO. [1|9|9|8|6|2|0|0|1|3] (30–39)

V./VI. GENERATOR'S NAME/ADDRESS

Name: Olin Corporation Phone: (618) 985-8211

P.O. Drawer G (Street (P.O. Box)) | Marion (City) | IL (State) | 62959 (Zip)

XVIII. LIST OF TRANSPORTATION SERVICES (HAULERS) USED:

A. LINE NO. (61–64)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA I.D. NO. (95–106)	D. TRANSPORTER'S ILLINOIS EPA I.D. NO. (107–113)
0001	Hazardous Materials Transport 4 Triangle Park Dr. Cincinnati, OH	OHD980681670	
0002	Tonawanda Tank Trans. Ser. Inc. State Rt. 133 Blanchester, OH	NYD097644818011	

001098

XVII. PAGE NUMBER 2 of 3

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

20

This report is for the calendar year ending December 31, 1983

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [2|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [_|_|/|_|_|/|_|_] (9–14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM

The information requested in this report is required by Federal and State law.

Please print type with elite type (12 characters per inch)

I NON-REGULATED STATUS

Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the calendar year covered by this report. Code the one numerical code (1 thru 5) that best describes your status during the entire year (see instructions for explanation of codes), and explain in Comment Section.

- [1] (15) Non-handler
- [2] (15) Small Quantity Generator
- [3] (15) Exempt
- [4] (15) Beneficial Use
- [5] (15) Closed

This installation's Non-Regulated Status is expected to apply:

- [6] (16) For 1983 only, explain in Comment Section
- [7] (16) Permanently, explain in Comment Section
- [8] (16) Other, explain in Comment Section.

II REGULATED STATUS

See instructions for completing this and following sections.

III. GENERATOR'S USEPA I.D. NUMBER ✓ IV GENERATOR'S ILLINOIS I.D. NUMBER ✓

III: [I|L|8|1|1|4|3|6|0|9|4|8|7] (17–28)

IV: [1|9|9|0|5|5|0|0|0|3|G] (29–39)

V NAME OF INSTALLATION ✓

OLIN CORPORATION - ORDILL INDUSTRIAL AREA

VI INSTALLATION MAILING ADDRESS

P.O. DRAWER G
Street or P.O. Box

MARION — IL — 62959
City or Town — State — Zip Code

VII LOCATION OF INSTALLATION (if different than section VI above)

ORDILL INDUSTRIAL AREA
Street or Route number

MARION — IL — 62959
City or Town — State — Zip Code

VIII INSTALLATION CONTACT

BARTON, GEORGE W.
Name (last and first)

(618) 985-8211
Phone No. (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981 Chapter 111 1/2, Sections 1004 and 1021 (b)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

IX CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. HEINZ	DIRECTOR	A. Heinz	2/23/84
Print Type Name	Title	Signature of Authorized Representative	Date Signed

001099

Page [0|0|1] (30–32) of 004

Olin Corp.
P. O. Drawer G
Marion, IL 62959
Attn: John Schneiderman
IL 8 143 609 487 199 055 0003G

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

50

This report is for the calendar year ending December 31, 1983 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [/ /] (9–14)

X GENERATOR'S USEPA I.D NO. [I|L|8|1|4|3|6|0|9|4|8|7] (18–29)

XI GENERATOR'S ILLINOIS EPA I.D NO. [1|9|9|0|5|5|0|0|0|3|G] (30–40)

XII FACILITY'S USEPA I.D NO. [O|H|D|0|8|7|4|3|3|7|4|4] (41–52)

XIII. FACILITY'S ILLINOIS EPA I.D NO. [1|9|9|8|6|2|1|3] (53–60)

XIV FACILITY'S NAME / ADDRESS

Name: CECOS CER Phone: (513 724 6114

XV WASTE IDENTIFICATION

5092 ABER ROAD (Street / P.O. Box) WILLIAMSBURG (City) OH (State) 45176 (Zip)

A. LINE NO	B. DESCRIPTION OF WASTE	C. (1980) Hazard Code	D. RCRA HAZARDOUS WASTE NO (see instructions)	E. AMOUNT OF WASTE (gallons only)	F. DENSITY (lbs / gal)
0|0|0|1 (61–64)	SPENT PYRIDINE - SOLIDIFIED (KARL FISHER)	0|9 (65–66)	F|0|0|5 (67–70)	5|5 (83–91)	8|.|3 (92–94)
0|0|0|2	CADMIUM & LEAD/DEBRIS FROM FIRED GENERATOR/AJAX ASH	1|5	D|0|0|6 (67–70) D|0|0|8 (71–74)	5|5	8|.|3
0|0|0|3	IGNITABLE & SPENT TOLUENE & SPENT METHYL ISOBUTYL KETONE (SPENT THINNER & ADHESIVE MIXTURE, SOLIDIFIED)	0|9	D|0|0|1 (67–70) F|0|0|3 (71–74) F|0|0|5 (75–78)	5|5	8|.|3
0|0|0|4	4, 4' - METHYLENE BIS (2 - CHLOROANILINE)	1|5	U|1|5|8 (67–70)	1|1|0	2|.|1
0|0|0|5	MERCURY/LAB PACK/MERCURY CONTAMINATED MATERIAL	1|4	D|0|0|9 (67–70)	5|5	4|.|6
0|0|0|6	CORROSIVE/LAB PACK/SPENT SULFURIC ACID	0|2	D|0|0|2 (67–70)	5|5	4|.|6
0|0|0|7	IGNITABLE/LAB PACKS/ TETRAHYDROFURAN & TOLUENE ETC.	0|8	D|0|0|1 (67–70)	1|1|0	4|.|6
0|0|0|8	CORROSIVE/LAB PACK/ DYNASOLVE, PHENYLMORPHOLINE, ETC.	0|2	D|0|0|2 (67–70)	5|5	4|.|6
0|0|0|9	IGNITABLE/LAB PACK/AMMONIUM CHLORIDE, PRIMER, ETC.	0|9	D|0|0|1 (67–70)	5|5	4|.|9
0|0|1|0					.|

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XVII PAGE NUMBER [0|0|2] (15–17)

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

60

This report is for calendar year ending December 31, 1983 (cont.)

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [6|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

X. GENERATOR'S USEPA I.D. NO. (18–29): IL8143609487

XI. GENERATOR'S ILLINOIS EPA I.D. NO. (30–40): 1990550003G

VAVI. GENERATOR'S NAME, ADDRESS

Name: OLIN CORPORATION Phone: (618) 985-8211

P.O. DRAWER G (Street (P.O. Box)) | MARION (City) | IL (State) | 62959 (Zip)

XVIII. LIST OF TRANSPORTATION SERVICES (HAULERS) USED.

A. LINE NO (41–44)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA ID NO. (45–56)	D. TRANSPORTER'S ILLINOIS EPA ID NO (57–60)
0001	CECOS CER TRANSPORT CO. WILLIAMSBURG, OH.	OHD087433744	
0002	HAZARDOUS MATERIALS TRANSPORTATION CO. CINCINNATI, OH	OHD980681670	

001101

XVII. PAGE NUMBER (15–17): 003

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1983 (cont.)

XVI COMMENTS

ACCORDING TO THE ANNUAL REPORT INSTRUCTIONS AND CONFIRMATION BY TELEPHONE CONVERSATION WITH THE I.E.P.A. (MARK HANEY) ON 16 FEBRUARY 1984, THE OLIN-MARION PLANT SHALL SUBMIT THE FOLLOWING ANNUAL REPORTS:

A) FACILITY ANNUAL HAZARDOUS WASTE REPORT FOR THE OLIN-RURAL WILLIAMSON COUNTY, OLIN INCINERATOR/RETORT THERMAL TREATMENT FACILITY FOR ALL WASTES TREATED IN 1983. (NO FACILITY ANNUAL HAZARDOUS WASTE REPORT FOR THE OLIN-ORDILL INDUSTRIAL AREA, OLIN STORAGE FACILITY OR TREATMENT OPERATIONS SINCE THESE EXPLOSIVE WASTES ARE SENT TO THE OLIN INCINERATOR/RETORT FACILITY FOR TREATMENT WHICH IS THE FINAL HANDLING METHOD OF THE EXPLOSIVE WASTE.)

B) GENERATOR ANNUAL HAZARDOUS WASTE REPORT FOR THE OLIN-RURAL WILLIAMSON COUNTY FACILITY FOR HAZARDOUS WASTES STORED LESS THAN 90 DAYS AND SHIPPED TO A NON-OLIN OFF-SITE TSD FACILITY.

C) GENERATOR ANNUAL HAZARDOUS WASTE REPORT FOR THE OLIN-ORDILL INDUSTRIAL AREA FACILITY FOR HAZARDOUS WASTES STORED LESS THAN 90 DAYS AND SHIPPED TO A NON-OLIN OFF-SITE TSD FACILITY.

B. Maxson — Gen
FYI and Return 2/2-28
T. Wisely 2/25/83

FACILITY ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1982.

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [3|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.
Please print/type with elite type (12 characters per inch)

I. FACILITY USEPA I.D. NUMBER

IL 814 360 9487

II. NAME OF FACILITY

OLIN CORPORATION - ORDILL INDUSTRIAL AREA

III. FACILITY MAILING ADDRESS

P. O. DRAWER "G"
Street or P.O. Box

MARION — IL — 62959
City or Town — State — Zip Code

IV. LOCATION OF FACILITY (if different than section III above)

Street or Route number

City or Town — State — Zip Code

V. FACILITY CONTACT

BARTON, GEORGE W.
Name (last and first)

VI. COST ESTIMATES FOR FACILITIES

618-985-8211
Phone No. (area code & no.)

$ [ ][6|4][8|3|3] (114–122)
Cost Estimate for Facility Closure

$ [ ][ ][ ] (123–131)
Cost Estimate for Post Closure Monitoring and Maintenance (disposal facilities only)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 111-1/2, Sections 1004 and 1021 (f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

VII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

J. E. REDDEN — VICE PRESIDENT — [signature] — 2-21-83
Print/Type Name — Title — Signature of Authorized Representative — Date Signed

001103

IL 532-1031

FACILITY ANNUAL HAZARDOUS WASTE REPORT (cont)

This report is for the calendar year ending December 31, 1982.

FOR AGENCY USE ONLY

FOR AGENCY USE [L][P][H][W][C] (1–5) CARD TYPE [4][0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ][ ]/[ ][ ]/[ ][ ] (9–14)

VII. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

VIII. GENERATOR'S ILLINOIS EPA I.D. NO. (30–40): 1 9 9 0 5 5 0 0 0 3 G

IX. FACILITY'S USEPA I.D. NO. (41–52): I L 8 1 4 3 6 0 9 4 8 7

X. FACILITY'S ILLINOIS EPA I.D. NO. (53–60): 1 9 9 8 6 2 1 3

XI. GENERATOR'S NAME / ADDRESS

Name: OLIN CORPORATION (ON SITE) Phone: (618) 985-8211

Street (P.O Box): P. O. DRAWER "G" City: MARION State: IL Zip: 62959

XII. WASTE IDENTIFICATION

A. LINE NO. (61–64)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (65–66)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (67–70 / 71–74 / 75–78 / 79–82)	E. AMOUNT OF WASTE (gallons only) (83–91)	F. DENSITY (lbs. / gal) (92–94)	G. HANDLING METHOD (132–134)
0001	EXPLOSIVES	04	D003	562	9.4	T40
0002	EXPLOSIVES	05	D003	13	7.8	T40
0003	EXPLOSIVES	09	D001	11	7.0	T40
0004	EXPLOSIVES	04	D003	660	4.6	T47
0005	EXPLOSIVES	05	D003	973	5.9	T47
0006	EXPLOSIVES	06	D003 / D011	57	9.8	T47
0007	EXPLOSIVES	09	D011	6	8.0	T47
0008	EXPLOSIVES	04	D003	10962	21.4	S01
0009	EXPLOSIVES	05	D003	26712	17.5	S01
0010	EXPLOSIVES	06	D003 / D001	795	9.0	S01

001104

XIV. PAGE NUMBER (15–17): 002

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31, 1982.

FOR AGENCY USE ONLY

FOR AGENCY USE [L P H W C] (1–5) CARD TYPE [4 0] (6–7) TRANS CODE [A] (8) DATE ENTERED [/ /] (9–14)

VII. GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

VIII. GENERATOR'S ILLINOIS EPA I.D. NO. (30–40): 1 9 9 0 5 5 0 0 0 3 G

IX. FACILITY'S USEPA I.D. NO. (41–52): I L 8 1 4 3 6 0 9 4 8 7

X. FACILITY'S ILLINOIS EPA I.D. NO. (53–60): 1 9 9 8 6 2 1 3

XI. GENERATOR'S NAME / ADDRESS

Name: OLIN CORPORATION (ON SITE) Phone: (618) 985-8211

Street (P.O. Box): P. O. DRAWER "G" City: MARION State: IL Zip: 62959

XII. WASTE IDENTIFICATION

A. LINE NO. (61–64)	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code (65–66)	D. RCRA HAZARDOUS WASTE NO. (see instructions) (67–70 / 71–74 / 75–78 / 79–82)	E. AMOUNT OF WASTE (gallons only) (83–91)	F. DENSITY (lbs. / gal.) (92–94)	G. HANDLING METHOD (132–134)
0 0 1 1	EXPLOSIVES	0 9	D 0 0 3 / D 0 0 1	2 1 9 7	6 . 7	S 0 1
0 0 1 2	EXPLOSIVES	1 6	D 0 0 1	1 3 8	5 . 9	S 0 1
0 0 1 3	EXPLOSIVES		D 0 0 1	3 0	1 9 . 8	S 0 1
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					.	
					.	
					.	

001105

XIV. PAGE NUMBER

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FACILITY ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31, 1982.

XIII. COMMENTS

(1) Lines 0001 - 0003
(T 40) FILTRATION

(2) Lines 0004 - 0007
(T 47) ADDITION OF OIL AND/OR WATER OR ETHYLENE GLYCOL TO DESENSITIZE WASTES.

(3) Lines 0008 - 0012

(S01) CONTAINER

(4) Line 0013

(S01) CONTAINER

THESE MATERIALS ARE CLASSED ACCORDING TO D.O.T. AS "NONEXPLOSIVE AMMUNITION" WITH NO D. O. T. HAZARD CLASS. HOWEVER, THESE MATERIALS CONTAIN AN EXPLOSIVE MATERIAL AND ARE TREATED AT OLIN'S INCINERATOR/RETORT THERMAL TREATMENT FACILITY.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT

This report is for the calendar year ending December 31, 1982.

GENERAL INSTRUCTIONS

REFER TO THE SPECIFIC INSTRUCTIONS CONTAINED IN THIS BOOKLET BEFORE COMPLETING THIS FORM.
The information requested in this report is required by Federal and State law.

Please print/type with elite type (12 characters per inch)

I. GENERATOR'S USEPA I.D. NUMBER: IL 814 360 9487

I.A. GENERATOR'S ILLINOIS I.D. NUMBER: 1990550003 G

II. NAME OF INSTALLATION

OLIN CORPORATION - ORDILL INDUSTRIAL AREA

III. INSTALLATION MAILING ADDRESS

P. O. DRAWER "G"
Street or P.O. Box

MARION — IL — 62959
City or Town — State — Zip Code

IV. LOCATION OF INSTALLATION (if different than section III above)

Street or Route number

City or Town — State — Zip Code

V. INSTALLATION CONTACT

BARTON, GEORGE W.
Name (last and first)

618-985-8211
Phone No. (area code & no.)

This Agency is authorized to require this information under Illinois Revised Statutes, 1981, Chapter 111-1/2, Sections 1004 and 1021 (f)(2). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues, a fine up to $1,000,000.00 and imprisonment up to 5 years. This form has been approved by the Forms Management Center

VII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

J. E. REDDEN — VICE PRESIDENT — [signature] — 2-21-83
Print/Type Name — Title — Signature of Authorized Representative — Date Signed

IL 532-1030
LPC 120 1/83

001107

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

(cont.)

This report is for the calendar year ending December 31 1982

FOR AGENCY USE ONLY

FOR AGENCY USE [L|P|H|W|C] (1–5) CARD TYPE [5|0] (6–7) TRANS CODE [A] (8) DATE ENTERED [ ]/[ ]/[ ] (9–14)

VII GENERATOR'S USEPA I.D. NO. (18–29): I L 8 1 4 3 6 0 9 4 8 7

VIII GENERATOR'S ILLINOIS EPA I.D. NO (30–40): 1 9 9 0 5 5 0 0 0 3 G

IX FACILITY'S USEPA I.D. NO. (41–52): O H D 0 8 7 4 3 3 7 4 4

X. FACILITY'S ILLINOIS EPA I.D. NO. (53–60): 1 9 9 8 6 2 1 3

XI. FACILITY'S NAME ADDRESS

Name CECOS CER Phone 513 724-6114

5092 ABER ROAD (Street (P.O. Box)) WILLIAMSBURG (City) OH (State) 45176 (Zip)

XII. WASTE IDENTIFICATION

A. LINE NO.	B. DESCRIPTION OF WASTE	C. USDOT Hazard Code	D. RCRA HAZARDOUS WASTE NO. (see instructions)	E. AMOUNT OF WASTE (gallons only)	F. DENSITY (lbs. / gal.)
0001	TOLUENE	09	U220	55	8.3
0002	TRICHLOROETHYLENE	13	U228	55	8.3
0003	TOLUENEDIAMINE	13	U221	255	6.5
0004	PHENOL & 2, 3, 4, 6 - TETRACHLOROPHENOL	15	U212 U188	55	8.3
0005	SPENT TRICHLOROETHYLENE	13	F001	110	8.3
0006	SPENT PYRIDINE	09	F005	55	8.3
0007	SPENT TOLUENE SPENT METHYLENE CHLORIDE & TOLUENE DIISOCYANATE	09	U223 F002 F005	55	8.3
0008	4, 4' - METHYLENE BIS (2-CHLOROANILINE)	13	U158	55	8.3
0009	IGNITABLE/ LABORATORY ANALYSIS/ SPENT METHYLENE CHLORIDE, ETC.	09	F002 F003 U003 U044	55	8.3
0010	BARIUM/BURNING OF EXPLOSIVES IN RETORT/ASH RESIDUES	15	D005	165	8.3

001108

XIV. PAGE NUMBER 002 (15–17)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

GENERATOR ANNUAL HAZARDOUS WASTE REPORT (cont.)

This report is for the calendar year ending December 31 1982

FOR AGENCY USE ONLY

FOR AGENCY USE L P H W C (1–5) CARD TYPE 6 0 (6–7) TRANS CODE A (8) DATE ENTERED ___/___/___ (9–14)

VII GENERATOR'S USEPA I.D NO (18–29): I L 8 1 4 3 6 0 9 4 8 7

VIII GENERATOR'S ILLINOIS EPA I D NO (30–41): 1 9 9 0 5 5 0 0 0 3 G

XI. GENERATOR'S NAME · ADDRESS

Name OLIN CORPORATION Phone (618) 985-8211

P. O. DRAWER "G" (Street (P O. Box)) MARION (City) IL (State) 62959 (Zip)

XIV. LIST OF TRANSPORTATION SERVICES (HAULERS) USED:

A. LINE NO. (61–64)	B. TRANSPORTER'S NAME / ADDRESS	C. TRANSPORTER'S USEPA I.D. NO. (95–106)	D. TRANSPORTER'S ILLINOIS EPA I.D. NO. (107–113)
0 0 0 1	CECOS CER TRANSPORT CO. WILLIAMSBURG, OH	O H D 0 8 7 1 4 3 3 7 1 4 4	

001109

PAGE NUMBER 0 0 3

III. COMMENTS

(1) Line 0009 - In addition to the RCRA Hazardous Waste No.'s listed, include U056, U213, and D001.

(2) Line 0010 - The ash residues are from Olin's Test Range. Facility's Illinois EPA I. D. No. 19986211