IL-0367-04
R05-8410-01B

ECOLOGY AND ENVIRONMENT, INC.

FIELD INVESTIGATION TEAM

SITE SAFETY PLAN

US EPA RECORDS CENTER REGION 5
449949

A. GENERAL INFORMATION

SITE: Caraveile Wood Product Inc. TDD NO: R05-8410-01B

WSTS NO: IL 0367

LOCATION: 3333 East End Ave. S. Chicago Heights, Ill.

PLAN PREPARED BY: JANE ANDERSON DATE: 8/8/85

APPROVED BY: Paul D. Moss DATE: 8-9-85

OBJECTIVE (including description of work to be performed):

A site inspection of this facility will be conducted No samples will be taken.

PROPOSED DATE OF INVESTIGATION: 8/26/85

BACKGROUND REVIEW: Complete: ____ Preliminary: X

DOCUMENTATION SUMMARY: OVERALL HAZARD: Serious: ____ Moderate: ____

Low: X Unknown: ____

B. SITE/WASTE CHARACTERISTICS

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

CHARACTERISTIC(S): Corrosive ____ Ignitable X Radioactive ____

Volatile ____ Toxic X Reactive X Unknown ____ Other (Name) ____ X PERSISTENT

FACILITY DESCRIPTION: This facility is an active producer of wooden kitchen cabinets.

Principal Disposal Method (type and location): Waste is taken to a landfill and not disposed of on site

Unusual Features (dike intergrity, power lines, terrain, etc.): NONE KNOWN.

Status: (active, inactive, unknown) Active

History: (Worker or non-worker injury; complaints from public; previous agency action): No complaints reported.

C. HAZARD EVALUATION

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

- Toluene
- Ethylacetate
- Ketones

D. SITE SAFETY WORK PLAN

PERIMETER ESTABLISHMENT: Map/Sketch Attached YES Site Secured? YES

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

ASSUME ENTIRE SITE TO BE CONTAMINATED

PERSONAL PROTECTION

Level of Protection: A ____ B ____ C ____ D X

Modifications: Upgrade if action levels are exceeded.

Surveillance Equipment and Materials:

HNu & OVA 0 ppm above background = level D
1-5 ppm above background = " C
<500>5 ppm above background = " B
>500 ppm above background = " A

Explosimeter >30% LEL = Abandon Site, Contact RSC
O_2 meter <19.5%, 25% = Abandon Site, Contact RSC
Drager Tube - any positive color change = Abandon site
Rad MINI - anything above background = Abandon site contact RSC

* FOR PURPOSES OF THIS SITE, ONLY A RAD-MINI IS NEEDED.

DECONTAMINATION PROCEDURES: All potentially contaminated equipment will be washed with soapy water & rinsed. All wash and rinse water will be left on site

Special Equipment, Facilities, or Procedures: Hard hat, Steel toe boots

SITE ENTRY PROCEDURES: The appropriate site safety officers will be met prior to site entry. All industrial safety plans will be followed.

Team Member	Responsibility
Jane ANDERSON	Team Leader
John Geiger	Team Member

WORK LIMITATIONS (Time of day, etc.): Work will be done during daylight hours

INVESTIGATION-DERIVED MATERIAL DISPOSAL: All investigation derived materials will be doubled bagged and labled as Potentially Hazardous and left on site. Prior permission will be obtained.

E. EMERGENCY INFORMATION*

LOCAL RESOURCES

Ambulance Daley's Ambulance 755-4034
Hospital Emergency Room St James Hospital 756-1000
Poison Control Center 1-800-942-5969
Police 754-7131
Fire Department 754-7131
Airport Midway
Explosives Unit 754-7131
EPA Contact Don Josifs 312-886-0393

SITE RESOURCES

Water Supply FIT will supply
Telephone To be determined prior to site entry
Radio NA
Other NA

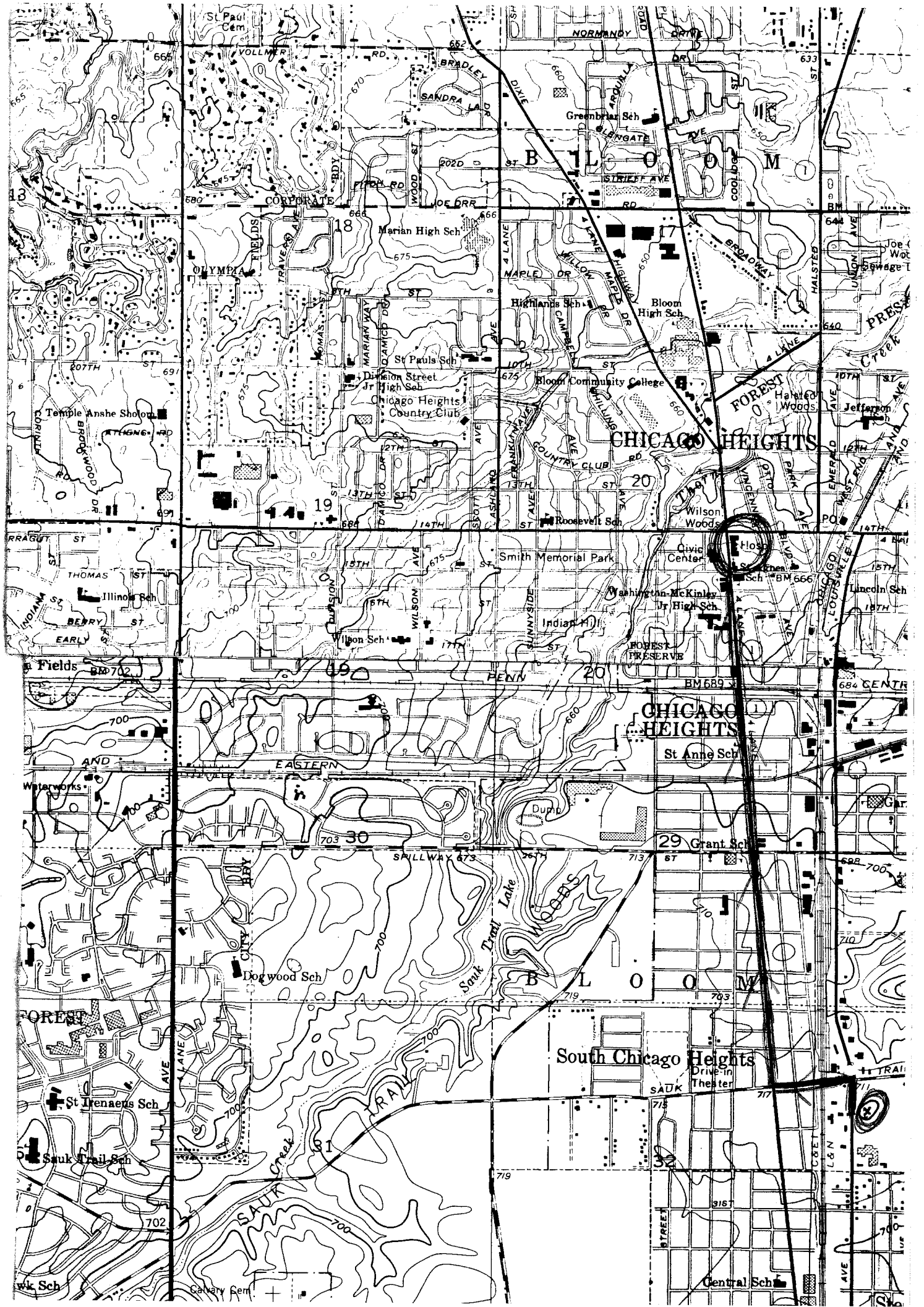
EMERGENCY CONTACTS

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) 358-9342 (24 hours)
3. FIT Leader - Joseph Petrilli ..... (312) 561-7639
4. FIT Office ..... (312) 663-9415
5. E & E 24 Hour Call Line ..... (716) 631-9530 (24 Hours; Cal Forwarding)
6. Regional Health Maintenance Program Contact ..... PMI - (312) 832-8820
   8:00 a.m. - 5:00 p.m.
7. Dave Dahlstrom ..... (716) 741-2384 (home)
   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: Take East End Ave North ½ block, to Sauk Trail West ½ mile, to Rt 1 (Chicago Rd) North 2 miles. Hospital is on the SE corner of Chicago Rd. & 14th


St Paul Cem
VOLLMER RD
BRADLEY
SANDRA LA
DIXIE
NORMANDY DRIVE
Greenbriar Sch
ARGYLE DR
BINGATE AVE
B L O O M
STREETT AVE
COOLIDGE
CORPORATE
FITCH RD
WOOD ST
JOE DRR
Marian High Sch
OLYMPIA FIELDS
TRAVERSO AVE
THOMAS ST
MARIAN WAY
D'AMICO DR
4 LANE
WILLOW
MAPLE DR
HIGHLAND
Highlands Sch
Bloom High Sch
BROADWAY
HALSTED
UNION AVE
Sewage
PRESS
Creek
St Pauls Sch
Division Street Jr High Sch
Chicago Heights Country Club
Bloom Community College
CAMPBELL
WILLING
FRANKLIN AVE
COUNTRY CLUB RD
FOREST
Halsted Woods
Jefferson Sch
Temple Anshe Sholom
BROOKWOOD DR
CHICAGO HEIGHTS
Roosevelt Sch
Wilson Woods
Civic Center
Hosp
St Stephen Sch
Smith Memorial Park
Washington-McKinley Jr High Sch
Lincoln Sch
Illinois Sch
BERRY ST
EARLY
Wilson Sch
Indian Hill
FOREST PRESERVE
Fields
PENN
CHICAGO HEIGHTS
St Anne Sch
EASTERN
Waterworks
Dump
Grant Sch
SPILLWAY
Sauk Trail Lake
WOODS
Dogwood Sch
B L O O M
FOREST
South Chicago Heights
Drive-In Theater
SAUK TRAIL
St Irenaeus Sch
Sauk Trail Sch
SAUK Creek
Calvary Cem
Central Sch

ecology and environment, inc.

HAZARD EVALUATION OF CHEMICALS

Chemical Name Ethyl Acetate Date 8-8-85

DOT Name ETA IDO Number 05-8410-018

CAS Number 141-78-6

References Consulted (circle):

(NIOSH/OSHA Pocket Guide) Verschueren (Merck Index) Hazardline Chris (Vol. II)

Toxic and Hazardous Safety Manual (ACGIH) Others:

Chemical Properties: (Synonyms: acetic acid ethylester, acetic ether)

Chemical Formula $C_4H_8O_2$ Molecular Weight 88.10

Physical State liquid Solubility (H_2O) 8.7% Boiling Point 77° C

Flash Point +7.2° C Vapor Pressure/Density 76 mm (3.0 gas) Freezing Point -83 °C

Specific Gravity .902 liquid Odor/Odor Threshold FRUITY 1 ppm Explosive Limits 2.2-11.0% in air

Incompatabilities Nitrates, oxidizers, alkalis, acids

Biological Properties:

TLV-TWA 400 ppm PEL 400 ppm

IDLH 10000 ppm Human Aquatic Rat/Mouse 11.3g/kg = LD_{50}

Route of Exposure inhalation, ingestion, dermal

Carcinogen Teratogen Mutagen

Handling Recommendations: (Personal protective measures)

splash protection, goggles/shield.

Disposal/Waste Treatment:

Incineration

Health Hazards and First Aid:

inhalation irritant eyes, nose, throat; ingestion - narcosis, dermatitis

EYES - wash/FLUSH SKIN - WASH INGESTION - vomit w/ipecac

Symptoms: Acute: eyes, skin, resp. tract irritation

Chronic: dermatitis, narcosis

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(12/83, DLD)

ETA

ETHYL ACETATE

Common Synonyms
Acetic acid, ethyl ester
Acetic ester
Vinegar naphtha

Watery liquid — Colorless — Pleasant fruity odor

Floats on water. Flammable, irritating vapor is produced.

Stop discharge if possible. Keep people away.
Shut off ignition sources and call fire department.
Stay upwind and use water spray to "knock down" vapor.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Extinguish with dry chemical, alcohol foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose and throat.
If inhaled will cause headache, dizziness, nausea, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
Harmful if swallowed.
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.

Water Pollution

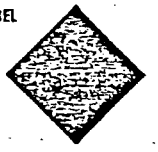
Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook, CG 446-6)

Issue warning—high flammability
Evacuate area
Disperse and flush

2. LABEL



3. CHEMICAL DESIGNATIONS

3.1 Synonyms: Acetic acid, ethyl ester
Acetic ester
Acetic ether
Ethyl ethanoate

3.2 Coast Guard Compatibility Classification: Ester

3.3 Chemical Formula: $CH_3COOCH_2CH_3$

3.4 IMCO/United Nations Numerical Designation: 3.2/1173

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid

4.2 Color: Colorless

4.3 Odor: Pleasant, fruity

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Organic vapor canister or air mask; goggles or face shield.

5.2 Symptoms Following Exposure: Headache, irritation of respiratory passages and eyes, dizziness and nausea, weakness, loss of consciousness.

5.3 Treatment for Exposure: INHALATION: if victim is overcome, move him to fresh air immediately and call a physician; if breathing is irregular or stopped, start resuscitation and administer oxygen. EYES: flush with water for at least 15 min.

5.4 Toxicity by Inhalation (Threshold Limit Value): 400 ppm

5.5 Short-Term Inhalation Limits: 1000 ppm for 15 min.

5.6 Toxicity by Ingestion: Grade 2: LD_{50} 0.5 to 5 g/kg

5.7 Late Toxicity: Data not available

5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. 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: 1 ppm

6. FIRE HAZARDS

6.1 Flash Point: 24°F C.C.; 55°F O.C.

6.2 Flammable Limits in Air: 2.2% – 9.0%

6.3 Fire Extinguishing Agents: Alcohol foam, carbon dioxide or dry chemicals

6.4 Fire Extinguishing Agents Not to be Used: Not pertinent

6.5 Special Hazards of Combustion Products: Not pertinent

6.6 Behavior in Fire: Not pertinent

6.7 Ignition Temperature: 800°F

6.8 Electrical Hazard: Class I, group D

6.9 Burning Rate: 3.7 mm/min.

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

8. WATER POLLUTION

8.1 Aquatic Toxicity: Data not available

8.2 Waterfowl Toxicity: Data not available

8.3 Biological Oxygen Demand (BOD): (Theor.) 66%, 5 days

8.4 Food Chain Concentration Potential: None

9. SELECTED MANUFACTURERS

1. Eastman Kodak Co.
Tennessee Eastman Co., Div.
Kingsport, Tenn. 37662

2. Monsanto Co.
Monsanto Industrial Chemicals Co.
800 North Lindbergh Blvd.
St. Louis, Mo. 63166

3. Union Carbide Corp.
Chemicals and Plastics Div.
270 Park Ave.
New York, N. Y. 10017

10. SHIPPING INFORMATION

10.1 Grades or Purity: 85—100%

10.2 Storage Temperature: Ambient

10.3 Inert Atmosphere: No requirement

10.4 Venting: Open (flame arrester) or pressure-vacuum

11. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook, CG 446-3)

A-P-Q

12. HAZARD CLASSIFICATIONS

12.1 Code of Federal Regulations: Flammable liquid

12.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	2
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self-Reaction	0

12.3 NFPA Hazard Classifications:

Category	Classification
Health Hazard (Blue)	1
Flammability (Red)	3
Reactivity (Yellow)	0

13. PHYSICAL AND CHEMICAL PROPERTIES

13.1 Physical State at 15°C and 1 atm: Liquid

13.2 Molecular Weight: 88.11

13.3 Boiling Point at 1 atm: 171°F = 77°C = 350°K

13.4 Freezing Point: −117°F = −83°C = 190°K

13.5 Critical Temperature: 482°F = 250°C = 523°K

13.6 Critical Pressure: 558 psia = 38 atm = 3.8 MN/m²

13.7 Specific Gravity: 0.902 at 20°C (liquid)

13.8 Liquid Surface Tension: 24 dynes/cm = 0.024 N/m at 20°C

13.9 Liquid-Water Interfacial Tension: 6.79 dynes/cm = 0.00679 N/m at 30°C

13.10 Vapor (Gas) Specific Gravity: 3.0

13.11 Ratio of Specific Heats of Vapor (Gas): 1.080

13.12 Latent Heat of Vaporization: 158 Btu/lb = 87.6 cal/g = 3.67 × 10³ J/kg

13.13 Heat of Combustion: −10,110 Btu/lb = −5616 cal/g = −235.1 × 10³ J/kg

13.14 Heat of Decomposition: Not pertinent

13.15 Heat of Solution: Not pertinent

13.16 Heat of Polymerization: Not pertinent

(Continued on pages 5 and 6)

NOTES

ecology and environment, inc.

HAZARD EVALUATION OF CHEMICALS

Chemical Name TOLUENE Date 8-8-85

DOT Name TOLUENE TDD Number 05-8410-018

CAS Number 108-88-3

References Consulted (circle):

NIOSH/OSHA Pocket Guide Verschueren Merck Index Hazardline Chris (Vol. II)

Toxic and Hazardous Safety Manual ACGIH Other: RTECS VOL 3

Chemical Properties: (Synonyms: Toluol, Methylbenzene, Methylbenzol)

Chemical Formula $C_6H_5CH_3$ Molecular Weight 92.14

Physical State Liquid Solubility (H_2O) 0.05% Boiling Point 231.1 °F

Flash Point 40 °F Vapor Pressure/Density 22 mm Freezing Point -139 °F

Specific Gravity 0.867 Odor/Odor Threshold 0.17 Flammable Limits 1.27% - 7%

Incompatabilities Strong oxidizers

Biological Properties:

TLV-TWA 100 ppm PEL 200 PPM

IDLH 2000 PPM Human 100 PPM Aquatic 100-10 PPM Rat/Mouse 5000 mg/kg

Route of Exposure Inhalation, Absorption, Ingestion, Contact

Carcinogen Teratogen Mutagen

Handling Recommendations: (Personal protective measures)

SCBA, FACE SHIELD, PLASTIC GLOVES

SCBA (500 PPM)

Disposal/Waste Treatment:

Absorb ~~in~~ on paper towels, and dispose of by combustion

Health Hazards and First Aid:

Eye-Irr. Immediately; Skin-Soap wash promptly;

Breathing-Artificial Respiration; Swallow-NO VOMIT

Symptoms: Acute: Irr. nose, eyes, Fatigue, weak, dizzness,

Chronic: CNS, liver, kidneys, skin

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(12/83, DLD)

TOL	TOLUENE

Common Synonyms			
Toluol Methylbenzene Methylbenzol	Watery liquid	Colorless	Pleasant odor

Floats on water. Flammable, irritating vapor is produced.

Stop discharge if possible. Keep people away.
Shut off ignition sources and call fire department.
Stay upwind and use water spray to "knock down" vapor.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE.
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear goggles and self-contained breathing apparatus.
Extinguish with dry chemical, foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
If swallowed, will cause nausea, vomiting or loss of consciousness.
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.
DO NOT INDUCE VOMITING.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
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, CG 446-4)

Issue warning—high flammability
Evacuate area

2. LABEL

3. CHEMICAL DESIGNATIONS

3.1 **Synonyms:** Methylbenzene, Methylbenzol, Toluol

3.2 **Coast Guard Compatibility Classification:** Aromatic hydrocarbon

3.3 **Chemical Formula:** $C_6H_5CH_3$

3.4 **IMCO/United Nations Numerical Designation:** 3.2/1294

4. OBSERVABLE CHARACTERISTICS

4.1 **Physical State (as shipped):** Liquid

4.2 **Color:** Colorless

4.3 **Odor:** Pungent; aromatic, benzene-like; distinct, pleasant

5. HEALTH HAZARDS

5.1 **Personal Protective Equipment:** Air-supplied mask; goggles or face shield; plastic gloves.

5.2 **Symptoms Following Exposure:** Vapors irritate eyes and upper respiratory tract; cause dizziness, headache, anesthesia, respiratory arrest. Liquid irritates eyes and causes drying of skin. If aspirated, causes coughing, gagging, distress, and rapidly developing pulmonary edema. If ingested causes vomiting, griping, diarrhea, depressed respiration.

5.3 **Treatment for Exposure:** INHALATION: remove to fresh air, give artificial respiration and oxygen if needed; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.

5.4 **Toxicity by Inhalation (Threshold Limit Value):** 100 ppm

5.5 **Short-Term Inhalation Limits:** 600 ppm for 30 min.

5.6 **Toxicity by Ingestion:** Grade 2; LD_{50} 0.5 to 5 g/kg

5.7 **Late Toxicity:** Kidney and liver damage may follow ingestion.

5.8 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. 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:** 0.17 ppm

6. FIRE HAZARDS

6.1 **Flash Point:** 40°F C.C.; 55°F O.C.

6.2 **Flammable Limits in Air:** 1.27%—7%

6.3 **Fire Extinguishing Agents:** Carbon dioxide or dry chemical for small fires, ordinary foam for large fires.

6.4 **Fire Extinguishing Agents Not to be Used:** Water may be ineffective

6.5 **Special Hazards of Combustion Products:** Not pertinent

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:** 997°F

6.8 **Electrical Hazard:** Class I, Group D

6.9 **Burning Rate:** 5.7 mm/min.

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

8. WATER POLLUTION

8.1 **Aquatic Toxicity:** 1180 mg/l /96 hr/sunfish/TL_m/fresh water

8.2 **Waterfowl Toxicity:** Data not available

8.3 **Biological Oxygen Demand (BOD):** 0%, 5 days; 38% (theor.), 8 days

8.4 **Food Chain Concentration Potential:** None

9. SELECTED MANUFACTURERS

1. Exxon Chemical Co.
   Houston, Tex. 77001
2. Shell Chemical Co.
   Petrochemicals Division
   Houston, Tex. 77001
3. Sun Oil Co.
   St. Davids, Pa. 19087

10. SHIPPING INFORMATION

10.1 **Grades or Purity:** Research, reagent, nitration—all 99.8+%, industrial: contains 94+%, with 5% xylene and small amounts of benzene and nonaromatic hydrocarbons, 90/120: less pure than industrial.

10.2 **Storage Temperature:** Ambient

10.3 **Inert Atmosphere:** No requirement

10.4 **Venting:** Open (flame arrester) or pressure-vacuum

11. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook, CG 446-3)

A-T-U

12. HAZARD CLASSIFICATIONS

12.1 **Code of Federal Regulations:** Flammable liquid

12.2 **NAS Hazard Rating for Bulk Water Transportation:**

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self-Reaction	0

12.3 **NFPA Hazard Classifications:**

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

13. PHYSICAL AND CHEMICAL PROPERTIES

13.1 **Physical State at 15°C and 1 atm:** Liquid

13.2 **Molecular Weight:** 92.14

13.3 **Boiling Point at 1 atm:** 231.1°F = 110.6°C = 383.8°K

13.4 **Freezing Point:** −139°F = −95.0°C = 178.2°K

13.5 **Critical Temperature:** 605.4°F = 318.6°C = 591.8°K

13.6 **Critical Pressure:** 596.1 psia = 40.55 atm = 4.108 MN/m²

13.7 **Specific Gravity:** 0.867 at 20°C (liquid)

13.8 **Liquid Surface Tension:** 29.0 dynes/cm = 0.0290 N/m at 20°C

13.9 **Liquid-Water Interfacial Tension:** 36.1 dynes/cm = 0.0361 N/m at 25°C

13.10 **Vapor (Gas) Specific Gravity:** Not pertinent

13.11 **Ratio of Specific Heats of Vapor (Gas):** 1.089

13.12 **Latent Heat of Vaporization:** 155 Btu/lb = 86.1 cal/g = 3.61 × 10⁵ J/kg

13.13 **Heat of Combustion:** −17,430 Btu/lb = −9686 cal/g = −405.5 × 10³ J/kg

13.14 **Heat of Decomposition:** Not pertinent

13.15 **Heat of Solution:** Not pertinent

13.16 **Heat of Polymerization:** Not pertinent

(Continued on pages 5 and 6)

NOTES

Medtox Hotline

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

   What to report:

   o State: "This is an emergency."

   o Your name, region, and site

   o Telephone number to reach you

   o Name of person injured or exposed

   o Nature of emergency

   o 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 - David Dahlstrom (home - (716) 741-2384

   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) 358-9342

PM:4F

SITE DOSIMETER LOG

TDD# R05-8410-01B SITE NAME CARAVELLE Wood Products

SITE SAFETY OFFICER John Geiger WEEK OF Aug 26th

NAME AND DOSIM. #	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Jane Anderson							
John Geiger							

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 V EQUIPMENT LIST

Team Leader: JANE ANDERSON
TDD Number: R05-8410-01B
Date of Departure: 8/26/85
Date of Expected Return: 8/26/85

A. Safety Instruments (Please Circle)

	Drager Pump	A B C D E F
	MSA 2A Explosimeter	A B C D E F G
	MSA 260 Combustible Gas/O_2 Alarm	A
	HNU 101	A B C D E F
	Lamp Type: 10.2 or 11.7	
	MSA 245 Oxygen Indicator	A B C D E F
	Organic Vapor Analyses (OVA)	A B C
✓	Radiation - Mini	A B C D E F G
	Radiation - Survey Meter	A B C
	Rad - Tad	A B
	Radiation - Thyac III/Probe	A B C
	Dust Monitor - MDA System	A
	Monitox Hydrogen Cyanide Detector	A

B. First Aid Equipment

	First Aid Kit	1 2 3 4 5 6 7 8
	Eyewash Bottle	
	Oxygen Inhalator	A B C
	Blood Pressure Monitor	
2	Radiation TLD Badges	
	Safety Glasses	
	Lifevests	
2	Hard Hats	
	Face Shields	
	Ear Plugs	

C. Respiratory Equipment

	Ultratwin Respirator	Qty:
	Racal Air-powered Respirator	Qty:
	MSA Air-powered Respirator	Qty:
	Robert Shaw Escape Mask	Qty:
	MSA SCBA	Qty:
	Extra Air Cylinders	Qty:

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D. Respirator Cartridges

GMC-H	Qty:	_____
GM-P	Qty:	_____
HEPA	Qty:	_____
Other _____	Qty:	_____

E. Misc. Instrumentation

_____	Airdrive Pump (Geofilter)	A
_____	Canon AEL Camera	A B C
_____	Conductivity Meter	A B C D
_____	Level/Tripod and Rod	A B C
_____	Masterflex Pump and Filter	A B
_____	Metal Detector	A B C
_____	pH Meter	A B C D
___1___	Polarid One-step Camera	A B C D
_____	Resistivity Meter	A
_____	Robair Pump System	A
_____	Water-level Indicator	A B C
_____	Magnetometer	A B
_____	Air Sampling Pump Kits	A B C D E
_____	Buck Calibrator	A
_____	HNU 301 System	A
_____	Thermal Desorber	A B
_____	Meteorological (Weather) Station	A
_____	Binoculars	

F. Vehicles

_____	Step Van	A B C
_____	Cargo Van	A
_____	Suburban	A B

G. Protective Clothing

1) Outerware

Splash Aprons	Qty:	_____	Butyl Acid Suits	Qty:	_____
Saranax	Qty:	_____	Cold-weather Suits	Qty:	_____
Tyvek	Qty:	_____	Other _____	Qty:	_____
Coveralls	Qty:	_____	Fully-encapsulated Suit	Qty:	_____

2) Gloves

Latex Disposable	Qty:	_____	Viton	Qty:	_____
Butyl Rubber	Qty:	_____	Winter Drilling	Qty:	_____
Nitrile	Qty:	_____	Other _____	Qty:	_____
Neoprene	Qty:	_____			

3) Boots

Neoprene	Qty:	_____
Latex Disposable	Qty:	_____
Steel-toe	Qty:	X
Cold-weather i.e., sorrel	Qty:	_____
Other _____	Qty:	_____

H. Sample Bottles and Equipment

80 oz.	Qty:	_____
40 ml.	Qty:	_____
1 liter	Qty:	_____
120 ml.	Qty:	_____
8 oz.	Qty:	_____
32 oz.	Qty:	_____
Metal cans, clips, and lids	Qty:	_____
Bailers	Qty:	_____

I. Preservatives

NaOH _____
HN_3 _____
H_2SO_4 _____
Other _____

J. Drager Tubes

Hydrogen Cyanide	Qty:	_____
Sulfuric Acid	Qty:	_____
Natural Gas (Methane)	Qty:	_____
Arsenic Trioxide	Qty:	_____
Ammonia	Qty:	_____
Vinyl-chloride	Qty:	_____
Other _____	Qty:	_____

K. Decon Supplies

Wash Tubs	Qty:	_____
Buckets	Qty:	_____
Scrub Brushes	Qty:	_____
Pressurized Sprayer	Qty:	_____
Trash Bags	Qty:	_____
Tarps	Qty:	_____
Duct Tape	Qty:	_____
Solvent	Type:	_____
Detergent	Type:	_____
MSA Sanitizing Solution	Qty:	_____

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PM:4X

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.	RAD-MINE			
2.				
3.				
4.				
5.				

B. PROTECTIVE CLOTHING WORN: _____

C. SITE NAME: CLARKLIFE WOOD PRODUCT, INC. PROJECT NUMBER: 05-8410-018
DATE: 8-26-85
WEATHER CONDITIONS: _____
NAMES OF ATTENDEES AT SITE: _____

D. COMMENTS ON MONITORING OR PROTECTIVE CLOTHING _____

	NAME	SIGNATURE
TEAM LEADER:	JANE ANDERSON	
SITE SAFETY OFFICER:	JOHN GEIGER	

(P.D. Moss, 1/85)