

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

1. IDENTIFICATION OF CHEMICAL PRODUCT

Name of substance: Toluene **Chemical Family:** Aromatic Hydrocarbon

Product Description: Clear, colourless liquid.

Supplier: **Transmare-Chemie (Singapore) Pte Ltd**
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Telephone: (65) 6262 0122
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2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Flammable Liquid	Category 2
Acute Toxicity – Oral	Category 5
Acute Toxicity – Inhalation	Category 4
Skin Corrosion / Irritation	Category 2
Serious Eye Damage / Irritation	Category 2B
Toxic to Reproduction	Category 1A
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 1 (Central Nervous System)
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3 (Respiratory Tract Irritation, Narcotic Effect)
Specific Target Organ Systemic Toxicity (Repeated Exposure)	Category 1 (Central Nervous System, Kidney, Liver)
Aspiration Hazard	Category 1
Acute Hazard to Aquatic Environment	Category 2
Chronic Hazard to Aquatic Environment	Category 3

GHS Label Elements

Symbols:



Signal Word(s): Danger

GHS Hazards Statement

Physical Hazards:

H225: Highly Flammable Liquid and Vapor

Health Hazards:

- H303: May be harmful if swallowed.
- H332: Harmful if inhaled.
- H315: Causes skin irritation.
- H320: Causes eye irritation
- H360: May damage fertility or unborn child.

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

- H370: Causes damage to organs
H336: May cause drowsiness or dizziness.
H373: May cause damage to organs through prolonged or repeated exposure.
H304: May be fatal if swallowed or enters airways.

Environmental Hazards:

- H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

GHS Precautionary Statement

Prevention:

- P201: Obtain special instructions before use.
P202: Do Not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink, or smoke while product is in use.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use protective equipment as required.

Response:

- P301+P310: If Swallowed: Call a Poison Center or doctor/physician if you feel unwell.
P303+P361+P353: If on Skin (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338: If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P331: Do Not induce vomiting.
P391: Collect spillage.

Storage:

- P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Disposal

- P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards Which Do Not Result in Classification

N/A

Aggravated Medical Condition

N/A

**3. COMPOSITION/ INFORMATION ON
INGREDIENTS**

CAS NUMBER: 108-88-3

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

Chemical Name	CAS Number	Concentration
Toluene	108-88-3	>98%

4. FIRST AID MEASURES

Inhalation, Skin Contact, Eye Contact, Ingestion



Medical attention. Emergency shower.



Emergency eyewash.

5. FIRE FIGHTING MEASURE

Appropriate Extinguishing Media:

- CO₂
- Alcohol Resistance Foam
- Dry Chemical
- Water Fog

Inappropriate Extinguishing Media:

- Water Jet

6. ACCIDENTAL RELEASE MEASURES

- Eliminate ignition sources. Prevent liquid enters sewers, water sources, low area.
- Spill with sand, earth. Dilute contained spill with water. Dispose recover material conforms to local regulation.
- Keep public away.

7. HANDLING AND STORAGE

Storage/ Transport Temperature:
Ambient

Loading/ Unloading Temperature:
Ambient

Ensure all equipment is electrically grounded before beginning transfer operations.
Take precautionary measures against static discharge.
Keep away from heat and sources of ignition.
Avoid breathing mists or vapour. Avoid contact with skin.

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Control Measures/Ventilation

Use Local exhaust ventilation to control process.
Provide mechanical ventilation of confined spaces.
Use explosion-proof ventilation equipment.

Occupational Exposure Limits (OEL) Values

- PEL (Long term) in Singapore: 50ppm
- TLV: 20ppm as TWA – ACGIH
- PEL: 200ppm as TWA – OSHA Z-2

Personal Protection



Vapor respirator. Gloves. Goggles. Full suit. Footwear.

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State:	Liquid
Form/Color:	Clear / Colourless
Odor:	Aromatic odor
Flash Point (TCC ASTM D56):	7 °C
Boiling Point Range:	110-111 °C
Specific Gravity(15.5/15.5):	0.87
Density (15°C):	N/A
Freezing/Melting Point:	-60 °C
Auto-ignition Temperature:	approx. 552 °C
Evaporation Rate (n-Bu Acetate=1):	2.24
Vapor Pressure (20°C):	6.266kPa
Viscosity (25°C):	0.69cSt
Solubility in Water (25°C):	0.05wt%
Explosive Limits (in air):	1.2-7.1vol%
Vapor Density (101.3kPa/air = 1):	3.2
Molecular Weight:	92
Coeff. Of Thermal Expansion (liq):	N/A
Odor Threshold:	N/A
pH:	N/A
Material Hygroscopic:	N/A

10. STABILITY AND REACTIVITY	
Hazardous Polymerization: No	Conditions to Avoid Polymerization: N/A
Stability: Stable	Conditions to Avoid Instability: N/A
Materials and Conditions to Avoid:	Strong oxidizing agents, concentrated nitric or sulphuric acid, halogens, or molten sulphur.
Hazardous Decomposition Products:	N/A

SAFETY DATA SHEET: TOLUENE

MSDS No: TMC-AR-1294

11. TOXICOLOGICAL INFORMATION

Inhalation:	Irritation to respiratory tract. May cause dizziness. May affect central nervous system.
Skin Contact:	Defat, dry skin. Low order of toxicity.
Eye Contact:	May cause discomfort to the eyes. Will not injure eye tissue.
Ingestion:	Minimal toxicity, small amounts may cause bronchopneumonia or pulmonary edema.

12. ECOLOGICAL INFORMATION

Environmental Mobility:	Floats on water, if enter soil, turns highly mobile and may contaminate groundwater.
Environmental Degradability:	Biodegrade rapidly. Oxidize rapidly by photochemical reactions in air.
Ecotoxicity and Bioaccumulation:	Harmful to aquatic organisms. Does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Combine with other materials to indicate another route of disposal.

Recycle, recover or dispose empty drums through a suitably qualified or licensed contractor.

Ensure compliance with national and local regulations.

NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product is ash less and can be burned directly in appropriate equipment.

Contact Transmare-Chemie or local Authorities for more information.

14. TRANSPORT INFORMATION

	Land	Sea	Air
Class	3	3	3
Packing Group	II	II	II
UN Number	1294	1294	1294
Transport Document Name	Toluene, Class 3, UN 1294, PG II, (7 °C c.c.)	Toluene, Class 3, UN 1294, PG II, (7 °C c.c.)	Toluene
Others	Hazchem Code: 3Y	Marine Pollutant: No EmS: F-E, S-D Risk Label: 3	

WHMIS Information:

Class B, Division2: Flammable Liquids; Class D, Division 2, Subdivision B: Toxic Material

Subsidiary TDG: Class 9.2

Transport Emergency Card: TEC @-30S1294

Transport in Bulk (Annex II of MARPOL 73/78 and IBC Code)

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Pollution Category: Y
Ship Type: 3
Product Name: Toluene

15. REGULATORY INFORMATION

Local Regulation

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations:
This product is subjected to the SDS, Labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations:
This Product is not subjected to control under this Act/Regulation.

Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum & Explosives) Regulations:
This product is subjected to the requirement of this regulation.

Fire Safety Act and Fire Safety (Petroleum and Flammable Materials) Regulations:
This product is subjected to the requirement of this regulation.

16. OTHER INFORMATION

Revision Date on 15 April 2024

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of Transmare-Chemie Company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.