US EPA RECORDS CENTER REGION 5
481473

ECOLOGY AND ENVIRONMENT, INC.
FIELD INVESTIGATION TEAM
SITE SAFETY PLAN

A. GENERAL INFORMATION

SITE: Municipal Landfill Arlington Heights TDD NO.: F05-8705-017

WSTS/ACCOUNT NO: FIL0533GA

LOCATION: Rt. 68 & Kenicott ST.

PLAN PREPARED BY: GERARD BREEN DATE: 9-18-87

APPROVED BY: Anne M. Stump DATE: 9/28/87

OBJECTIVE(S): (including description of work to be performed):
Site inspection including interviews with site representatives, visual inspection, and soil samples, location of which to be determined at site. 6 soil samples are to be taken.

PROPOSED DATE OF INVESTIGATION: 10-1-87

BACKGROUND REVIEW: Complete: ✓ Preliminary: ____

DOCUMENTATION/SUMMARY: Overall Hazard: Serious: ____ Moderate: ____ Low: ✓ Unknown: ____

B. SITE/WASTE CHARACTERISTICS

WASTE TYPE(S): Liquid ✓ Solid ✓ Sludge ____ Gas ____

CHARACTERISTIC(S): Corrosive ____ Ignitable ✓ Radioactive ____ Volatile ____
Toxic ✓ Reactive ✓ Unknown ✓ Other (Name) EXPERIMENTAL CARCINOGEN

FACILITY DESCRIPTION: 58 acre landfill, 1840' by 1300' located in commercial area, residential area within ½ mile.

Principal Disposal Method (type and location): Landfill with area fill

Unusual Features (dike integrity, power lines, terrain, etc.):
village well and water tank on property. Well only for back-up purposes. On-site lake on west boundary, not completely fenced.

Status: (active, inactive, unknown) 1969-present. Site is in the process of closure, applying final cover. The park district would like to utilize the area once final cover is applied.

History: (Worker or non-worker injury; complaints from public; previous agency action): Complaint from public; Art. Berk & Terramere Home Owners Assoc. about apparent leachate seep on north slope of landfill. Inspections by IEPA numerous times to insure proper closure, investigate complaints. On Dec. 16, 1975 the IEPA investigated and found about 100 55-gal barrels (most of which appeared empty) in the southwest area of the site near the large water storage tank. Blacken earth and discolored water were observed near the barrels. Barrels held water soluble cutting oils.

C. HAZARD EVALUATION

(Use Hazard Evaluation of Chemicals sheets for specific or representative chemicals present.):

general municipal refuse
industrial wastes

found in leachate sample:

1,2, cis-dichloroethylene	1700 ug/L
1,1,-dichloroethane	700 ug/L
carbon tetrachloride	600 ug/L
1,1,1-trichloroethane	600 ug/L
trichloroethylene	124 ug/L
toluene, benzene, lead	toluene - 270 ug/L
	benzene 22.2 ug/L
	lead 0.38 mg/l

high levels in monitoring wells → zinc

D. SITE SAFETY WORK PLAN

PERIMETER ESTABLISHMENT: **Map/Sketch Attached** yes **Site Secured?** NO

Perimeter Identified? NO **Zone(s) of Contamination Identified?** ✓ NO

assume entire site is contaminated

PERSONAL PROTECTION

Level of Protection: A ___ B ___ C ___ D ✓

Modifications: Level D with possible upgrade to level C if monitoring equipment levels for upgrade are met.

Surveillance Equipment and Materials:

Action levels: O_2 meter < 19.5% or > 25% O_2 = abandon site + contact RSC
Explosimeter: > 30% LEL = abandon site, contact RSC
Rad Mini: > 0.1 mR/hr or alarm sounds; Abandon site + contact RSC
Draegetubes or Monitor for HCN - Any reading abandon site + contact RSC
OVA 0-1 ppm above background = level D
>1-5 ppm " " = level C
>5-500 ppm " " = level B } abandon site, contact RSC
>500 ppm " " = level A }

>5 abandon site

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DECONTAMINATION PROCEDURES: All contaminated equipment will be washed with Alconox and rinsed with distilled water. Will leave wastewater at site with prior permission.

Special Equipment, Facilities, or Procedures: NONE

SITE ENTRY PROCEDURES: Obtained permission from owner/operator. Always use buddy system. Stay upwind of contaminated area. Locate all exits prior to site entry, if site is secured. Obey facility safety regulations as a minimum.

Team Member	Responsibility
GERARD BREEN	TEAM LEADER/MEMBER
JOHN LAZINSKI	SITE SAFETY OFFICER
KAREN McTIGUE	SAMPLER
GINA BAYER	TEAM MEMBER/LEADER

WORK LIMITATIONS (Time of day, etc.): Daylight hours only; observe buddy system, monitor personnel for heat/cold stress.

INVESTIGATION-DERIVED MATERIAL DISPOSAL: Protective clothing. All contaminated materials will be decontaminated, double bagged and disposed of on site, with prior permission.

E. EMERGENCY INFORMATION*

LOCAL RESOURCES (area code 312)

Ambulance Arlington Fire Department 253-2121
Hospital Emergency Room Northwest Community Hospital / Arlington Heights 259-1000
Poison Control Center Northwest Community Hospital 259-1000
Police Arlington Heights 253-2131 (911)
Fire Department Arlington Heights 253-2121 (911)
Airport O'Hare
Explosives Unit Fire Department
EPA Contact Robert Hartian 886-6686

SITE RESOURCES

Water Supply To be determined prior to site entry
Telephone To be determined prior to site entry
Radio N/A
Other N/A

EMERGENCY CONTACTS

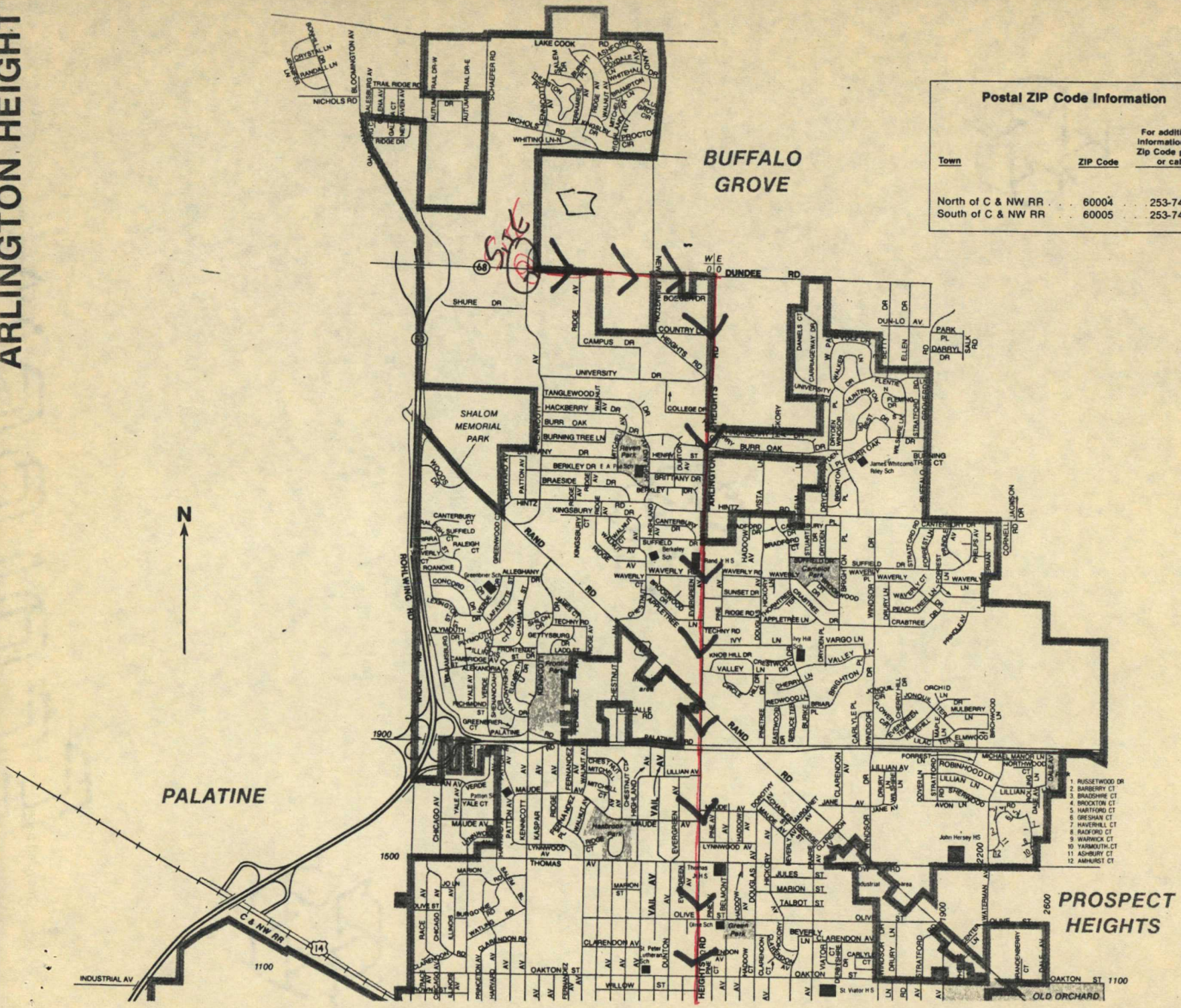
1. Mr. Raymond Harbison (University of Arkansas) ..... (501) 661-5766 or 661-5767
   MED-TOX ..... (501) 370-8263 (24 hours)
2. Regional Safety Coordinator - Paul Moss ..... (312) 541-6635 (Home)
3. Regional Project Manager- Rene Van Someren ..... (312) 763-7335
4. FIT Office ..... (312) 663-9415
5. E & E 24 Hour Call Line ..... (716) 631-9530 (24 Hours; Call Forwarding)
6. Regional Health Maintenance Program Contact ..... PMI - (312) 832-8820 8:00 a.m. - 5:00 p.m.
7. Paul Jonmaire..... (716) 631-9530 (Response Center
   Corporate Safety Director (716) 632-4491 (office)
8. Ecology and Environment, Inc. NPMO ..... (703) 522-6065

F. EMERGENCY ROUTES

(Give road or other directions; attach map)

Hospital: Kenicott St. south to Rt. 68 (Dundee Rd.) Rt. 68 East to Arlington Heights Rd. - south to Central Rd. - west Northwest Community Hospital - 800 W. Central Rd.

ARLINGTON HEIGHT



Postal ZIP Code Information

Town	ZIP Code	For additional information see Zip Code pages or call
North of C & NW RR	60004	253-7456
South of C & NW RR	60005	253-7456

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15
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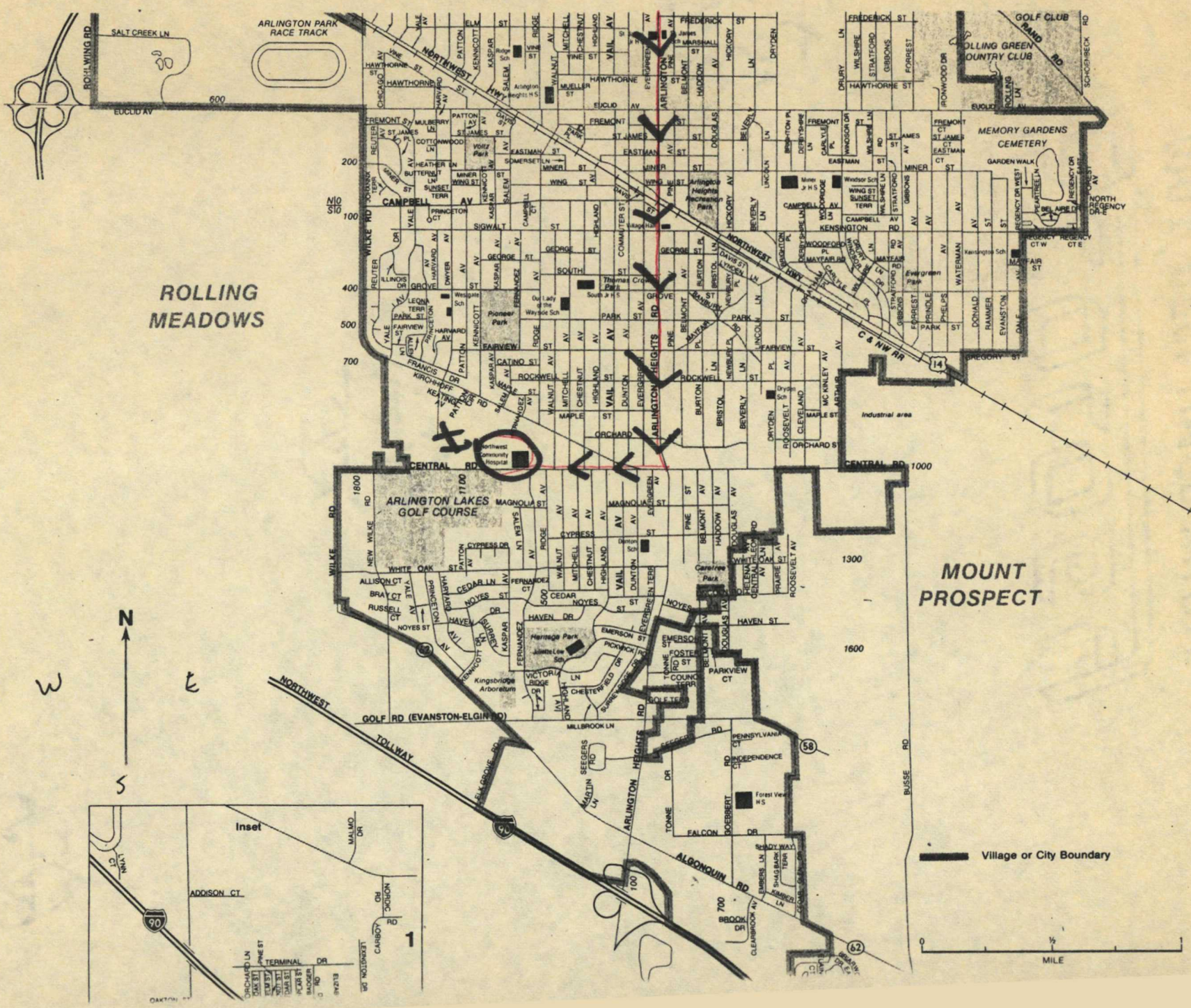
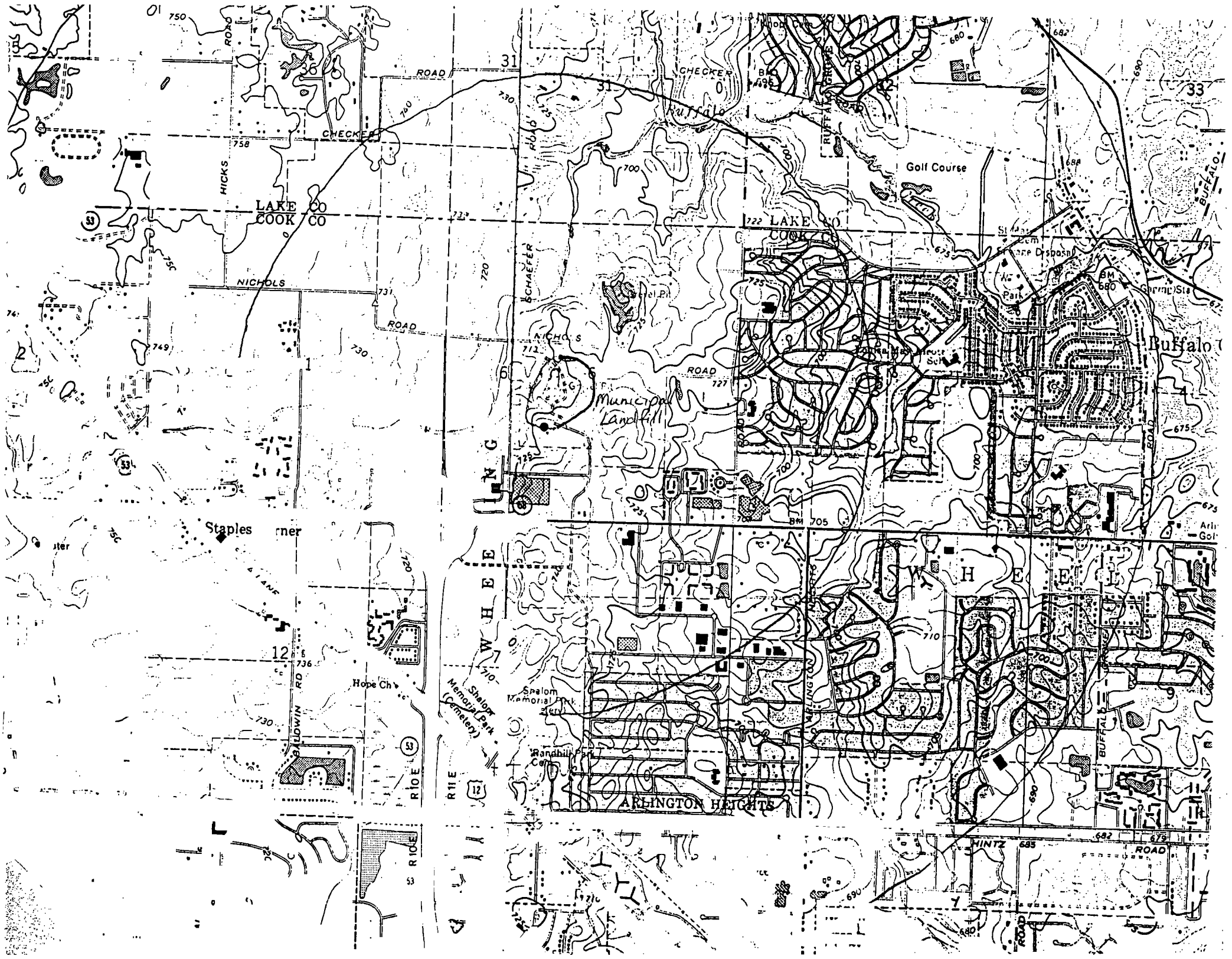
Arlington Heights, Ill.—C 18287 © The Rauban H. Donnelley Corporation 1985

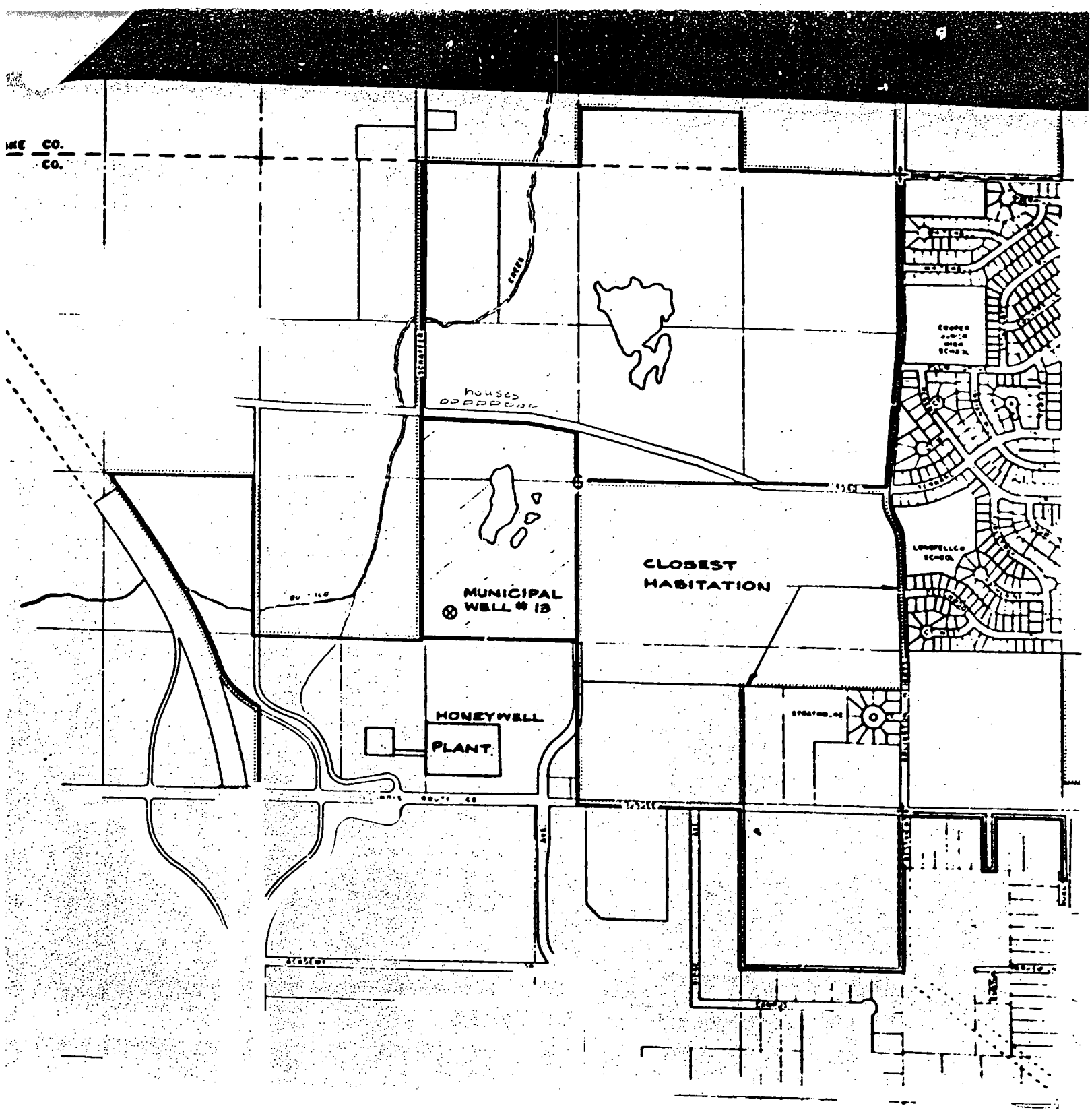
ARLINGTON HEIGHTS



18287 © The Reuben H. Donnelley Corporation 1991



LAKE CO
COOK CO
CHECKER
ROAD
NICHOLS
ROAD
HICKS
SCHAEFER
Buffalo
Golf Course
Municipal Landfill
Buffalo
Staples
Hope Ch
Shalom Memorial Park (Cemetery)
Randhill Park Cem
ARLINGTON HEIGHTS
BALDWIN RD
R10E
R11E
HINTZ
ROAD
BUFFALO


CO.
CO.
houses
MUNICIPAL
WELL # 13
CLOSEST
HABITATION
HONEYWELL
PLANT

WASTE-DISPOSAL METHODS

The disposal methods outlined below are intended only as guides. We do not assume responsibility for their use. Careful consideration must be given to the chemical and physical properties of the substance. In addition, local laws and regulations may preclude the use of these methods which are primarily designed for small quantities. Observe all federal, state, and local laws.

The disposal of some chemicals may require deactivation or modification of the material by chemical means. Chemical waste-disposal reactions must be handled with the same care and consideration used with synthetic procedures. Appropriate consideration must be given to reaction conditions, *i.e.*, stoichiometry, order and rate of addition, heat of reaction, evolution of gaseous products, pH, efficiency of stirring, rate of reaction, atmospheric sensitivity, etc.

Chemical waste-disposal reactions should be carried out in a chemical fume hood and in appropriate laboratory glassware. Because these reactions are often vigorous, protective safety equipment such as safety goggles, respirator, gloves, face and/or safety shield and other protective equipment must be used.

Initial reactions in a disposal sequence should be carried out on a small scale (5-10g). The reactant concentrations should not exceed 10% of the reaction volume and the final reaction volume should not exceed 50% of the working capacity of the reaction vessel, regardless of the reaction scale. Larger quantities of the material should be handled in several small-size reactions. To ensure completion of reaction, the waste disposal procedure should be run for at least an additional 4 to 8 hours after all materials have been mixed.

All reactions should be run by technically qualified persons familiar with the potential hazards of the chemical reactions.

A Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

B The material should be ignited in the presence of sodium carbonate and slaked lime (calcium hydroxide). The substance should be mixed with vermiculite and then with the dry caustics, wrapped in paper and burned in a chemical incinerator equipped with an afterburner and scrubber.

C This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

D Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

E To a solution of the product in water, add an excess of dilute sulfuric acid. Let stand overnight. Remove any insolubles and bury in a landfill site approved for hazardous-waste disposal.

F Cautiously dissolve the material in water. Neutralize immediately with sodium carbonate or, if the material does not dissolve completely, add a little hydrochloric acid followed by sodium carbonate. Add calcium chloride in excess of the amount needed to precipitate the fluoride and/or carbonate. Separate the insolubles and bury in a landfill site approved for hazardous-waste disposal.

G Under an inert atmosphere, cautiously add the material to dry butanol in an appropriate solvent. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for venting of large volumes of highly flammable hydrogen and/or hydrocarbon gases. Neutralize the solution with aqueous acid. Filter off any solid residues for disposal as hazardous waste. Burn the liquid portion in a chemical incinerator equipped with an afterburner and scrubber.

H Neutralize the solution and add filtering agent (10g per 100ml). Evaporate the liquid and bag the residual solid for burial in a landfill site approved for hazardous-waste disposal.

I Dissolve the solid in (or dilute the solution with) a large volume of water. Carefully add a dilute solution of acetic acid or acetone to the mixture in a well ventilated area. Provisions should be made to vent safely the hydrogen gas given off during the decomposition. Check acidity of the solution and adjust to pH 1 if necessary. Let stand overnight. Neutralize the solution (pH 7). Evaporate the solution and bury the residue in a landfill site approved for hazardous-waste disposal.

J Cautiously acidify a 3% solution or a suspension of the material to pH 2 with sulfuric acid. Gradually add a 50% excess of aqueous sodium bisulfite with stirring at room temperature. An increase in temperature indicates that a reaction is taking place. If no reaction is observed on the addition of 10% of the sodium bisulfite solution, initiate it by cautiously adding more acid. If manganese, chromium, or molybdenum is present, adjust the pH of the solution to 7 and treat with sulfide to precipitate for burial as hazardous waste. Destroy excess sulfide, neutralize and flush solution down the drain.

K Please contact the Technical Services Department. Be sure to mention name, catalog number and quantity of the material.

L The material should be dissolved in 1) water; 2) acid solution or 3) oxidized to a water-soluble state. Precipitate the material as the sulfide, adjusting the pH of the solution to 7 to complete precipitation. Filter the insolubles and dispose of them in a hazardous-waste site. Destroy any excess sulfide with sodium hypochlorite. Neutralize the solution before flushing down the drain.

M A slurry of the arenediazonium salt with water can be disposed of by adding it gradually to a stirred solution of 5-10% excess 2-naphthol in 3% aqueous sodium hydroxide at 0-20°C. After 12 hours, the resulting azo dye is filtered and either incinerated or buried in a landfill site approved for hazardous-waste disposal. Neutralize the remaining solution before disposal.

N For small quantities: cautiously add to a large stirred excess of water. Adust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal. Flush the aqueous solution down the drain with plenty of water. The hydrolysis and neutralization reactions may generate heat and fumes which can be controlled by the rate of addition.

O Bury in a landfill site approved for the disposal of chemical and hazardous waste.

P Material in the elemental state should be recovered for reuse or recycling.

Q Cautiously make a 5% solution of the material in water or dilute acid. There may be a vigorous, exothermic reaction and fumes may be generated due to the hydrolysis of the material. Control any reaction by cooling and by the rate of addition of the material. Gradually add dilute ammonium hydroxide to pH 10. Filter off any precipitate for disposal in a chemical landfill. If there is no precipitation, gradually adjust the pH from 10 to 6, stopping when precipitation occurs.

R Catalysts and expensive metals should be recovered for reuse or recycling.

S Treat a dilute basic solution (pH 10-11) of the material with a 50% excess of commercial laundry bleach. Control the temperature by the addition rate of bleach and adjust pH if necessary. Let stand overnight. Cautiously adjust solution to pH 7. Vigorous evolution of gas may occur. Filter any solids for burial in a chemical landfill. Precipitate any heavy metals by addition of sulfide and isolate for burial. Additional equivalents of hypochlorite may be needed if the metal can be oxidized to a higher valence state. For metal carbonyls, the reaction should be carried out under nitrogen.

T Cautiously make a 5% solution of the product in water; vent because of possible vigorous evolution of flammable hydrogen gas. Acidify the solution to pH 1 by adding 1*M* sulfuric acid dropwise. Acidification will cause vigorous evolution of hydrogen gas. Allow the solution to stand overnight. Evaporate the solution to dryness and bury the residue in a landfill site approved for hazardous-waste disposal.

U Take the material (or a solution) and make a 5% solution in tetrahydrofuran. Cautiously add the solution dropwise to an ice-cooled, stirred basic solution of commercial bleach. Oxidation may release flammable hydrocarbon gases which must be vented. Let stand overnight. Adjust the pH to 7 and destroy excess hypochlorite with sodium bisulfite before disposal of the solution.

V Under an inert atmosphere cautiously add dry butanol or a mixture of dry butanol in an appropriate solvent, to a solution of the material in tetrahydrofuran. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for the venting of a large volume of flammable hydrogen gas. When gas evolution ceases, cautiously add a basic hypochlorite solution dropwise to the reaction solution. Let stand overnight. Neutralize the solution and treat with sodium bisulfite to destroy any excess hypochlorite. Filter any solids for burial in a landfill site approved for hazardous-waste disposal.

ndations are intended only as guides. Sigma-Aldrich shall not be held liable for any damage resulting

THE SIGMA-ALDRICH LIBRARY OF CHEMICAL SAFETY DATA

Explanation of Codes

PROCEDURES FOR SPILLS OR LEAKS

1 Absorb on sand or vermiculite and place in closed container for disposal.
2 Cover with dry lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors.
3 Shut off all sources of ignition.
4 Evacuate area.
5 Cover with an activated carbon adsorbent, take up and place in closed container. Transport outdoors.
6 Ventilate area and wash spill site after material pickup is complete.
7 Sweep up, place in a bag and hold for waste disposal.
8 Avoid raising dust.
9 Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
10 Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.
11 Cover with dry lime or soda ash, pick up, keep in a closed container and hold for waste disposal.
12 Carefully sweep up and remove.
13 Flush spill area with copious amounts of water.
14 Mix with solid sodium bicarbonate.
15 Place in appropriate container.
16 Wear protective equipment.
17 Wash spill site with soap solution.
18 Please contact the Technical Services Department. Be sure to mention the name and catalog number of the material.

FIRE-EXTINGUISHING MEDIA

1 Carbon dioxide.
2 Dry chemical powder.
3 Water spray.
4 Alcohol or polymer foam.
5 Class D fire-extinguishing material only.
6 Water may be effective for cooling, but may not effect extinguishment.
7 Carbon dioxide, dry chemical powder, alcohol or polymer foam.
8 Foam and water spray are effective but may cause frothing.
9 Do not use dry chemical powder extinguisher on this material.
10 Do not use carbon dioxide extinguisher on this material.
11 Noncombustible.
12 Do not use water.
13 Use extinguishing media appropriate to surrounding fire conditi

Sigma-Aldrich Corporation, P.O. Box 355, Milwaukee, Wisconsin 53201 USA
(Sigma: 314-771-5765; Aldrich: 414-273-3850)

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

EXAMPLE

Chemical Name Benzene Date 9-18-87

DOT Classification _____ Job Number FIL0533GA

CAS Number 71-43-2

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris(vol.III) ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich RTECS other: _____

CHEMICAL PROPERTIES: (Synonyms: benzol, benzole, cyclohexatriene)
Chemical Formula C_6H_6 MW 78 Ionization Potential 9.245ev
Physical State liquid Boiling Point 176°F Freezing Point 42°F
Flash Point 12°F Flammable Limits 1.3-7.1% Vapor Pressure 75mm
Specific Gravity/Density 0.879 Odor/Odor Threshold 4.68 ppm
Solubility-water: slightly Solubility-other: _____
Incompatabilities & Reactivity: strong oxidizers, chlorine, bromine

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 10 ppm PEL (OSHA) 10 ppm
STEL none Ceiling Limits >25<50ppm/10min IDLH 2000 ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 100/CNS Dermal _____ Oral Tdlo 130mg/kg:CNS
Rat/Mouse; IHL Tclo 50/24H Dermal _____ Oral LD50 3800mg/kg
Aquatic: Tlm96:100-10ppm Other: IHL:Man TC 2100mg/m3/4Y; carc.
Carcinogen human-sus Mutagen exper. Reproductive Toxin exper.
Route(s) of exposure - (circle all that apply): Inhalation Ingestion Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: 10 ppm use SCBA
Protective Clothing: excel-viton; good-neoprene, saranax; poor-butyl, natural rubber for gloves. Avoid skin/eye contact.
Special Equipment: none

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)
Disposal D Fire 6,7 Leaks&Spills 3,4,5,6,9
Decomposition Products: toxic fumes of carbon dioxide, carbon monoxide

FIRST AID:
ING: Do not induce vomiting, give water or milk, medical attent. immed.
IHL: Remove to fresh air, give artificial resp. if needed, medical attent.
Eye/Skin: Flush with water, rinse/wash skin with soap & water thoroughly.

SYMPTOMS:
acute(immediate) exposure effects: skin irritant, CNS depressant, mostly IHL, initial excitation followed by headache, dizziness, vomiting, delirium, severe exposure may see tremors, blurred vision, shallow resp., convulsions.

chronic(long term) exposure effects: anorexia, drowsiness, anemia, bleeding under skin, reduced blood clotting; liver, kidney, bone marrow damage, leukemia.

reproductive effects: None reported in humans.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Carbon Tetrachloride **Date** 9-18-87

DOT Classification _____ **Job Number** FIL0533GA

CAS Number 56-23-5

REFERENCES CONSULTED (circle; also include MSDS if appropate.)
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris(vol.III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: _____

CHEMICAL PROPERTIES: (Synonyms: tetrachloromethane, perchloromethane)
Chemical Formula CCl_4 MW 154 Ionization Potential 11.47ev
Physical State liquid Boiling Point 170°F Freezing Point -9.4°F
Flash Point not flamm Flammable Limits not flam Vapor Pressure 91mm
Specific Gravity/Density 1.59 Odor/Odor Threshold >10ppm

Solubility-water: _____ Solubility-other: _____
Incompatabilities & Reactivity: Chemically activemetals/e.g.sodium,potassiam, magnesium,dibenzoyl peroxide

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 5ppm PEL (OSHA) 10ppm
STEL 20ppm Ceiling Limits 25ppm IDLH _____
Toxicity Data: (Indicate duration of study)
Human; IHL LClo 1000ppm Dermal _____ Oral LD10 43mg/kg
Rat/Mouse; IHL Tclo 300ppm/7H Dermal LD50 5070mg/kg Oral LD50 2800mg/kg
Aquatic: Tlm 96:100-10ppm Other: _____
Carcinogen human-sus Mutagen exper Reproductive Toxin experteratogen
Route(s) of exposure - (circle all that apply): Inhalation Ingestion
Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: Full face respirator w/organic cartridges in low concentration.
Protective Clothing: Good-viton,nitrile;poor butyl,vinyl,neoprene.
Special Equipment: Avoid prolonged contact.

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)
Disposal A Fire 11.13 Leaks&Spills 1,3,4,6,9
Decomposition Products: phosgene gas,carbon monoxide, carbon dioxide

FIRST AID:
ING: Induce vomiting,medical attent.immed.no special antidote known.
IHL: Remove to fresh air, keep patient calm & quiet,CPR if necessary.
Eye/Skin: Irrigate/rinse with large quantities of water, med. attent.

SYMPTOMS:
acute(immediate) exposure effects: irritation & burning of eyes,dizziness, headache,nausea,confusion,incoordination,loss of consciousness,visual distrubances,stomach upset,secondary anemia,slight jaundice.

chronic(long term) exposure effects: Severe liver damage or kidney damage with decreased urine output.

reproductive effects: None specified in humans.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Lead **Date** 9-18-87

DOT Classification _____ **Job Number** FIL0533GA

CAS Number 7439-92-1

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris(vol.III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: White lead, plumbum)
Chemical Formula Pb MW 207 Ionization Potential N/A
Physical State Variable Boiling Point 3164°F Freezing Point _____
Flash Point Incombust. Flammable Limits Incombus Vapor Pressure variable
Specific Gravity/Density 11.3 @61°F Odor/ Odor Threshold None
Solubility-water: Insoluble Solubility-other: _____
Incompatabilities & Reactivity: Strong oxidizers, perioxides, active metals

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) .15 mg/m³ PEL (OSHA) 50ug/m³
STEL None est. Ceiling Limits None est. IDLH Variable
Toxicity Data: (Indicate duration of study)
Human; IHL _____ Dermal _____ Oral Td10 450mg/kg/6Y
Rat/Mouse; IHL _____ Dermal _____ Oral Tdlo 790mg/kg
Aquatic: Unknown Other: Toxicity varies with lead cpds.
Carcinogen Indef. Mutagen Indef Reproductive Toxin exp. teratogen
Route(s) of exposure - (circle all that apply): Inhalation Ingestion
Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: **(personal protective measures)**
Respirators: 5mg/m3 high efficiency particulate respirator, other concentrations - SCBA.
Protective Clothing: Avoid skin and eye contact
Special Equipment: None

DISPOSAL, FIRE and SPILLS: **(Use numbered codes; see attached sheets for explanation.)**
Disposal P Fire 13 Leaks&Spills 7,8,10
Decomposition Products: Toxic fumes of lead

FIRST AID:
ING: Give water, induce vomiting, medical attention immed.
IHL: Move to fresh air, artifical resp. if necessary, medical attent.
Eye/Skin: Irrigate/wash with water. Wash skin thoroughly with soap & water.

SYMPTOMS:
acute(immediate) exposure effects: Cumulative neurotoxin-commonly occurs from prolonged exposure. Symptoms include stomach distress, vomiting, diarrhea, black stools, anemia, nervous system effects.
chronic(long term) exposure effects: 3 clinical types: a-ailmentary-abominal pain, discomfort, constipation or diarrhea, metallic taste, lead line on gum headache. b-nueromuscular, muscle weakness, joint/muscle pain, dizziness, insomnia, paralysis c-encephalic: brain involvement, stupor, coma, death, rare.
reproductive effects: Human epid. studies have concluded that lead is a poison to male & female germ cells; increased incidence of miscarriages, stillbirths, sterility in females; sperm depression & decreased motiltiy in males

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name 1,1,1-Trichloroethane **Date** 9-18-87

DOT Classification _____ **Job Number** FIL0533 GA

CAS Number 71-55-6

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris(vol.III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: _____

CHEMICAL PROPERTIES: (Synonyms: Methyl Chloroform, Chlorothane)
Chemical Formula CH_3CCl_3 MW 133 Ionization Potential 10.2 ev
Physical State liquid Boiling Point 165°F Freezing Point -36°F
Flash Point None Flammable Limits 7-16% Vapor Pressure 100mm
Specific Gravity/Density 1.31 Odor/Odor Threshold 100pppm/chloroform
Solubility-water: Insoluble Solubility-other: _____
Incompatabilities & Reactivity: Strong oxidizers,caustics,chem. active metals.

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 350ppm PEL (OSHA) 350ppm
STEL 450 ppm Ceiling Limits 350ppm IDLH 1000ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 920ppm/70M Dermal _____ Oral Tdlo 670mg/kg
Rat/Mouse; IHL Lc10 1000ppm Dermal _____ Oral LD50 1030mg/kg
Aquatic: Tlm 96:100-10ppm Other: _____
Carcinogen Indef-anim. Mutagen exper. Reproductive Toxin teratogen
Route(s) of exposure - (circle all that apply): Inhalation Ingestion
Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: 500ppm - use APR; >1000ppm use SCBA.
Protective Clothing: Excel.-viton;good-butyl;poor-neoprene,nitrile.
Special Equipment: Avoid contact.

DISPOSAL,FIRE and SPILLS: (Use numbered codes;see attached sheets for explanation.)
Disposal A Fire 3.7 Leaks&Spills 6,9,11
Decomposition Products: CO, CO_2, hydrogen chloride, and phosgene gas.

FIRST AID:
ING: Get medical attent. immed.,induce vomiting.
IHL: Remove to fresh air,artifical resp. if necessary, medical attent.
Eye/Skin: Wash/irrigate with large amounts of water for at least 15 min.
Wash skin thoroughly with soap and water.

SYMPTOMS:
acute(immediate) exposure effects: Irritating to eyes,skin,mucous membranes.
IHL: Incoorindation, confusion, drowsiness, possible loss of consciousness, nausea if ingested.

chronic(long term) exposure effects: Dermatitis, liver and/or kidney damage. Consumption of alchohol may increase the toxic effects of exposure.

Reproductive effects: Caused teratogenic effects in animals. None documented in humans, still experimental.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Toluene **Date** 9-18-87

DOT Classification _____ **Job Number** FIL0533GA

CAS Number 108-88-3

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris(vol.III)
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich
RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: Phenyl methane, methyl benzene)
Chemical Formula $C_6H_5CH_3$ MW 92 Ionization Potential 8.82ev
Physical State liquid Boiling Point 231°F Freezing Point -139°F
Flash Point 40°F Flammable Limits 1.27-7% Vapor Pressure 22mm
Specific Gravity/Density 0.867 Odor/Odor Threshold 0.17ppm
Solubility-water: slightly Solubility-other: _____
Incompatabilities & Reactivity: Strong oxidizers, nitric acid, peroxides

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 100ppm PEL (OSHA) 200ppm
STEL 150ppm(skin) Ceiling Limits 300ppm/15min IDLH 2000 ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 200ppm Dermal _____ Oral _____
Rat/Mouse; IHL Lclo 4000pm/4H Dermal _____ Oral _____
Aquatic: Tlm 96: 100-10ppm Other: _____
Carcinogen exper. Mutagen exper Reproductive Toxin exp.teratogen
Route(s) of exposure - (circle all that apply): Inhalation Ingestion
Dermal Contact Eye(ocular) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: 1000ppm-APR w/chemical cartridge; 2000 ppm-SCBA
Protective Clothing: Excel-viton: Good-Polyurethane, neoprene/styrene;
Poor-neopene, butyl.
Special Equipment: None

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)
Disposal D Fire 6.7 Leaks&Spills 3,4,5,6,9
Decomposition Products: CO, CO_2

FIRST AID:
ING: Do not induce vomiting, contact physician immed.
IHL: Remove to fresh air, artifical resp, if necessary.
Eye/Skin: Irrigate/wash with large amounts of water for at least 15 min.

SYMPTOMS:
acute(immediate) exposure effects: IHL: dizziness, headache, ING: vomiting, nausea, diarrhea. Liquid irritates eyes, dries skin.

chronic(long term) exposure effects: Kidney and/or liver damage if ingested. Inhalation may cause anemia, bone marrow hypoplasia. Dermatitis with skin contact.

reproductive effects: None

9-18-87
FIL0533GA

1,2-DICHLOROETHYLENE

DEL

Common Synonyms	Liquid	Colorless	Sweet pleasant odor
Acetylene dichloride sym-dichloroethylene Dioform cis-1, 2-dichloroethylene trans-1, 2-dichloroethylene	Sinks in water. Flammable, irritating vapor is produced.		

Wear goggles and self-contained breathing apparatus.
Shut off ignition sources. Call fire department.
Stop discharge if possible. Keep people away.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE.
POISONOUS GASES MAY BE PRODUCED IN FIRE.
Containers may explode in fire.
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Extinguish with dry chemicals, foam or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

VAPOR
If inhaled will cause dizziness, nausea, vomiting, or difficult breathing.
Move victim to fresh air
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Harmful if swallowed.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)
Issue warning-high flammability
Restrict access
Evacuate area
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Not listed
3.2 Formula: ClCH = CHCl
3.3 IMO/UN Designation: 3.2/1150
3.4 DOT ID No.: 1150
3.5 CAS Registry No.: 540-59-0

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Ethereal, slightly acrid; pleasant, chloroform-like

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Rubber gloves; safety goggles; air supply mask or self-contained breathing apparatus.
5.2 Symptoms Following Exposure: Inhalation causes nausea, vomiting, weakness, tremor, epigastric cramps, central nervous depression. Contact with liquid causes irritation of eyes and (on prolonged contact) skin. Ingestion causes slight depression to deep narcosis.
5.3 Treatment of Exposure: INHALATION: remove from further exposure; if breathing is difficult, give oxygen; if victim is not breathing, give artificial respiration, preferably mouth-to-mouth; give oxygen when breathing is resumed; call a physician. EYES: flush with water for at least 15 min. SKIN: wash well with soap and water. INGESTION: give gastric lavage and cathartics.
5.4 Threshold Limit Value: 200 ppm
5.5 Short Term Inhalation Limits: Data not available
5.6 Toxicity by Ingestion: Grade 2; oral LD_{50} = 770 mg/kg (rat)
5.7 Late Toxicity: Produces liver and kidney injury in experimental animals
5.8 Vapor (Gas) Irritant Characteristics: Data not available
5.9 Liquid or Solid Irritant Characteristics: Data not available
5.10 Odor Threshold: Data not available
5.11 IDLH Value: 4,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 37°F C.C.
6.2 Flammable Limits in Air: 9.7%-12.8%
6.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective.
6.5 Special Hazards of Combustion Products: Phosgene and hydrogen chloride fumes may form in fires.
6.6 Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 860°F
6.8 Electrical Hazard: Data not available
6.9 Burning Rate: 2.6 mm/min.
6.10 Adiabatic Flame Temperature: Data not available

(Continued)

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Will not occur under ordinary conditions of shipment. The reaction is not vigorous.
7.6 Inhibitor of Polymerization: None used
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: Data not available

8. WATER POLLUTION

8.1 Aquatic Toxicity: Data not available
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Commercial
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)
A-X-Y

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	2

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 97.0
12.3 Boiling Point at 1 atm:
cis: 140°F = 60°C = 333°K
trans: 118°F = 48°C = 321°K
12.4 Freezing Point:
cis: —114°F = —81°C = 192°K
trans: —58°F = —50°C = 223°K
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 1.27 at 25°C (liquid)
12.8 Liquid Surface Tension: 24 dynes/cm = 0.024 N/m at 20°C
12.9 Liquid Water Interfacial Tension: (est.) 30 dynes/cm = 0.030 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: 3.34
12.11 Ratio of Specific Heats of Vapor (Gas): 1.1468
12.12 Latent Heat of Vaporization: 130 Btu/lb = 72 cal/g = 3.0×10^5 J/kg
12.13 Heat of Combustion: —4,847.2 Btu/lb = —2,692.9 cal/g = -112.67×10^6 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.25 Heat of Fusion: Data not available
12.26 Limiting Value: Data not available
12.27 Reid Vapor Pressure: Data not available

6. FIRE HAZARDS (Continued)

6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

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9-18-87
FIL0533GA

CARBON TETRACHLORIDE

CBT

Common Synonyms	Watery liquid	Colorless	Sweet odor
Carbon Tet Tetrachloromethane Benzinoform Necatorina Perchloromethane	Sinks in water. Poisonous vapor is produced.		

Avoid contact with liquid and vapor. Keep people away.
Wear goggles and self-contained breathing apparatus.
Stop discharge if possible.
Stay upwind and use water spray to "knock down" vapor.
Notify local health and pollution control agencies.

Fire

Not flammable.
POISONOUS AND IRRITATING GASES ARE PRODUCED WHEN HEATED.
Wear goggles and self-contained breathing apparatus.

Exposure

CALL FOR MEDICAL AID.

VAPOR
POISONOUS IF INHALED.
Irritating to eyes
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
POISONOUS IF SWALLOWED.
Irritating to skin and eyes.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.

Notify local health and pollution control officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-poison
Restrict access
Should be removed

2. LABEL

2.1 **Category:** None
2.2 **Class:** Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 **CG Compatibility Class:** Halogenated hydrocarbon
3.2 **Formula:** CCl_4
3.3 **IMO/UN Designation:** 6.1/1846
3.4 **DOT ID No.:** 1846
3.5 **CAS Registry No.:** 56-23-5

4. OBSERVABLE CHARACTERISTICS

4.1 **Physical State (as shipped):** Liquid
4.2 **Color:** Colorless
4.3 **Odor:** Sweetish, aromatic; moderately strong ethereal; somewhat resembling that of chloroform.

5. HEALTH HAZARDS

5.1 **Personal Protective Equipment:** Organic vapor canister with full face mask; protective clothing; rubber gloves.
5.2 **Symptoms Following Exposure:** Dizziness, incoordination, anesthesia; may be accompanied by nausea and liver damage. Kidney damage also occurs, often producing decrease or stopping of urinary output.
5.3 **Treatment of Exposure:** EYES AND SKIN: flush with plenty of water; for eyes, get medical attention. Remove contaminated clothing and wash before reuse. INHALATION: immediately remove to fresh air; keep patient warm and quiet and get medical attention promptly. Start artificial respiration if breathing stops. INGESTION: induce vomiting and get medical attention promptly. No specific antidote known.
5.4 **Threshold Limit Value:** 5 ppm
5.5 **Short Term Inhalation Limits:** 25 ppm for 30 min.
5.6 **Toxicity by Ingestion:** Grade 2; LD_{50} = 0.5 to 5 g/kg (rat)
5.7 **Late Toxicity:** Causes severe liver damage and death if ingested.
5.8 **Vapor (Gas) Irritant Characteristics:** Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.
5.9 **Liquid or Solid Irritant Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 **Odor Threshold:** Greater than 10 ppm
5.11 **IDLH Value:** 300 ppm

6. FIRE HAZARDS

6.1 **Flash Point:** Not flammable
6.2 **Flammable Limits in Air:** Not flammable
6.3 **Fire Extinguishing Agents:** Not pertinent
6.4 **Fire Extinguishing Agents Not to be Used:** Not pertinent
6.5 **Special Hazards of Combustion Products:** Forms poisonous phosgene gas when exposed to open flames.
6.6 **Behavior in Fire:** Decomposes to form chlorine and phosgene
6.7 **Ignition Temperature:** Not flammable
6.8 **Electrical Hazard:** Not pertinent
6.9 **Burning Rate:** Not flammable
6.10 **Adiabatic Flame Temperature:** Data not available
6.11 **Stoichiometric Air to Fuel Ratio:** Data not available
6.12 **Flame Temperature:** Data not available

7. CHEMICAL REACTIVITY

7.1 **Reactivity With Water:** No reaction
7.2 **Reactivity with Common Materials:** No reaction
7.3 **Stability During Transport:** Stable
7.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
7.5 **Polymerization:** Not pertinent
7.6 **Inhibitor of Polymerization:** Not pertinent
7.7 **Molar Ratio (Reactant to Product):** Data not available
7.8 **Reactivity Group:** 36

8. WATER POLLUTION

8.1 **Aquatic Toxicity:** Data not available
8.2 **Waterfowl Toxicity:** Data not available
8.3 **Biological Oxygen Demand (BOD):** None
8.4 **Food Chain Concentration Potential:** None

9. SHIPPING INFORMATION

9.1 **Grades of Purity:** Commercial; technical; USP
9.2 **Storage Temperature:** Ambient
9.3 **Inert Atmosphere:** No requirement
9.4 **Venting:** Pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-X

11. HAZARD CLASSIFICATIONS

11.1 **Code of Federal Regulations:** ORM-A
11.2 **NAS Hazard Rating for Bulk Water Transportation:**

Category	Rating
Fire	0
Health	
Vapor Irritant	2
Liquid or Solid Irritant	1
Poisons	4
Water Pollution	
Human Toxicity	2
Aquatic Toxicity	2
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue)	3
Flammability (Red)	0
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 **Physical State at 15°C and 1 atm:** Liquid
12.2 **Molecular Weight:** 153.83
12.3 **Boiling Point at 1 atm:** 170°F = 76.5°C = 349.7°K
12.4 **Freezing Point:** —9.4°F = —23.0°C = 250.2°K
12.5 **Critical Temperature:** 541°F = 283°C = 556°K
12.6 **Critical Pressure:** 660 psia = 45 atm = 4.6 MN/m^2
12.7 **Specific Gravity:** 1.59 at 20°C (liquid)
12.8 **Liquid Surface Tension:** 27.0 dynes/cm = 0.027 N/m at 20°C
12.9 **Liquid Water Interfacial Tension:** 45.0 dynes/cm = 0.045 N/m at 20°C
12.10 **Vapor (Gas) Specific Gravity:** 5.3
12.11 **Ratio of Specific Heats of Vapor (Gas):** 1.111
12.12 **Latent Heat of Vaporization:** 84.2 Btu/lb = 46.8 cal/g = 1.959×10^5 J/kg
12.13 **Heat of Combustion:** Not pertinent
12.14 **Heat of Decomposition:** Not pertinent
12.15 **Heat of Solution:** Not pertinent
12.16 **Heat of Polymerization:** Not pertinent
12.25 **Heat of Fusion:** 5.09 cal/g
12.26 **Limiting Value:** Data not available
12.27 **Reid Vapor Pressure:** 3.8 psia

NOTES

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Medtox Hotline

1. Twenty-four hour answering service - (501) 370-8263

   What to Report:

   - State: "This is an emergency."
   - Your name, region, and site
   - Telephone number to reach you
   - Name of person injured or exposed
   - Nature of emergency
   - Action taken

2. One of three toxicologists (Drs. Raymond Harbison, Richard Freeman, or Robert James) will contact you. Repeat the information given to the answering service.

3. If a toxicologist does not return your call within 15 minutes, call the following persons in order until contact is made:

   E & E Corporate Headquarters (EST 0830-1700) - (716) 632-4491

   a. Twenty-four hour line - (716) 631-9530

   b. Corporate Safety Director - Paul Jonmaire (Office) (716) 632-4491

   c. Assistant Corporate Safety Officer - Steve Sherman (home (716) 688-0084)

Regional Office

Office Phone Number: (312) 663-9415

	Name	Home
Team Leader	Rene' Van Someren	(312)763-7335
Regional Safety Coordinator	Paul Moss	(312)541-6635

PROCEDURES TO FOLLOW WHEN INVOLVED IN A VEHICULAR ACCIDENT ON COMPANY TIME

1. Determine if there are any injuries. If so, call for police and medical assistance immediately.

2. Then call the office as soon as possible and ask to speak to the following people in order they appear here: Mary Ann Spidalette, Kathy Getty, Rene' Van Someren, Jerry Oskvarek, Tim McDermott, Mary Jane Ripp or Mike Miller. If there are injuries to any E & E personnel or if there are serious injuries to the other party, try to reach any of these people at home. Try to have as much information as possible about any injuries sustained.

3. If there are no injuries, call the police and then call the office as soon as possible.

You will be asked to provide the following information when you call in to the office. Obtain as much information as possible before calling.

1. Name(s) of the owner(s) of the other vehicle(s) involved and any occupants.

2. Insurance carrier(s) of the other party(ies).

3. License plate and vehicle registration numbers of the other vehicle(s) involved. In addition, note the make, model and year of the car(s).

4. Name(s) of our driver and any occupants.

5. License plate and serial numbers of our vehicle as well as the make, model and year. If our vehicle is a rental car, also state the rental agency and location.

6. Location and time of the accident.

7. Description of the accident itself. Include circumstances such as the weather and physical surroundings. Upon return to the office, you will be asked to provide a sketch of the accident so you should rough draft the sketch at the scene.

8. Obtain at least one copy of the police report. This will be submitted to Buffalo with a memo and the sketch.

9. Description of damage done to our vehicle and any other involved vehicles. If you have a camera, take pictures of the damage done and any other informative or contributing conditions.

10. If the vehicle is ours and not a rental, you will need to obtain 3 estimates for repair. Depending on the degree of damage, this may be done in the field or back in Chicago.

When completing the police report, you may need the following information if you were driving one of our vehicles:

1. Our vehicles are owned by the U.S. Government; Environmental Protection Agency; c/o Ecology and Environment, Inc., Hans Neumaier, Director of Administrative Services.

2. Our insurance is with Fireman's Fund, c/o E & E, Hans Neumaier, Director of Administrative Services.

3. Buffalo's address is:

195 Holtz
Buffalo, NY 14225

91Q:1X

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
C. Almanza	Betty McLain (Mother-In-Law) (312-422-8379)	A+	None	None
P. Alvey	Lisa Heeg 312-257-7761 Ext. 278 (Work) 312-366-7292 (Home)		None	Allergic to Penicillin, spiders and bees
S. Anderson	Fay Fitz-Hugh (815) (758-6430)	A-	None	None
M. Arnold	Ray Arnold (Father) (312) 392-7787	A+	None	Hay Fever
J. Aryee	Sister & Brother-in-law 821-7119		Dr. Mahama Columbus Hosp. 266-8223	Allergic to Aspirin, and Coffee
C. Bachunas	Parents 312-964-8617		Dr. Kelly 312-232-0319	Contact Lens
G. Balanoff	Jennifer Rich (Wife) 572-2194 (W) 442-5958 (H)	B-	None	None
D. Banks	Mother 312-626-8396		None	None
R. Bayer	James Bayer (Father) (414) 739-3842		None	Contact Lens
C. Bieze	Wife 312-695-7712 (Kerry)	AB-	Sherman Hsp. Elgin, IL	None
W. Borchardt	Pamela Borchardt 815-756-4910 (H) 312-547-5200 (W)		Dr. Edward Hirsch 815-895-9144	Allergic to penicilin & Bee Stings
M. Broll	Marilyn Broll (Mother) (312) 456-2531	AB+	Gottlieb Hospital Melrose Park, IL	Allergic to silk sutures
J. Carman	Wife 312-922-9410		None	Allergic to cats hornests and wasps
B. Castillo	Carlos Castillo 581-6153			
M. Cerasuolo	Lisa Lostumbo (sister) (312) 795-6308		None	None
C. Chaberski	Chris Radecki (Sister)	O-	Dr. Couropmitre McNeil Hos. Berwyn, IL	Hay Fever, Contact Lens

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
S. Chan	Judy Tow (Aunt) (312) 326-2396		Mercy Hospital	None
L.A. Cisneros	Joe Cisneros (Husband) (312) 665-6841	AB+	None	None
D. Clark	Don & Almira Clark (Parents) (309) 364-2590	O	None	Contact Lens
S. Clark	Mike Clark (Father) (813) 649-7214	O+	Evanston Hospital	None
T. Clyne	Brother 402-477-3697 (H) 402-475-4591 (W)	O	None	
G. Cobb	Bruce Cobb (Father) (217) 459-2749			Contact Lens
J. Corns	Joseph Corns (Father) (219) 924-1509		None	Wear Glases
G. Donley	Lucy Thomas (Aunt) 312-821-5394		Cook County Hospital	Hay Fever
K. Dulik	Ed Dulik (312) 442-7198	A+	None	None
R. Ekstrom	Karen (Wife) Work 347-2428 Home 477-5382 Parents 620-0380	A+	None	Contact Lens
R. Ellison	John Ellison (Father) (716) 254-1131		None	Hay Fever; allergic to pollens, dust
M. Feltes	Roman Feltes (Father) (608) 323-3894		None	None
G. Ferguson	Virginia Ferguson (616) 381-1231	O+	Dr. Granieri N.M.H.	
D. Fleischer	Daniel and Bernadette Fleischer (Parents) (312) 469-8659		Good Samaritan Hospital Downers Grove, IL	None
V. Gee	Barbara Gee (Mother) 312/687-7200 Ext. 2435 (Work)	AB-	None	None
J. Geiger	Parents 312-255-5689	A-	None	None
M. Geraminegad	Nasrin Haghighat (312) 947-4735 (W) (312) 960-9487 (H)	-	None	None
K. Getty	Mother 312-897-2108 Dale 312-420-1878			Sun Sensitivity Low Blood Pressure
T. Gladan	Mrs. V. Gladan (Mother) 312-675-3440		None	Allergic to Erythromycin
J. Goode	Parents (312) 622-6071	O+	None	None

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
R. Graham	Parents 815-725-9342	A+	None	None
D. Gronke	Mary Hocuk (Mother) 227-0956			
M. Gzyra	Helen & Dan Garcia (Sister) (312) 376-3777		University of Illinois Medical Center	Allergic to dilantin Taking Phenobarbitol
B. Haugh	Mother 312-424-5937 (Kathleen) Father (312)-WA5-4300 Tim	B+	Christ Hospital Oak Lawn, IL	Allergic to Tetracyclene and Erythromycin
M. Hein	Barbara Hein (219) 836-7910 (219) 836-5800 Ext. 2449		Dr. Mason Hammond, IN Hammond Clinic	Contact Lens
R. Hingtgen	Parents 815-747-3961 (H) 815-747-3173		None	Glasses, epilepsy, no spleen or gall bladder
R. Hix	Parents 312-897-7224 laude 312-969-6639	O		
G. Hochgraf	Eva Hochgraf (Wife) 312-955-2931	A+?	None	None
R. A. Jacquette	Parents 312-623-6792	O+	Dr. Barnes and Dr. Andrews Victory Memorial Hospital in Waukegan	Allergic to bee stings and sulfa drugs
B. Jones	Jon Martin Jones (312) 289-7620 (W)	-	None	Allergic to Tetracycline
D. Kaiser	Martin Kaiser (Father) (312) 945-4977	B+	Dr. Symann (Deerfield)	Hay Fever
J. Kaiser	Mother (Carole Kaiser) 965-0875 (H) 965-3360 (Bus) Father (John) 864-1628 (H) (414) 273-4854 (Bus.)	O	Rush-Presb. St. Lukes or Cook County Hospital	None
Z. Kaufman	Lon Kaufman 996-5822		Dr. Humawiecki	Contact Lens/glasses
D. Klatt	Matt Oberst 887-6008 (W) 852-9685 (H)			Allergic to codine
M. Kloker	Kevin Kloker (Brother) (312) 392-6014	B+	Dr. Shlyak St. Francis Hospital/Evanston	Contact Lens; migraine headaches; allergic to molds
T. Kouris	George Kouris (219) 838 0217 (H)	O+	None	Contacts
F. Kranik	Parents (412) 824-2711	B-	None	None

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
J. Lazinski	Lori Steele (Sister) (312) 934-8649		None	Allergic to penicillin, erythromycin, acromycin
R. Livingston	Mother 312-568-4855	AB+		
D. Lombardi	Yolanda Carlson (312) 354-4562	B+	None	Hay Fever, Dust Allergies
D. Lynch	Billene Smith 815-498-3169	O	None	None
K. Lyons	John Lyons (Father) (414) 386-2614		None	None
L. Mainquist	Tony Groble (Husband) 724-2478 (Home)	O-	Glenview Medical Assoc.	Wear Contacts
T. Maley	Mary Maley (Mother) 312-448-2985			None
M. Martin	John Martin (Father) (312) 748-6487 (Home)	A-	None	Possible spring hay fever, hernia
T. Mayers	Joan Mayers (Mother) (312) 394-8683		None	None
T. McDermott	Parents 312-424-2544 Cynthia Jones 312-386-6045	O+		Contact Lens
K. McTigue	Patty Richman (Sister) (312) 371-2100 (Office) (312) 479-1175 (Home)	A-	Dr. Dan O'Reilly Palos Community Hos. Palos Heights, IL	None
J. Mertes	James A. Mertes Shirley A. Mertes (Parents) (715) 423-6117	AB-	None	Contact Lens; Allergic to dusts/hay fever
M. Miller	Toni (Wife) Parents 813-932-3963	A-	Trauma Center	Contacts
K. Mortell	Father (312) 453-6032 (H) Mother 341-3545 (W)	O+	None	None
P. Moss	Pat Hartman (Wife) 312-391-9122 or 541-6635	O+	Dr. Donald Cohen 312-679-4070 Skokie Valley Community Hospital	Allergic to iodine, bee stings, nuts, and ampicillin
J. Nakis	Rose Nakis (815) 886-3079	O	Dr. Ladd	
M. Nesterenko	Barbara Nesterenko (Mother) (312) 491-0122		None	None

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
K. Neswick	Russell Neswick (Father) 331-0130 Katherine Nesiewicz (grandmother) 841-5125	A+	None	None
D. Nova	Mother (312) 278-7136	O-	Dr. Charous (442-6500) MacNeil Hospital	Dr. Charous will give background information
T. O'Brien	Mary O'Brien (Mother) (312) 238-1064	O-	None	Contact Lens
J. Oskvarek	Mother (312) 545-0616			Possible allergic to Penicillin
T. Pachowicz	Wife (312) 692-2016 (Home) (312) 887-1420 (Work)		None	None
P. Petrella	Mr. John Petrella (216) 755-5689 471 Peter's Drive Campbell, Ohio 44415		None (Background infor. available from Dr. Nathan Belinky (1044 Wilson Ave. Campbell, Ohio 44506)	
K. Phillips	Wife (312) 231-7030	O+	Central Dupage Hospital	No allergies
B. Poole	Parents (312) 833-3685		None	None
C. Pugh	Mother 219-838-6320 (H) 219-836-8810 (W) Brother 219-845-8306		None	Sun Sensitivity
J. Ratliffe	John Price 274-9705 (W) 975-1319 (H)	?	None	Crohn's Disease
M. J. Ripp	Parents 608-849-4138		None	Sulfa drug allergy
C. Schlesinger	David & Flo Schlesinger (312) 985-5260 (Home) (312) 985-7997 (Office)		Univ. of IL Medical Center	Contact Lens; allergic to animal hair, pollen
M. Selway	Linda Selway (Wife) 312-328-3364 (Home)	A+	Weiss Memorial Hospital Dr. Keer	None
D. Sewall	Parents 312-485-5834 Joan (Wife) 312-246-9129 Work 312-454-1471	B+	None	
R. Short	William Short (Father) (312) 448-8498		None	None
K. Sims	Parents 312-775-7825		None	Glasses

ECOLOGY & ENVIRONMENT, INC.
REGION V EMERGENCY INFORMATION

Revised 4/87
PDM

NAME	EMERGENCY CONTACTS	BLOOD TYPE	DOCTOR/HOSPITAL PREFERENCES	SPECIAL MEDICAL INFORMATION
P. Sklar	Cheryl Olson-Sklar (312) 384-5035 (H)		None	Allergic to dust, Hay fever, seasonal asthma
T. Slavik	Pat Croy (Uncle) (312) 429-2769 Vicki Papez (Fiancee) (312) 981-0785	A+	None	Allergic to cats, dogs, dust; hay fever
P. Smith	Parents 715-634-8706 (Summer) 612-777-6160	A+	None	None
M.A. Spidalette	312-788-0917 (H) 312-726-2840 (W)		West Suburban Hos.	
A. Stumpf	Jim Stumpf (Husband) 439-0662 (Work) 380-7159 (Home)	O+	None	Wears Contact; allergic to bee stings
T. Sullivan	Mary Ann Sullivan (Wife) (312) 764-1607		None	Allergic to Penicillin
Tom Sullivan	Terrie Sullivan 869-3810	A-		
J. Swano	Julia Swano 382-2636		Dr. MacDougna Barrington Family Doc. 381-3000	Glasses
R. Van Someren	Cathleen 312-763-7335 (Wife)	AB+	Resurrection Hos. Park Ridge, IL	
J. Velasco	Carla Velasco (Wife) (312) 329-1987 (H) (312) 558-7000 (W)	O+	Northwestern Hospital	Allergic to pollen; mild asthma
K. Von Heimburg	Karl Von Heimburg (Father) (312) ( )	O-	None	Wear glasses; allergic to cats
D. Vrablic	Blanche Vrablic (Mother) (312) 865-0727			Contact Lens, Asthmatic, Allergies
K. Walker	Parents 312-466-4267 Father (Work) 312-859-5877	O-	None	Allergic to penicillin
K. Webb	Judy Shank (312) 598-2497	O+	None	Poison Ivy
B. Wiley	William Wiley, Sr. Father		Dr. Lobue St. James Hos. Chicago Heights, IL 756-1000	Allergic to darvon and codeine
B. Wolff	Gail Wolff (Mother) (312) 835-3357		Highland Park Hos. Dr. Hu Allen	

Before calling emergency numbers attempt to contact: Paul Moss (312) 541-6635

SITE DOSIMETER LOG

TDD# F05-8705-017 SITE NAME Municipal Landfill Arlington Heights

SITE SAFETY OFFICER John Lazinski WEEK OF 10-1-87

NAME AND DOSIM. #	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Karen McTigue							
Regina Bayer							
John Lazinski							
Gerard Breen							

To the nearest half-hour, record time spent downrange as "S" (e.g., S: 2.5 hrs), time spent in active PDS operation as "P", and any time spent downrange in rescue activity as "R".

ECOLOGY & ENVIRONMENT, INC.
REGION 5
FIELD EQUIPMENT CHECKLIST

TEAM LEADER: GERARD BREEN

PAN: FIL0533GA

DATE OF DEPARTURE: 10-1-87

EXPECTED DATE OF RETURN: 10-1-87

A) Safety Instruments

____ Photovac TIP ID# ____
____ HNU, 10.2 OR 11 LAMP ID# ____
✓ OVA (organic vapor analyzer) ID# ____
✓ Explosimeter/O2 meter ID# ____
✓ Drager pump, specify tube type (HCN, Natural Gas, or other) ID# ____
✓ Rad-Mini ID# ____
____ Radiation, other: ____ ID# ____
____ Monitox (HCN) ID# ____
____ Heat stress monitor ID# ____
____ Noise equipment ID# ____
____ Dust monitor-MDA system ID# ____

B) First Aid Equipment (specify quantity)

✓ First aid kit
____ Oxygen inhalator
4 Safty Glasses
____ Life vests
____ Ice vests
✓ Eye wash bottle

C) Respiratory Equipment (specify quantity)

____ Racal P.A.P.R. ID# ____
____ Robert Shaw escape mask ID# ____
____ MSA SCBA ID# ____
____ Extra air cylinders ID# ____

D) Respiratory Cartridges (specify quantity)

8 pairs ✓ GMC-H
____ GM-P
____ HEPA (for racal)
____ Other: ____

E) Protective Clothing

1. Suits (specify quantity)

____ Splash aprons
____ Saranex, Size: M__, L__, XL__
10 ✓ Tyvek, Size: M 2, L 4, XL__, XXL__
____ Butyl acid suits
____ Fully encapsulated suits
____ Other: ____

2. Gloves (specify quantity)

1 Latex disposable, Size: M__, L ✓
10 pair Butyl Rubber, Size: M__, L ✓
____ Nitrile, Size: M__, L__
____ Neoprene, Size: M__, L__
____ Viton, Size: M__, L__
____ Glove liners, Size: M__, L__

3. Boots (specify quantity)

____ Neoprene, Size: ____
9 pair Latex disposable, Size: L ✓, XL__
____ Other: ____, Size: ____

A) Vehicles

✓ Suburban ID# ____
____ Cargo Van ID# ____
____ Step Van ID# ____

B) Sample Bottles (specify quantity)

____ 80 oz. amber glass
____ 1 lt. amber glass
____ 40 ml. vial
____ 1 lt. plastic
15 8 oz. glass
15 120 ml. glass
____ Dioxin Sample Kit

C) Preservatives (specify quantity)

____ HNO3
____ NaOH
____ Other: ____

D) Decon Supplies (specify quantity)

4 Wash tubs
✓ Buckets
✓ Scrub brushes
____ Solvent
✓ Detergent (Alconox)
2 packs ✓ MSA Sanitizing solution

E) Field Equipment ____ (specify quantity)

____ Conductivity meter ID# ____
____ PH meter ID# ____
____ Thermometer ID# ____
____ Masterflex pump and filter apparatus ID# ____
✓ Camera ID# ____
____ Compass ID# ____
____ Water-level indicator ID# ____
____ Split-spoon samplers ID# ____
____ Bailers ID# ____
____ Magnetometer ID# ____
____ Resistivity meter ID# ____
____ Robair pump system ID# ____
____ PVC hand pump ID# ____
____ Well point sampler ID# ____
____ Air sampling pump kits ID# ____
____ Buck calibrator ID# ____
____ Meteorological station ID# ____
____ Metal detector ID# ____
____ Level/tripod and rod ID# ____
____ Pitcher pump ID# ____
____ Photovac ID# ____
____ Thermal desorber ID# ____
____ Other: ____ ID# ____

2 coolers
Soil Sampling Equipment
6 trowels & mixing bowls

ECOLOGY AND ENVIRONMENT, INC.
FIELD INVESTIGATION TEAM
ON-SITE SAFETY MEETING

Project Municipal Landfill Arlington Heights

Date 10-1-87 **Time** _____ **Job No.** FIL0533GA

Address Rt. 68 & Kennicott St. / Arlington Heights, Ill.

Specific Location _____

Type of Work _____

SAFETY TOPICS PRESENTED

Protective Clothing/Equipment _____

Chemical Hazards _____

Physical Hazards _____

Emergency Procedures _____

Hospital/Clinic _____ **Phone** _____

Special Equipment _____

Other _____

ECOLOGY AND ENVIRONMENT, INC.
FIELD INVESTIGATION TEAM
ON-SITE SAFETY MEETING

ATTENDEES

Name (Printed)	Signature
Gerard Breen	
John Lazinski	
Regina Bayer	
Karen McTigue	

Meeting Conducted By:

John Lazinski

Site Safety Officer:

John Lazinski

Team Leader:

Gerard Breen

ON-SITE SAFETY LOG

ECOLOGY AND ENVIRONMENT, INC.
CHICAGO

A. ON-SITE MONITORING

	EQUIPMENT USED	BACKGROUND READING IN BREATHING ZONE	CALIBRATED AT	ON-SITE READING IN BREATHING ZONE
1.	OVA + calib. gas			
2.	Explosimeter			
3.	O_2 meter			
4.	Rad-mini			
5.	Drager pump/HCN tubes			

B. PROTECTIVE CLOTHING WORN: _____

C. SITE NAME: Arlington Hts. Mun. Landfill PROJECT NUMBER: FIL0533GA
DATE: _____
WEATHER CONDITIONS: _____
NAMES OF ATTENDEES AT SITE: _____

D. COMMENTS ON MONITORING OR PROTECTIVE CLOTHING _____

	NAME	SIGNATURE
TEAM LEADER:	Gerard Breen	
SITE SAFETY OFFICER:	John Lazinski	

(P.D. Moss, 1/85)