

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Toluene

TO100-00

SECTION 01: PRODUCT INFORMATION AND COMPANY INFORMATION

MANUFACTURER: Same as above
PREPARED BY: Production Department
VERSION DATE: 01-Aug-16
TELEPHONE NO.: (519) 451-1614
EMERGENCY PHONE NO.: (613) 996-6666
CHEMICAL FAMILY: Aromatic Hydrocarbon **CHEMICAL FORMULA:** C₆H₅CH₃
MOLECULAR WEIGHT: Not Applicable **MATERIAL USE:** Coatings: Solvent for resins.
SYNONYMS: Methylbenzene, Toluol Organic solvent.

SECTION 02: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients	Conc. Approx. %	C.A.S. #	LD/50 (RTE/SPEC)	LC/50 (RTE/SPEC)	TLV
Toluene	100	108-88-3	Oral LD50 (Rat) 636 mg/kg	LC50 (Rat) 49 gm/m ³ /4H	N.Av.

SECTION 03: HAZARD IDENTIFICATION

ROUTE OF ENTRY

Eyes: Vapours are moderately irritating to the eyes.

Skin: Causes moderate skin irritation

Inhalation: Vapours are moderately irritating to the respiratory passages. The liquid when accidentally aspirated into the lungs can cause severe inflammation of the lung. In rare cases may sensitize heart muscle causing heart arrhythmia. Solvent abusers exposed to high doses of aromatic solvents (e.g. toluene/xylene) show signs of hearing loss as well as damage to the brain, liver and kidney. Excessive exposure during pregnancy may be hazardous to the developing fetus.

Ingestion: May be harmful if swallowed..

SECTION 04: FIRSTAID

Skin Contact: Flush affected skin with gently flowing water for 20-60 minutes and remove contaminated clothing while rinsing. Wash contaminated skin with mild soap and water for 15 minutes. Get medical attention if irritation persists.

Eye Contact: Flush eyes with water for at least 15 minutes while holding eyelids open. Obtain medical attention.

Inhalation, Acute: Remove person to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: DO NOT induce vomiting. Guard against aspiration into lungs by having the individual turn on to their left side. Never give anything by mouth to an unconscious person. SEEK IMMEDIATE MEDICAL ATTENTION.

Notes to physician: The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of

gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

SECTION 05: FIRE EXPLOSION HAZARD AND FIRE FIGHTING MEASURES

FLAMMABLE?	Yes
IF YES, UNDER WHICH CONDITIONS?	Highly flammable in presence of open flames and sparks. Flammable in presence of heat, of oxidizing materials, of combustible materials. Slightly flammable to flammable in presence of reducing materials. Non-flammable in presence of moisture.
FLASH POINT (TCC) (C):	>4 °C
FLAMMABLE LIMITS:	LEL(% BY VOL.): 1.2 UEL(% BY VOL.): 7.1
AUTO IGNITION TEMPERATURE (C)	480 °C
EXTINGUISHING MEDIA	Use DRY chemicals, CO ₂ , alcohol foam or water spray. Fire fighters must wear full face, positive pressure, self- contained breathing apparatus and appropriate protective clothing.
SPECIAL PROCEDURES:	Vapour forms a flammable / explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Use water spray to cool containers. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure build-up which could result in container rupture. Containers exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Fight fire from maximum distance. Always stay away from ends of containers due to explosive potential. Flammable Liquid. Do not use water except as a fog.
HAZARDOUS COMBUSTION PRODUCTS:	Not Available
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vapor may travel considerable distance to source of ignition and flash back. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits.
SENSITIVITY TO STATIC DISCHARGE	Not Available
SENSITIVITY TO MECHANICAL IMPACT:	Not Available

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedure: Personal Precautionary Measures: Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed.
Procedure for Clean Up: Flammable liquid. Eliminate all ignition sources. Isolate spill and stop leak where safe. Try to work upwind of spill. Avoid direct contact with material. Saturated clothing should be immediately removed to avoid flammability hazard. Wear appropriate breathing apparatus (if applicable) and protective clothing. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. For large spills, remove by mechanical means and place in appropriate containers for disposal. Use absorbent materials. Flush area with water to remove trace residue.

SECTION 07: HANDLING AND STORAGE

Handling Procedures and Storage Requirements

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. DO NOT ingest. Do not breathe gas/fumes.vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, organic materials, acids, alkalis. Hot surfaces may be sufficient to ignite liquid even in the absence of sparks or flames.

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Use explosion-proof ventilation to prevent vapour accumulation.

SECTION 08: PERSONAL PROTECTIVE EQUIPMENT / EXPOSURE CONTROLS

GLOVES/TYPE:	Impervious gloves. Viton gloves. Polyvinyl alcohol gloves.
RESPIRATOR/TYPE:	If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH -approved supplied-air respirator, either selfcontained or airline breathing apparatus, operated in positive pressure mode.

EYE/TYPE:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.
OTHER/TYPE:	Ensure that eyewash stations and safety showers are proximal to the work-station location.
ENGINEERING CONTROL	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. Use explosion-proof ventilation equipment. For personnel entry into confined spaces (ie. Bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE/APPEARANCE:	Liquid Mobile		
ODOUR:	Aromatic Hydrocarbon	ODOUR THRESHOLD:	2-40 ppm
VAPOUR PRESSURE (mm Hg @ 20°C):	23 mm Hg	VAPOUR DENSITY (Air=1):	3.5
EVAPORATION RATE (Ether = 1):	2.24	SPECIFIC GRAVITY:	0.871
BOILING POINT (°C):	111 °C	FREEZING POINT (°C)	-95 °C
Ph (% SOLUTION):	N. Av.	% VOLATILE (WT):	N. Av.
SOLUBILITY IN WATER (% W/W)	Slightly soluble.		

SECTION 10: STABILITY AND REACTIVITY

CHEMICALLY STABLE? Yes

IF NO, UNDER WHICH CONDITIONS? Avoid prolonged contact with nitrile rubber and PVC. Avoid natural, butyl and neoprene rubbers. Avoid excessive heat, open flames and all ignition sources.

INCOMPATIBILITY WITH OTHER SUBSTANCES Yes

IF YES, WITH WHICH ONES: Avoid natural, butyl and neoprene rubbers. Avoid prolonged contact with nitrile rubber and PVC (Toluene). Oxidizing agents.

SPECIAL REACTIVITY AND UNDER WHAT CONDITIONS Carbon monoxide and carbon dioxide are produced on combustion.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL	50 ppm
LC 50 OF MATERIAL, SPECIES AND ROUTE	See Sec. 2
LD 50 OF MATERIAL, SPECIES AND ROUTE	See Sec. 2
CARCINOGENICITY OF MATERIAL	A4 (Not classifiable for human or animal)
REPRODUCTIVE EFFECTS:	N. Av.
IRRITANCY OF MATERIAL	N. Av.
SENSITIZING CAPABILITY OF MATERIAL	N. Av.
SYNERGISTIC MATERIALS	N. Av.

SECTION 12: ECOLOGICAL INFORMATION

AQUATIC TOXICITY Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Spill areas must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. Biodegrades (slow). Rapid volatilization. Not expected to bioconcentrate.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Disposal of Waste Method: Waste management priorities (depending on volumes and concentration of waste) are : 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licensed waste disposal facility. Do not attempt to combust waste on site. Incinerate at a licensed waste disposal site with approval of environmental authority. Contaminated Packaging: Waste materials must be disposed of in accordance with your municipal, state, provincial and federal regulations.

SECTION 14: TRANSPORT INFORMATION

TDG CLASSIFICATION Class 3, Toluene
UN NUMBER: 1294

PACKING GROUP: II

Special Provisions for Transport

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION B.2 D.2B

Class B-2: Flammable liquid with a flash point lower than 37.8 C.

Class D-2B: Material causing other toxic effects (TOXIC).

SECTION 16: OTHER INFORMATION

ABBREVIATIONS USED: N.Av. = Not Available

N.App. / N.Ap. = Not Applicable

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SOURCES: Supplier MSDS

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