

FOR FURTHER INFORMATION, PLEASE REFER TO THE SDS

Issue: December 18

PRODUCT: Toluene

Other Names: Methyl benzol

Uses: Industrial solvent

Signal Word: Danger

UN No.	1294
Dangerous Goods Class	3
Subsidiary Risk	None
Pack Group	II
Hazchem	3YE
Poison Schedule	6

Hazardous Nature:	This product is classified as hazardous under GHS for Australia criteria
Hazardous Classification:	Flammable Liquids: 2; Acute Toxicity - Oral: 4; Serious Eye Damage/Irritation: 2A; Specific Target Organ Toxicity (Central Nervous System): 3; Acute Aquatic Toxicant: 3
Hazardous Statement:	Highly Flammable liquid and vapour
Exposure Standards:	TWA: 191 mg/m ³ (50 ppm); STEL: 574 mg/m ³ (150 ppm)

Physical Characteristics (Typical)
Section 9 of SDS

Appearance	Clear, colourless liquid
Boiling Point/ Range (°C):	110
Flash Point (°C):	4
Specific Gravity/ Density (g/ml @ 15°C):	0.871
Chemical Stability:	Stable at room temperature and pressure

Product Ingredients
Section 3 of SDS

Toluene	108-88-3	100
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For further ingredients information, please refer to the full SDS.

GHS Pictograms
Section 2 of SDS


For further Risk and Safety information, please refer to the full SDS.

DEFINITIONS

Dangerous Goods	Products that are classified as Dangerous for Storage and Transport: these products are allocated a UN No., with accompanying Class, Pack Group, and Sub. Risk, if required. Products that do not have a specific description under the code, but have low flash points, or such, must be classified under their most significant risk, eg. Flammable Goods N.O.S. (Not otherwise specified), UN 1993
Poisonous Substance	Products that are classified under the poisons schedule are a poisonous substance. The proportion of the poison in the product will determine its numerical classification.
Hazardous Substance	Products are considered to be Hazardous if they pose an intrinsic risk to human or environmental health, such as mutagens (able to change DNA), teratogens (able to result in birth defects), carcinogens (able to generate cell abnormalities), etc. Materials are not hazardous substances if they pose risks such as potential for misuse, like flammability, or explosions when heated and ignited.

1. IDENTIFICATION

Product Name: Toluene
Other Names: Methyl benzol
Chemical Family: Aromatic Solvent
Recommended Use: Industrial solvent
Supplier: Sydney Solvents Pty Ltd
ABN: 51 104 642 695
Street Address: Unit 3, 10 Production Place, Jamisontown NSW 2750
Telephone: 02 4722 5060
Fax:
Emergency phone: **CHEMCALL:** 1800 605 040
All other inquiries: 02 4722 5060

2. HAZARDS IDENTIFICATION

Hazardous Nature

This product is classified as hazardous under GHS for Australia criteria

Hazardous Classification

Flammable Liquids: 2; Acute Toxicity - Oral: 4; Serious Eye Damage/Irritation: 2A; Specific Target Organ Toxicity (Central Nervous System): 3; Acute Aquatic Toxicant: 3

Hazardous Statement

Highly Flammable liquid and vapour

GHS Pictograms



Hazard Statements

H225: Highly flammable liquid and vapour
 H372: Causes damage to organs through prolonged or repeated exposure
 H332: Harmful if inhaled
 H315: Causes skin irritation
 H360: May damage fertility or the unborn child
 H305: May be harmful if swallowed and enters airways
 AUH066: Repeated exposure may cause skin dryness or cracking
 H336: May cause drowsiness or dizziness
 H411: Toxic to aquatic life with long lasting effects

Precautionary Statements

P102: Keep out of reach of children.
 P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. [As modified by IV ATP]
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P262: Do not get in eyes, on skin, or on clothing.

P273: Avoid release to the environment.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection. [As modified by IV ATP]

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P311: Call a POISON CENTER/ doctor/... [As modified by IV ATP]

Dangerous Goods Classification 3

Poisons Schedule 6

Signal Word Danger

3. COMPOSITION: Information on Ingredients

Chemical Ingredient	CAS No.	Proportion (%v/v)
Toluene	108-88-3	100

4. FIRST AID MEASURES

For advice, contact Poisons Information Centre (Phone Australia: 13 1126) or a doctor.

Ingestion

If swallowed, DO NOT induce vomiting. Keep at rest. Seek immediate medical attention.

Eye Contact

Flush eyes with large amounts of water until irritation subsides. Seek immediate medical attention.

Skin Contact

Flush area with large amounts of water and wash area with soap if available. Remove contaminated clothing, including shoes, and launder before reuse. Seek medical attention for skin irritations.

Inhalation

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Seek immediate medical attention.

First Aid facilities

Provide eye baths and safety showers.

Medical Attention

Treat according to symptoms. Avoid gastric lavage: risk of aspiration of product to the lungs with the potential to cause chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Shut off product that may 'fuel' a fire if safe to do so. Allow trained personnel to attend a fire in progress, providing firefighters with this Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

Suitable extinguishing media

Dry chemical or foam. Do not use water jet

Hazards from combustion products

A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will evolve.

Precautions for fire fighters and special protective equipment

Full protective clothing and self-contained breathing apparatus

Hazchem Code: 3YE

6. ACCIDENTAL RELEASE MEASURES**Emergency Procedures**

Prevent fluid from escaping to drains and waterways. Contain leaking packaging in a containment drum. Prevent vapours from building up in confined areas. Ensure that drain valves are closed at all times. Clean up and report spills immediately.

Methods and materials for containment**Major Land Spill**

- Eliminate sources of ignition.
- Warn occupants of downwind areas of possible fire and explosion hazard.
- Prevent liquid from entering sewers, watercourses, or low-lying areas.
- Keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.
- Take measures to minimise the effect on the ground water.
- Contain the spilled liquid with sand or earth.
- Recover by pumping – use explosion proof pump or hand pump – or with a suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See “First Aid Measures” and “Stability and Reactivity”

Major Water Spill

- Eliminate any sources of ignition.
- Warn occupants and shipping in downwind areas of possible fire and explosion hazard.
- Notify the port or relevant authority and keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Confine the spill if possible.
- Remove the product from the surface by skimming or with suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See “First Aid Measures” and “Stability and Reactivity”.

7. HANDLING AND STORAGE**Precautions for safe handling**

This product is flammable. Do not open near open flame, sources of heat or ignition. No smoking. Keep container closed. Handle containers with care. Open slowly to control possible pressure release. Material will accumulate static charge. Use grounding leads to avoid discharge (electrical spark).

Conditions for safe storage

Store in a cool, dry place away from direct sunlight. Do not pressurise, cut, heat or weld containers - residual vapours are flammable. This product is flammable and will fuel a fire in progress.

Incompatible materials

Natural Rubber, Butyl Rubber, EPDM, Polystyrene

8. EXPOSURE CONTROLS: PERSONAL PROTECTION**National Exposure Standards**

The time weighted average concentration (TWA) for this product is: 191 mg/m³ (50 ppm), which means the highest allowable exposure concentration in an eight-hour day for a five-day working week. The short-term exposure limit (STEL) is: 574 mg/m³ (150 ppm), which is the maximum allowable exposure concentration at any time. Products may be identified as skin sensitizers, indicated as (Sen), which means that the product will induce ever-increasing adverse effects with subsequent exposure, such as loss of feeling in extremities, or pain or irritation on contact with the product. Where (Sk) appears, the product will be easily absorbed to the skin, risking overexposure and symptoms similar to Ingestion or Inhalation. applies in this case. Refer: Section 11: Toxicological Effects.

Biological limit values

BEI: Biological Exposure Index - 0.5 mg/l o-Cresol in urine at end of shift.

Engineering Controls: Ventilation

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a fume hood. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.

Personal Protective Equipment

Respiratory Protection: Where concentrations in air may exceed the limits described in the National Exposure Standards, it is recommended to use a half-face filter mask to protect from overexposure by inhalation. A type "A" filter material is considered suitable for this product.

Eye Protection: Always use safety glasses or a face shield when handling this product.

Skin/ Body Protection: Always wear long sleeves and long trousers or coveralls, and enclosed footwear or safety boots when handling this product. It is recommended that chemical resistant gloves (e.g. PVC) be worn when handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of measurement	Typical value
Appearance	-	Clear, colourless liquid
Boiling Point/ Range	°C	110
Flash Point	°C	4
Density @ 15°C	g/ml	0.871
Vapour Pressure @ 20°C	kPa	3.5
Explosive Limits (LEL – UEL)	%	1.2 – 8.0
Vapour Density @ 20°C	kPa	3.1
Autoignition Temperature	°C	480 – 536
Viscosity @ 20°C	cSt	Not applicable
Percent Volatiles	%	100
Solubility with Water	kg/m ³	0.515

The values listed are indicative of this product's physical and chemical properties. For a full product specification, please consult the Product Data Sheet.

10. STABILITY AND REACTIVITY**Chemical Stability**

Stable at room temperature and pressure

Conditions to avoid

Sources of heat and ignition, open flames.

Hazardous decomposition products

Carbon monoxide, carbon dioxide and other organic complexes on incomplete burning or oxidation.

Hazardous reactions

Oxidizing agents, mineral acids, halogenated organic compounds and peroxides. Combination with Ethanol will result in potentiated (greatly increased) health effects similar to those in ingestion and inhalation.

Hazardous Polymerisation

Will not occur

11. TOXICOLOGICAL INFORMATION**Acute Effects****Ingestion**

This material will cause irritation to the throat and tube to the stomach and may cause nausea. Vomiting may cause the product to be aspirated to the lungs possibly resulting in chemical pneumonitis.

Eye Contact

Eye contact with this product will cause redness and swelling with a burning sensation and blurred vision.

Skin Contact

Harmful in contact with skin. Symptoms include burning sensation, redness, swelling and possible blistering

Inhalation

Harmful by inhalation. Vapours will cause dizziness and drowsiness. There is the possibility of organ damage over prolonged use or exposure. Central Nervous System depression includes nausea, headaches, dizziness, and possibly loss of consciousness, coma and even death.

Chronic Effects

Repeated over exposure may cause hemolysis of the red blood cells leading to possible liver and kidney damage. Any existing dermatitis may be exacerbated by exposure to this product. Prolonged contact with this product will result in irritant contact dermatitis if care is not taken to wash affected areas. This product is regarded as a category 3 carcinogen which indicates that there have been reports of tumors in animal testing, but that there is no direct evidence of these effects in humans.

Other Health Effects Information

Persons with pre-existing liver, kidney, central nervous system or skin complaints should avoid unnecessary exposure to this product. Every effort to protect eyes, respiratory tract and skin exposure should be taken in these circumstances.

Toxicological Information

Oral LD₅₀: Oral (rat): 636 mg/kg

Dermal TC_{Lo}: Skin (rabbit) LD50: 14100 µL/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity****Aquatic Toxicity**

Fish Toxicity (rainbow trout, goldfish, bluegill):	Rainbow Trout EC ₅₀ : 7250 µg/L
Daphnia Magna EC ₅₀ (24 hr):	6000 µg/L
Blue-green algae (Toxicity threshold 7-8 days):	No data available
Green algae (Toxicity threshold 7-8 days):	EC ₅₀ : 400000 µg/L

Persistence/ degradability

Log P: 2.73 - volatilises in air.

Mobility

Floats on water. If product enters soil, it will be highly mobile and may contaminate groundwater.

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should be taken to ensure compliance with national and local authorities. Packaging may still contain fumes and vapours that are flammable and harmful. Ensure that empty packaging is allowed to dry.

Special Precautions for Landfill or Incineration

This product is NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product must be disposed as chemical waste in accordance with the local authority.

14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN No.	1294	UN No.	1294	UN No.	1294
Proper Shipping Name	Toluene	Proper Shipping Name	Toluene	Proper Shipping Name	Toluene
DG Class	3	DG Class	3	DG Class	3
Sub. Risk	None	Sub. Risk	None	Sub. Risk	None
Pack Group	II	Pack Group	II	Pack Group	II
Hazchem	3YE	Hazchem	3YE	Hazchem	3YE

Dangerous Goods Segregation

This product is classed as Dangerous Goods Class 3, packing group II. Please consult the Australian Dangerous Goods Code for Transport by Road and Rail for information.

15. REGULATORY INFORMATION

Country/ Region: Australia

Inventory: AICS

Status: Listed

Poisons Schedule: 6

16. OTHER INFORMATION

Reasons for Issue: Upgrade to GHS SDS; Amalgamated supplier changes in all sections

Abbreviations:

AICS: Australian Inventory of Chemical Substances

CAS Number: Chemical Abstracts Number

IARC: International Agency for Research on Cancer

NOHSC: National Occupational Health and Safety Council

References:

- Supplier Safety Data Sheets
- <http://chem.sis.nlm.nih.gov/chemidplus> (December 18)
- <http://hsis.safework.gov.au/SearchHS.aspx> (December 18)
- Ecotoxicology data: http://cfpub.epa.gov/ecotox/quick_query.htm (December 18)
- *Sax's Dangerous Properties of Industrial Materials*, Richard J. Lewis Snr., pub. Canada (2000)

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact Australasian Solvents and Chemicals Company Pty. Ltd.