

Toluene

SECTION 1. IDENTIFICATION

Product Identifier	Toluene
Other Means of Identification	Methylbenzene, Methyl Benzol, Toluol
Product Code	TO1010, TO1020, TO1050, TO1060
Product Family	Organic
Recommended Use	Laboratory and industrial solvent.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0021

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

Classification

Flammable liquid - Category 2; Skin irritation - Category 2; Reproductive toxicity - Category 2; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 2; Aspiration hazard - Category 1; Aquatic hazard (Acute) - Category 2

Label Elements



Signal Word:

Danger

Hazard Statement(s):

Highly flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause drowsiness or dizziness.

Suspected of damaging the unborn child.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life.

Precautionary Statement(s):

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear personal protective equipment/face protection.

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

Do NOT induce vomiting.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Toluene	108-88-3	99	Methylbenzene, Methylbenzol, Toluol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor.

Skin Contact

Quickly and gently blot or brush away excess chemical. Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can cause severe lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Aspiration hazard. May be drawn into the lungs if swallowed or vomited, causing severe lung damage. Death can result.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

Water is not effective for extinguishing a fire. It may not cool product below its flash point.

Specific Hazards Arising from the Product

Liquid can float on water and may travel to distant locations and/or spread fire. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Approach fire from upwind to avoid hazardous vapours or gases. Fight fire from a safe distance or a

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protected location. Stop leak before attempting to put out the fire. Product could form an explosive mixture and reignite. If the leak cannot be stopped, let the fire burn itself out. Knock down vapours or gases with water fog or fine water spray. Use water spray to flush spills away from ignition sources. Dike and recover contaminated water for appropriate disposal. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary. Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials. Monitor area for flammable or explosive atmosphere.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area. Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Avoid release to the environment. In the event of a spill or leak, exit the area immediately. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, well-ventilated, out of direct sunlight and away from heat and ignition sources, an approved, fire-resistant area, separate from incompatible materials (see Section 10: Stability and Reactivity). Electrically bond and ground containers. Ground clips must contact bare metal. Keep amount in storage to a minimum. Vent drums to prevent pressure buildup. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Toluene	20 ppm A4		100 ppm			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide safety shower in work area, if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: polyvinyl alcohol, Viton®, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Trellech® HPS, Trellech® VPS, Tychem® BR/LV, Tychem® TK.

The following materials should NOT be used: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyethylene, polyvinyl alcohol, Tychem® SL (Saranex™).

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Aromatic
Odour Threshold	0.16 - 37 ppm (detection)
pH	Not available
Melting Point/Freezing Point	-95 °C (-139 °F) (melting)
Initial Boiling Point/Range	110.6 °C (231.1 °F)
Flash Point	4 °C (39 °F) (closed cup)
Evaporation Rate	2.0 (n-butyl acetate = 1)
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	7.1% (upper); 1.2% (lower)
Vapour Pressure	2.93 kPa (21.98 mm Hg)
Vapour Density (air = 1)	3.18 (calculated)
Relative Density (water = 1)	0.867 at 20 °C
Solubility	0.5 g/L (Moderately soluble) in water; Soluble in all proportions in common organic solvents.
Partition Coefficient, n-Octanol/Water (Log Kow)	2.73
Auto-ignition Temperature	480 °C (896 °F)
Decomposition Temperature	Not available
Viscosity	0.676 mm ² /s at 20 °C (kinematic); 0.586 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Toluene	7585 ppm (rat) (4-hour exposure)	5580 mg/kg (male rat)	12125 mg/kg (rabbit)

Skin Corrosion/Irritation

Animal tests show mild irritation.

Serious Eye Damage/Irritation

Animal tests show mild irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes severe lung injury, depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness.

Skin Absorption

No information was located.

Ingestion

Causes depression of the central nervous system.

Aspiration Hazard

Can cause lung damage if aspirated based on human experience.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause damage to organs.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Toluene	Group 3			

IARC: Group 3 – Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity

Development of Offspring

May harm the unborn child.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

Bioaccumulative Potential

N-Octanol/Water Partition Coefficient (Log Kow): 2.73.

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1294	Toluene (Methylbenzene)	3	III
Canadian TDG	UN1294	Toluene (Methylbenzene)	3	III

Environmental Hazards Not applicable

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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