

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Toluene

Section 2: Hazards Identification



Danger

Hazard Classification:

Aspiration Hazard (Category 1)
Flammable (Category 1)
Gases Under Pressure
Reproductive Toxicity (Category 2)
Specific target organ toxicity (Repeated Exposure) (Category 2)
Specific target organ toxicity (Single Exposure) (Category 3)

Hazard Statements:

Contains gas under pressure; may explode if heated
Extremely flammable gas
May be fatal if swallowed and enters airways
May cause damage to organs through prolonged or repeated exposure
May cause respiratory irritation;
Suspected of damaging fertility or the unborn child

Precautionary Statements

Prevention:

Do not breathe dust/fume/gas/mist/ vapors/spray..
[In case of inadequate ventilation] wear respiratory protection.
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing, eye protection and face protection.
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response:

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 Immediately call a poison center or doctor.
 Eliminate all ignition sources if safe to do so.
 Do NOT induce vomiting.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 If exposed or concerned: Get medical advice/attention.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
 Protect from sunlight.
 Store locked up.

Disposal:

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #
108-88-3

Chemical Substance	Chemical Family	Trade Names
TOLUENE	hydrocarbons, aromatic	METHYLBENZENE; TOLUOL; METHYLBENZOL; PHENYLMETHANE; METHACIDE; RCRA U220; UN 1294; C7H8

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.	Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Aspiration hazard. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Get immediate medical attention. Give artificial respiration if not breathing.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.	None

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Regular dry chemical, carbon dioxide, water, regular foam Large fires: Use regular foam or flood with fine water spray.	Carbon monoxide, carbon dioxide and toxic and irritating fumes	<ul style="list-style-type: none"> ▪ Any self-contained breathing apparatus with a full facepiece. ▪ Any self-contained breathing apparatus with a full facepiece.

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. Dig holding area such as lagoon, pond or pit for containment.

Methods for Cleanup	Other Information
Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Collect with absorbent into suitable container. Absorb with activated carbon. Collect spilled material using mechanical equipment. Cover with absorbent sheets, spill-control pads or pillows. Apply detergents, soaps, alcohols or another surface active agent. Remove trapped material with suction hoses.	Notify local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

Section 7: Handling and Storage

Handling	Storage
Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.	Do not get liquid in eyes, on skin, or clothing. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. If valve is hard to open, discontinue use and contact your supplier.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
TOLUENE: 200 ppm OSHA TWA 300 ppm OSHA ceiling 500 ppm OSHA peak 10 minute(s) 100 ppm (377 mg/m ³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 150 ppm (565 mg/m ³) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 50 ppm ACGIH TWA (skin) 100 ppm (375mg/m ³) NIOSH recommended TWA 10 hour(s) 150 ppm (560 mg/m ³) NIOSH recommended STEL

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any self-contained breathing apparatus with a full facepiece.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Liquid	Clear	Colorless	N/A	Liquid	Distinct odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
39 F (4 C) (CC)	IB	Not available	896 F (480 C)	0.071	0.012

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
232 F (111 C)	-139 F (-95 C)	22 mmHg @ 20 C	3.14 (Air=1)	0.8669	0.05% @ 20 C	Not available	10-15 ppm	2.24 (butyl acetate=1)	0.560 mPa.s @ 25 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
92.14	C6-H5-C-H3	Not available	Not available	100%	1	Soluble: Alcohol, ether, benzene, acetone, ligroin, chloroform, acetic acid, carbon disulfide

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Halogens, combustible materials, acids, oxidizing materials, metal salts

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxides of carbon, hydrocarbons	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
636 mg/kg oral-rat LD50	14100 ul/kg skin-rabbit LD50	Irritation, metallic taste, nausea, headache, drowsiness, symptoms of drunkenness, tingling sensation, dilated pupils, kidney damage, liver damage, nerve damage

Eye Irritation	Skin Irritation	Sensitization
Irritation (possibly severe), tearing	Irritation	Respiratory tract irritation, skin irritation, eye irritation, aspiration hazard, central nervous system depression, nerve damage

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
IARC: Human Inadequate Evidence, Animal Evidence Suggesting Lack of Carcinogenicity, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen	Available.	Available.	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 8110 ug/L 96 hour(s) LC50 (Mortality) Coho salmon, silver salmon (Oncorhynchus kisutch) Invertebrate toxicity: 6000 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia magna) Algal toxicity: 9400 ug/L 8 hour(s) EC50 (Growth) Green algae (Selenastrum capricornutum) Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U220.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Toluene	UN1294	3	II	3	5 kg or L	60L	N/A

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Toluene	UN1294	3	II

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
1000 LBS RQ	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	Yes	Yes	No	No

SARA 372.65

TOLUENE

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65
Known to the state of California to cause the following: TOLUENE Developmental toxicity (Jan 01, 1991)

Canadian Regulations

WHMIS Classification
BD2

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating
HEALTH=2 FIRE=3 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard