Products: Gasoline,
Jet Fuel,
Diesel Fuel,
Toluene,
Naptha,
Rafinate

24-Hour Emergency Phone Number:
888-876-0036

Explorer operates a 1,900-mile pipeline system that transports gasoline, diesel fuel and jet fuel from the Gulf Coast to the Midwest. Explorer is based in Tulsa, Oklahoma, and also serves Houston, Dallas, Fort Worth, St. Louis and Chicago.

Through connections with other products pipelines, Explorer serves more than 70 major population centers in 16 states. Major tankage and terminals are located at Port Arthur, Greenville and Grapevine, Texas; Glenpool, Oklahoma; Wood River, Illinois; and Hammond, Indiana. There are presently 32 pump stations located throughout the system.

The pipeline is 28 inches in diameter from Port Arthur to Tulsa and 24 inches from Tulsa to Hammond. With its 2003 capacity expansion, it can take as few as 11 days to transport a barrel of product from the Gulf Coast to Chicago.

Explorer currently transports refined products with more than 72 different product specifications for over 60 different shippers. The company does not buy or sell petroleum products; it only provides transportation services.

Our Company Values Are: Doing the right thing; Being a good neighbor; Serving and valuing customers; Respecting and recognizing each other's contributions; Meeting or exceeding all regulatory standards.

Explorer Pipeline Company and its management are fully committed to operating a safe and reliable hazardous liquids pipeline. Explorer is committed to meeting or exceeding the guidelines set forth by API RP 1162 and public awareness for pipeline operations. Explorer Pipeline has had a Damage Prevention Program for many years. Explorer is committed to making safety a top priority in all operations and includes public awareness in that commitment.

The Public Awareness plan receives management's full support throughout the organization. Top-level management was involved in development of the program, and participates in the administration of the program and the evaluation of the program's effectiveness.

- ***Name of system:*** Explorer Pipeline Company
- ***Name of owner and operator****:* Explorer Pipeline Company
- ***Type of system:*** Transmission system
- ***Physical area covered by system:*** Louisiana State line to Port Arthur, TX and into Houston; Houston to Greenville; Greenville to Fort Worth; Greenville to Oklahoma State line.
- ***Length of system:*** 850 miles
- ***List of products transported in system:*** Gasoline, Jet Fuel, Diesel Fuel
- ***Range of diameter of pipelines in system:*** Louisiana State line to Port Arthur, TX (12"); Port Arthur to Houston (28"); Houston to Greenville (28"); Houston to Arlington (10"); Arlington to State line (8"); Greenville to Grapevine and into Fort Worth (12"); Grapevine to DFW Airport (8"); Greenville to Oklahoma State line (28").

To learn more about the company's **official emergency plans**, please contact the following:

Rick Wright
(218) 860-9251
15003 Moore Road
Route 25
Houston, TX 77049-4805

Maurice Ashcraft
(903) 527-1251
2856 County Road 2168
Caddo Mills, TX 75135-0354

Scott Gibby
(918) 493-5120
6848 South Canton Ave., Suite 300
Tulsa, OK 74136

For further information about Explorer Pipeline Company, please contact:

Explorer Pipeline Company
6846 South Canton, Suite 300
Tulsa, OK 74136
918-493-5100
www.expl.com

MATERIAL SAFETY DATA SHEET

SECTION 1 ◆ PRODUCT AND COMPANY IDENTIFICATION

Explorer Pipeline Company 6846 South Canton P.O. Box 2650 Tulsa, Oklahoma 74101	**FOR EMERGENCY SOURCE INFORMATION CONTACT:** ➢ (918) 493 - 5100 ➢ CHEMTREC: (800) 424-9300 (24 hour contact) ➢ CANUTEC: (613) 996-6666 ➢ SETIQ: 91-800-00214

TRADE NAMES/SYNONYMS: Petroleum Naphtha, Straight Run, Refined Light Raffinate	**CHEMICAL FAMILY:** Aliphatic Naphtha	**EPL Code:** 18

This material safety data sheet represents the composite characteristics and properties of fungible petroleum hydrocarbons and other related substances transported by explorer pipeline company. The information presented was compiled from one or more product shipper sources and is intended to provide health and safety guidance for these fungible products. Individual shipper and manufacturer MSDSs are available at Explorer Pipeline Company's, Tulsa, Oklahoma, offices.

SECTION 2 ✱ HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Danger Flammable Liquid!!

- Colorless liquid with characteristic gasoline odor, estimated odor threshold 15 ppm;
- Harmful or fatal if swallowed, inhaled or absorbed through skin.
- May cause CNS depression.
- Can produce skin irritation upon prolonged or repeated contact.
- Keep away from heat, sparks and open flame;
- Wash thoroughly after handling;
- Contains petroleum distillates! If swallowed, do not induce vomiting since aspiration into the lungs will cause chemical pneumonia;
- Avoid breathing vapors or mist;
- Use only with adequate ventilation and;
- Obtain prompt medical attention. Keep Out of Reach of Children!

SECTION 3 ▼ COMPOSITION/INFORMATION OF INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENTAGE (%)
Raffinate, Straight Run Naptha ➢ Paraffins: 40.00-70.00 ➢ Cycloparaffins: 20.00-40.00 ➢ Aromatic Hydrocarbons: 7.00-20.00	8030-30-6	99+%
Benzene	71-43-2	0.1-0.50%

ACUTE

SUMMARY OF ACUTE HAZARDS: May cause transient irritation to eyes and skin. Extreme exposure or aspiration into the lungs may cause chemical pneumonia. Overexposure may cause weakness, headache, nausea, confusion, blurred vision or other CNS effects. At extremely high concentrations and excessive exposure conditions some aliphatic naphtha's may produce cardiac sensitization.

GETTING IT IN YOUR EYE...

- May cause irritation.

GETTING IT ON YOUR SKIN...

- May cause irritation.
- Prolonged or repeated liquid contact can defat the skin and lead to irritation and/or dermatitis.

SWALLOWING IT...

- May be harmful or fatal if swallowed.

BREATHING IT...

- Extreme overexposure or aspiration into the lungs may cause pneumonia. Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness, and other nervous system effects.
- Inhalation of vapors can produce pulmonary irritation.

CHRONIC

- Repeated and prolonged overexposure to vapors can cause benzene toxicity to blood-forming tissues including decreases in blood cells, aplastic anemia or leukemia.
- Exposure to such high levels is not likely to be encountered in typical Naptha stream operations due to relatively low benzene concentrations.
- Chronic human health effects would not be expected as long as good personal hygiene and proper safety precautions are practiced.

CANCER, REPRODUCTIVE AND GENETIC EFFECTS

- Some components of naphtha, i.e., paraffins and olefins, have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. The exact relationship between these results and human health is not known.

See Toxicological Information (Section 11) For More Information

SECTION 4 ✣ FIRST AID MEASURES

EMERGENCY MEDICAL TREATMENT PROCEDURES: Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5mL/kg, or 350 mL for an average adult.

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN: In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. If irritation develops, consult a physician.

INGESTION: If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: TREATSYMPTOMATICALLY AND SUPPORTIVELY

SECTION 5 ✣ FIRE FIGHTING MEASURES

Class IA Flammable Liquid. Highly flammable. Products of combustion my contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. May evolve hydrogen sulfide.

FLASH POINT:(Method Used) -40°F (Closed Cup)	**FLAMMABLE LIMITS:** LEL: 1.5% UEL: 7.6%

AUTOIGNITION TEMPERATURE: 531°F

EXTINGUISHING MEDIA: Foam, Dry Chemical, Carbon Dioxide

HAZARDOUS REACTIONS/DECOMPOSITION: Complete and incomplete combustion may produce nitrous oxides and oxides of carbon and sulfur. Polymerization will not occur. May produce nitrous oxides and oxides of carbon and sulfur.

SPECIAL INSTRUCTIONS: Water may be ineffective, but water should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Water spray may be used to flush spills away from exposures.

SECTION 6 ❖ ACCIDENTAL RELEASE MEASURES

- Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up.
- Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
- Dike spill.
- Prevent liquid from entering sewers, waterways or low areas.
- Recover free liquid for reuse or reclamation.
- Soak up with sawdust, sand, oil dry or other absorbent material.
- Remove source of heat, sparks, flame, impact, friction, and electricity including internal combustion engines and power tools.
- If equipment is used for spill cleanup, it must be explosion-proof and suitable for flammable liquid and vapors.

NOTE: Vapors released from the spill may create an explosive atmosphere.

SECTION 7 ⚹ HANDLING AND STORAGE

Prior to working with this product workers should be trained on its proper handling and storage

- Store in accordance with National Fire Protection Association regulations.
- Protect against physical damage to containers.
- Separate from oxidizing materials.
- Store in cool, well ventilated area of non-combustible construction away from possible sources of ignition.

SECTION 8 ⌖ EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Both local exhaust and general room ventilation are usually required in enclosed areas. **OTHER HYGIENIC AND WORK PRACTICES:** Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential direct exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using the toilet facilities. Promptly remove soiled clothing. Wash thoroughly before reuse. Shower after work using plenty of soap and water.

EXPOSURE LIMITS

OSHA PEL		ACGIH TLV (2005)	
Naphtha Hydrocarbons (Aromatic & Paraffinic)			
TWA	STEL	TWA	STEL
100 ppm (Coal Tar Naphtha)	Not Applicable (N.A.)	400 ppm (Rubber Solvent)	N.A.
BENZENE			
TWA	STEL	TWA	STEL
1 ppm	5 ppm	0.5 ppm	2.5 ppm
HYDROGEN SULFIDE			
Ceiling	STEL	TWA	STEL
20 ppm	N.A.	10 ppm	15 ppm

PERSONAL PROTECTIVE EQUIPMENT

- **EYES:** Where the possibility of splashing exists, chemical goggles are recommended.
- **SKIN:** Neoprene or NBR recommended protective gloves, coveralls, sleeves, and/or splash aprons.
- **RESPIRATORY PROTECTION:** If exposure may or does exceed occupational exposure limits, use a NIOSH approved respirator to prevent overexposure. In accordance with 29 CFR 1910.134, use either a full-face, air supplied or air-purifying respirator with organic vapor filters.

SECTION 9 ⚡ PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT (760 MM HG): <100-435°F	**PERCENT VOLATILE BY VOLUME:** 100%
SPECIFIC GRAVITY (H_2O = 1): 0.70-0.75 @ 32.9°F	**VISCOSITY UNITS, TEMP:**
EVAPORATION RATE (BuAc = 1):	**VAPOR DENSITY (AIR =1):** 4.0
VAPOR PRESSURE: 525 @ 68°F	**SOLUBILITY IN WATER:** Negligible
APPEARANCE AND ODOR: Colorless liquid with characteristic gasoline odor, estimated odor threshold 15 ppm.	

SECTION 10 ¤ STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Heat, flame, sparks, strong oxidizing conditions.

OTHER PHYSICAL AND CHEMICAL PROPERTIES: No Data

MATERIALS TO AVOID: Oxidizing agents such as oxygen, chlorine, nitric acid.

HAZARDOUS POLYMERIZATION: Has not been reported

SECTION 11 ⊛ TOXICOLOGICAL INFORMATION

BENZENE

Benzene is known to be a human carcinogen based on sufficient evidence in humans. Case reports and case series have reported leukemia (mostly acute myelogenous leukemia) in individuals exposed to benzene. The strongest epidemiological evidence that benzene causes cancer is from several cohort studies in various industries and geographical locations, which found that occupational exposure to benzene, increased the risk of mortality from leukemia.

TOXICITY

Type Of Dose	Specie	Result	Type Of Dose	Specie	Result	Type Of Dose	Specie	Result
$LD_{50(oral)}$	Mouse	4700 mg/kg	$LC_{50(inh)}$	Mouse	9980 ppm	$TD_{LO(oral)}$	Human	50 mg/kg

CARCINOGENICITY

IARC	Sufficient evidence in animals	Sufficient evidence in humans	Group 1: classifiable as a human carcinogen
NTP	Carcinogen		
California (Prop 65): Listed as carcinogen	**NIOSH:** Potential Occupational Carcinogen	**ACGIH:** A1 - Confirmed human carcinogen	**OSHA:** Select Carcinogen

MUTAGENICITY, TERATOGENICITY AND REPRODUCTIVE EFFECTS

Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation.
No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother.

SECTION 12 ❋ ECOLOGICAL INFORMATION

ACUTE EFFECTS: No data available on product, however Benzene is considered moderately toxicity to aquatic life. Insufficient data are available to evaluate or predict the short-term effects to birds or land animals.
CHRONIC EFFECTS: No data available on product, however Benzene is considered moderately toxicity to aquatic life. Insufficient data are available to evaluate or predict the long-term effects to birds or land animals.
DISTRIBUTION AND PERSISTENCE IN THE ENVIRONMENT: No Data available.

SECTION 13 ✣ DISPOSAL CONSIDERATIONS

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. By itself, the liquid is expected to be a RCRA ignitable hazardous waste, when disposed.

SECTION 14 ★ TRANSPORTATION INFORMATION

Not Meant To Be All Inclusive - Check Local, State, And Federal Laws And Regulations

Agency	Shipping Name	Packing Group	Hazard Class	UN/NA #
U.S. DOT	Naptha, Solvent	I, II, or III	Flammable Liquid	UN 1256

SECTION 15 ☽ REGULATORY INFORMATION

CERCLA RQ's (40 CFR Part 302)	Benzene – 10 pounds
RCRA	Benzene - U019

SARA (40 CFR Part 355) TPQ's	None of the ingredients are listed
SARA Title III Section 313	Benzene listed
California's Prop 65	Benzene listed
OSHA	All ingredients are listed as hazardous under 29 CFR 1910.1200

SECTION 16 ⊛ OTHER INFORMATION

NFPA 704 LABEL:

HMIS LABEL

2-4-0

MSDS REVISIONS: Change in Format and update of Information

MSDS CREATION DATE: July 1997 | **REVISION #1:** 07/01/05

DISCLAIMER

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY.** Some conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.** All product measurements such as flash point, *etc.* are considered approximate values. All data provided by Explorer Pipeline Company.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, such as refined petroleum hydrocarbon mixtures, this MSDS information may not be applicable.

MSDS DEVELOPER: Cass Willard

Cass Willard, CIH

DATE: 07/01/05

MATERIAL SAFETY DATA SHEET

SECTION 1 ◆ PRODUCT AND COMPANY IDENTIFICATION

Explorer Pipeline Company
6846 South Canton
P.O. Box 2650
Tulsa, Oklahoma 74101

FOR EMERGENCY SOURCE INFORMATION CONTACT:
- (918) 493 - 5100
- CHEMTREC: (800) 424-9300 (24 hour contact)
- CANUTEC: (613) 996-6666
- SETIQ: 91-800-00214

TRADE NAMES/SYNONYMS:	CHEMICAL FAMILY:	EPL Code:
Methyl Benzene, HUF/Toluene	Aromatics	19

This material safety data sheet represents the composite characteristics and properties of fungible petroleum hydrocarbons and other related substances transported by explorer pipeline company. The information presented was compiled from one or more product shipper sources and is intended to provide health and safety guidance for these fungible products. Individual shipper and manufacturer MSDSs are available at Explorer Pipeline Company's, Tulsa, Oklahoma, offices.

SECTION 2 ✷ HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Flammable Liquid!!

- Clear, water-white liquid with aromatic odor.
- Causes eye and skin irritation;
- Harmful or fatal if swallowed and/or aspirated in to the lungs;
- Causes central nervous system depression at high vapor concentrations; and
- Obtain prompt medical attention. Keep Out of Reach of Children!

SECTION 3 ▼ COMPOSITION/INFORMATION OF INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENTAGE (%)
Toluene	108-88-3	>95%

ACUTE

SUMMARY OF ACUTE HAZARDS: Liquid, mist, or vapors can cause eye, skin, and respiratory tract irritation and CNS depression. Aspiration into the lungs will cause chemical pneumonia.

GETTING IT IN YOUR EYE...
- Causes eye irritation.

GETTING IT ON YOUR SKIN...
- Practically nontoxic by skin absorption. Repeated and prolonged contact defats the skin and can result in dermatitis.
- Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

SWALLOWING IT...
- Harmful or fatal if aspired into lungs after ingestion.

BREATHING IT...
- Can be harmful if high concentrations are inhaled.
- Irritation of upper respiratory tract, headaches, loss of memory, loss of appetite, nausea, drowsiness, palpitation, muscular weakness, and even death can occur.
- Inhalation of very high levels can produce cardiac sensitization, which may cause fatal changes in heart rhythms.
- Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product.

CHRONIC

- Reports of chronic poisoning describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated or prolonged contact has a defatting action, causing drying, redness, dermatitis. Exposure to toluene may affect the developing fetus..

CANCER, REPRODUCTIVE AND GENETIC EFFECTS

- Same as above.

See Toxicological Information (Section 11) For More Information

SECTION 4 ✣ FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, then get prompt medical attention.

SKIN: Wash exposed skin with soap and water. Remove contaminated clothing and thoroughly clean and dry before reuse.

INGESTION: If swallowed, do NOT induce vomiting. Get immediate medical attention.

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

NOTE TO PHYSICIAN: TREAT SYMPTOMATICALLY AND SUPPORTIVELY

SECTION 5 ⌘ FIRE FIGHTING MEASURES

Flammable liquid. Vapor may explode if ignited in enclosed area.

FLASH POINT:(Method Used) 40°F	**FLAMMABLE LIMITS:**	LEL: 1.1% UEL: 7.1%

AUTOIGNITION TEMPERATURE: 997°F

EXTINGUISHING MEDIA: Agents approved for Class B hazards (i.e., dry chemical, carbon dioxide, halogenated agents, foam, steam) or water fog.

HAZARDOUS REACTIONS/DECOMPOSITION: None. Polymerization will not occur. Incomplete burning can produce carbon monoxide, carbon dioxide, and other harmful products.

SPECIAL INSTRUCTIONS: For fires involving this material, do not enter any enclosed or confined space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. If firefighters cannot work upwind to the fire, respiratory protective equipment must be worn. Cool tanks and containers exposed to fire with water. Burning liquid will float on water. Notify appropriate authorities if liquid enters sewer/waterways.

SECTION 6 ❖ ACCIDENTAL RELEASE MEASURES

- Remove or shut off all sources of ignition. Remove mechanically or contain on an absorbent material. Keep out of sewers and waterways.

SECTION 7 ⌘ HANDLING AND STORAGE

Prior to working with this product workers should be trained on its proper handling and storage

- Store in flammable liquids storage area. Store away from heat, ignition sources, and open flame in accordance with applicable federal, state, or local regulations, Keep container closed.

SECTION 8 ⌖ EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use adequate ventilation to keep vapor concentration of this material below the occupational exposure limits shown below in Section VI.

OTHER HYGIENIC AND WORK PRACTICES: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.

EXPOSURE LIMITS			
OSHA PEL		ACGIH TLV (2005)	
TOLUENE			
TWA	CEILING	TWA	STEL
200 ppm	300 ppm 500 ppm- for 10 minutes	50 ppm	Not Applicable (N.A.)

PERSONAL PROTECTIVE EQUIPMENT

- **EYES:** Do not get in eyes. Wear chemical goggles.
- **SKIN:** Avoid skin contact. Wear protective clothing and gloves.
- **RESPIRATORY PROTECTION:** Do not breathe mist or vapor. Use with adequate ventilation. If ventilation is inadequate, use NIOSH/MSHA certified respirator which will protect against organic vapor/mist.

SECTION 9 ϟ PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT (760 MM HG): 231°F	**PERCENT VOLATILE BY VOLUME:** 100%
SPECIFIC GRAVITY (H_2O = 1): 0.87 @ 39.2 °F	**VISCOSITY UNITS, TEMP:** 0.59 cp @ 20°C
FREEZING POINT: -95 °F	**VAPOR DENSITY (AIR =1):** 3.2
VAPOR PRESSURE AT 25°C: 26 mm Hg	**SOLUBILITY IN WATER:** Negligible
APPEARANCE AND ODOR: Clear, water-white liquid; aromatic odor.	

SECTION 10 ¤ STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Keep away from ignition sources (*e.g.*, heat, sparks, and open flames).

OTHER PHYSICAL AND CHEMICAL PROPERTIES: No Data.

MATERIALS TO AVOID: Strong oxidizers such as liquid chlorine and oxygen.

HAZARDOUS POLYMERIZATION: Not expected to occur.

SECTION 11 ֍ TOXICOLOGICAL INFORMATION

This material is a blending stock for petroleum fuels. Do not use as a cleaning agent or as a solvent.

TOLUENE

Poison by intraperitoneal route. Moderately toxic by intravenous, subcutaneous and possibly other routes. Mildly toxic by inhalation. An experimental teratogen. Human systemic effects by inhalation. Experimental reproductive effects. Mutagenic data. A human eye irritant. An experimental skin and severe eye irritant. In the few cases of acute poisoning reported, the effect has been that of a narcotic, the workman passing through a stage of intoxication into one of coma. Recovery following removal from exposure has been the rule.

TOXICITY

Type Of Dose	Specie	Result	Type Of Dose	Specie	Result	Type Of Dose	Specie	Result
$LD_{50(oral)}$	Rat	636 mg/kg	$LC_{50(inh)}$	Mouse	5320 ppm	$LD_{LO\ (oral)}$	Human	50 mg/kg

CARCINOGENICITY

IARC	Inadequate evidence in animals	Inadequate evidence in humans	Group 3: not classifiable as a human carcinogen
NTP	Not Listed		

California (Prop 65): Listed as carcinogen	**NIOSH:** Not Listed	**ACGIH:**A4-Not Classifiable As Human Carcinogen	**OSHA:** Possible Select Carcinogen

MUTAGENICITY, TERATOGENICITY AND REPRODUCTIVE EFFECTS

Specific developmental abnormalities included craniofacial effects involving the nose and tongue, musculoskeletal effects, urogenital and metabolic effects in studies on mice and rats by the inhalation and oral routes of exposure. Some evidence of fetotoxicity with reduced fetal weight and retarded skeletal development has been reported in

mice and rats.
Effects on fertility such as abortion were reported in rabbits by inhalation. Paternal effects were noted in rats by inhalation. These effects involved the testes, sperm duct and epididymis.

SECTION 12 ❋ ECOLOGICAL INFORMATION

ACUTE EFFECTS: No information available.
CHRONIC EFFECTS: No information available.
DISTRIBUTION AND PERSISTENCE IN THE ENVIRONMENT: Toluene evaporates when exposed to air. It dissolves only slightly when mixed with water. Most direct releases of toluene to the environment are to air. Toluene also evaporates from water and soil exposed to air. Once in air, toluene breaks down to other chemicals. Microorganisms that live in water and in soil can also break down toluene. Because it is a liquid that does not bind well to soil, toluene that makes its way into the ground can move through the ground and enter groundwater. Plants and animals are not likely to store toluene.

SECTION 13 ✣ DISPOSAL CONSIDERATIONS

Disposal must be in accordance with applicable federal, state or local regulations. Residues and spilled material are hazardous waste due to ignitability. Incineration at an EPA-permitted hazardous waste management facility as required by law. Do not landfill. Residues and spilled material are hazardous waste.

SECTION 14 ★ TRANSPORTATION INFORMATION

Not Meant To Be All Inclusive - Check Local, State, And Federal Laws And Regulations

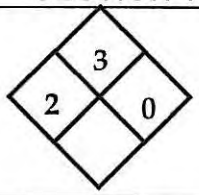
Agency	Shipping Name	Packing Group	Hazard Class	UN/NA #
U.S. DOT	Toluene	II	Flammable Liquid	UN 1294

SECTION 15 ☽ REGULATORY INFORMATION

CERCLA RQ's (40 CFR Part 302)	Toluene - 1,000 pounds
RCRA	Toluene - U220
SARA (40 CFR Part 355) TPQ's	None of the ingredients are listed
SARA Title III Section 313	All ingredients listed
California's Prop 65	All ingredients listed
OSHA	All ingredients are listed as hazardous under 29 CFR 1910.1200

SECTION 16 ❁ OTHER INFORMATION

NFPA 704 LABEL:



HMIS LABEL

2-3-0

MSDS REVISIONS: Change in Format and update of Information

MSDS CREATION DATE: July 1997 | **REVISION #1:** 01/03/06

DISCLAIMER

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MSDS DEVELOPER: Cass Willard
Cass Willard, CIH

DATE: 01/03/06