

Section 1. Product and Company Identification

Product Name Toluene
CAS Number 108-88-3

Parchem - fine & specialty chemicals
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CHEMTEL
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Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

GHS Classifications

Aspiration Hazard (Category 1)
Flammable Liquids (Category 2)
Reproductive Toxicity (Category 2)
Skin Irritation (Category 2)
Specific Target Organ Toxicity - Repeated Exposure (Category 2)
Specific Target Organ Toxicity - Single Exposure (Category 3)

GHS Label Elements

Pictograms:



Signal word: DANGER!

Hazard and precautionary statements

Hazard Statements

H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361D Suspected of damaging the unborn child via inhalation.
H373 May cause damage to organs through prolonged or repeated exposure.



Precautionary Statements

- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P202 Do not handle until all safety precautions have been read and understood.
- P331 Do NOT induce vomiting.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or a doctor/physician.
- P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- P243 Take precautionary measures against static discharge.
- P280 Wear protective gloves and eye and face protection.

OSHA Hazards: Flammable liquid, Target Organ Effect, Irritant, Reproductive hazard
Target Organs: Brain, Central nervous system, Liver

NFPA Rating

- Health:** 2
- Flammability:** 3
- Reactivity:** 0

Other Hazards which do not result in Classification

Potential Health Effects

- Eyes:** Causes eye irritation.
- Ingestion:** May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
- Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
- Skin:** May be harmful if absorbed through skin. Causes skin irritation.

Section 3. Composition / Information on Ingredients

- Common Name** Toluene
- Synonym(s)** Methylbenzene; Toluol; Phenylmethane
- Formula** C₇H₈
- CAS Number** 108-88-3

COMPONENT	CAS NUMBER	CONCENTRATION
Toluene	108-88-3	100%



Section 4. First Aid Measures

General Advice: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin: Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation: Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes: Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion: DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

Section 5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific Hazards arising from the Chemical (e.g., Nature of any Hazardous Combustion Products): Carbon oxides expected to be the primary hazardous combustion product.

Special Protective Equipment and Precautions for Firefighters: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Flammable Properties

Classification: OSHA/NFPA Class IB Flammable Liquid.

Flash Point (Closed Cup): 4°C (40°F)

Auto-ignition Temperature: 480°C (896°F)

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental Precautions: Stop leak /contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and Materials for Containment and Cleaning up: Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.



Section 7. Handling and Storage

Precautions for Safe Handling: Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for Safe Storage, including any Incompatibilities: Keep container tightly closed in a dry and well-ventilated place under inert gas. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8. Exposure Controls / Personal Protection

Control Parameters, Occupational Exposure Limit Values, or Biological Limit Values
Occupational Exposure Limits

Component	Source	Type	Value	Note
Toluene	US (ICSC)		200 ppm C 300 ppm 500ppm (10 minute max peak)	ACGIH Threshold Limit Value

Appropriate Engineering Controls: General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection Measures, such as Personal Protective Equipment

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU). Maintain eye wash fountain and quick-drench facilities in work area.

Skin and Body Protection: Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

Appearance (Physical State, Color, etc.): Liquid. Colorless.

Freezing Point: -93°C (-135°F)

Initial Boiling Point and Boiling Range: 111°C (231°F)



Flash point (Closed Cup): 4°C (40°F)
Upper / Lower Flammability or Explosive Limits: 1.1% (V) / 7.1% (V)
Vapor Pressure (20.0°C/68.0°F): 29.1 hPa (21.8 mmHg)
Vapor Density: 3.0
Relative Density (25°C/77°F): 0.865 g/mL
Solubility(ies): Not soluble
Auto-ignition Temperature: 480°C (896°F)
Formula (Toluene): C₇H₈
Molecular Weight (Toluene): 92.14 g/mol

Section 10. Stability and Reactivity

Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Vapors may form explosive mixture with air.
Conditions to Avoid (e.g., static discharge, shock, or vibration): Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section 11. Toxicological Information

Product Summary: Laboratory tests have shown teratogenic, reproductive and germ cell mutagenic effects.

Acute Toxicity

LC50 Inhalation - Rat: 12,500 - 28,800 mg/m³ 4h

LD50 Dermal - Rabbit: 12,196 mg/kg

LD50 Oral - Rat: > 5580 mg/kg

Irritation

Skin: Rabbit - Skin irritation - 24h

Carcinogenicity

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

ACGIH: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.



Other Hazards

Eyes: Causes eye irritation.

Ingestion: May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Section 12. Ecological Information

Ecotoxicity (Aquatic and Terrestrial, where available)

Acute Fish Toxicity (Toluene): LC50 / 96 h / Rainbow Trout - 7.63 mg/L

Acute Toxicity to Algae (Toluene): EC50 / 24h / Fresh water algae - 245.00mg/L

Acute Toxicity to Daphnia (Toluene): EC50 / 24 h / Water Flea - 24h

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Other Adverse Effects: Possible environmental hazard if handled or disposed of improperly. Toxic to aquatic life.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

UN Number: UN1294

UN Proper Shipping Name: Toluene

Transport Hazard Class: 3

Packing Group (if Applicable): II

Reportable Quantity: 1,000 lbs

IMDG

UN-Number: UN1294

Class: 3

Packing Group: II

EMS-No: F-E, S-D

Proper Shipping Name: Toluene

Marine Pollutant: No



IATA

UN-Number: UN1294

Class: 3

Packing Group: II

Proper Shipping Name: Toluene

Section 15. Regulatory Information

Safety, Health, and Environmental Regulations Specific for the Product in Question

OSHA Hazards: Flammable liquid, Target Organ Effect, Irritant, Reproductive hazard

All ingredients are on the following inventories or are exempted from listing

Australia: AICS

Canada: DSL

China: IECS

European Union: EINECS

Japan: ENCS/ISHL

Korea: ECL

New Zealand: NZIoC

Philippines: PICCS

United States of America: TSCA

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

Toluene (CAS-No. 108-88-3)

Revision Date 2007-07-01

SARA 311/312 Hazards: Acute Health Hazard; Chronic Health Hazard; Fire Hazard

Massachusetts Right to Know Components

Toluene (CAS-No. 108-88-3)

Revision Date 2007-07-01

Pennsylvania Right to Know Components

Toluene (CAS-No. 108-88-3)

Revision Date 2007-07-01

New Jersey Right to Know Components

Toluene (CAS-No. 108-88-3)

Revision Date 2007-07-01



California Prop 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

DEA Listing: This product is a DEA List 2 Chemical.

DEA Chemical Code: 6594

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 6/21/2016

