

# Safety Data Sheet

## Toluene

**CAROLINA<sup>®</sup>**  
www.carolina.com

### Section 1 Product Description

**Product Name:** Toluene  
**Recommended Use:** Science education applications  
**Synonyms:** Methylbenzene, Toluol, Toluene  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

**GHS Classification:**

Aspiration Hazard Category 1, Flammable Liquid Category 2, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3, Hazardous to the aquatic environment - Acute Category 3, Acute Toxicity - Oral Category 4

**Other Safety Precautions:** IF exposed or concerned: Get medical advice/attention.

**Acute Toxicity Dermal Contains** 100 % of the mixture consists of ingredient(s) of unknown toxicity

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Toluene	108-88-3	100

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO<sub>2</sub> or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

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**Fire and/or Explosion Hazards:**

Vapors may travel back to ignition source. Closed Containers exposed to heat may explode.

**Hazardous Combustion Products:**

Carbon dioxide, Carbon monoxide

## Section 6

## Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:**

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Isolate area. Keep unnecessary personnel away. Ventilate the contaminated area. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area. Do not flush spill to drain.

## Section 7

## Handling and Storage

**Handling:**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Do not breathe dust/vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution.

**Storage:**

Keep container tightly closed. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. This material should be kept in an area suitable for the storage of flammable liquids. Store away from oxidizing agents, sparks and flame.

**Storage Code:**

Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

## Section 8

## Protection Information

**Chemical Name**

Toluene

**ACGIH****(TWA)**

20 ppm TWA

**(STEL)**

N/A

**OSHA PEL****(TWA)**

200 ppm TWA

**(STEL)**

N/A

**Control Parameters****Engineering Measures:**

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

**Personal Protective Equipment (PPE):**

Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:**

No respiratory protection required under normal conditions of use. If ventilation is not sufficient to effectively prevent buildup of vapor/mist/fume/dust, appropriate NIOSH/MSHA respiratory protection must be provided.

**Eye Protection:**

Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:**

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:**

No information available

## Section 9

## Physical Data

**Formula:** C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>

**Molecular Weight:** 92.14 g/mol

**Appearance:** Colorless Liquid

**Odor:** Moderate Characteristic

**Odor Threshold:** No data available

**Vapor Pressure:** 30 hP AT 20 C

**Evaporation Rate (BuAc=1):** 2.24

**Vapor Density (Air=1):** 3.1

**Specific Gravity:** 0.86

**Solubility in Water:** Practically Insoluble

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**pH:** No data available  
**Melting Point:** No data available -95 C  
**Boiling Point:** No data available  
**Flash Point:** 4 C  
**Flammable Limits in Air:** LEL: 1.3% UEL: 7.1%

**Log Pow (calculated):** 2.65  
**Autoignition Temperature:** 480 C  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** 99%+

## Section 10

## Reactivity Data

**Reactivity:** Not generally reactive under normal conditions.  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Sparks, open flame, other ignition sources, and elevated temperatures.  
**Incompatible Materials:** Strong oxidizing agents  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Inhalation, Ingestion, and Skin contact.  
**Symptoms (Acute):** Respiratory disorders, Liver disorders, Impaired Kidney Function  
**Delayed Effects:** No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Toluene	108-88-3	Oral LD50 Rat 636 mg/kg	Not determined	INHALATION LC50 Mouse 400 ppm INHALATION LC50 Rat 49 GM/M3

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	108-88-3	Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** Evidence of a mutagenic effect.  
**Teratogenicity:** Evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** Evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** Bladder, Liver, Kidneys  
**Chronic:** Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12

## Ecological Data

**Overview:** Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. Harmful to fish and other water organisms.  
**Mobility:** No data  
**Persistence:** No data  
**Bioaccumulation:** No data  
**Degradability:** Biodegrades quickly.  
**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
Toluene	108-88-3	96 HR LC50 PIMEPHALES PROMELAS 12.6 MG/L [STATIC] 96 HR LC50 ORYZIAS LATIPES 54 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 11.5 MG/L 96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA > 433 MG/L 72 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 12.5 MG/L [STATIC]

## Section 13

## Disposal Information

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**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

**Waste Disposal Code(s):** D001

## Section 14

## Transport Information

**Ground - DOT Proper Shipping Name:**  
UN1294, Toluene, Hazard Class 3, Packing Group II

**Air - IATA Proper Shipping Name:**  
UN1294, Toluene, Hazard Class 3, Packing Group II

## Section 15

## Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Toluene	108-88-3	Toluene	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	No	No

**California Prop 65:** WARNING: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

## Section 16

## Additional Information

**Revised:** 09/09/2015

**Replaces:** 09/03/2014

**Printed:** 07-06-2016

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health