

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **TOLUENE**

Other name(s): Toluol; Methylbenzene; Phenylmethane; Methylbenzol.

Recommended Use of the Chemical and Restrictions on Use Solvent, raw material.

Supplier: Bermuda Industrial Supplies
ABN: 71 149 716 003
Street Address: 16/1 Cowpasture Place
Wetherill Park
NSW 2164
Australia
Telephone Number: 02 9604 4344
Emergency Telephone: **02 9604 4344**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Flammable liquids - Category 2
Aspiration hazard - Category 1
Skin Irritation - Category 2
Specific target organ toxicity (single exposure) - Category 3
Toxic to Reproduction - Category 2
Specific target organ toxicity (repeated exposure) - Category 2

SIGNAL WORD: DANGER



Hazard Statement(s):

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness and dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

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Precautionary Statement(s):

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground or 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.
P260 Do not breathe mist, vapours, spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

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

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): S6 Poison.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Toluene	108-88-3	100%	H225 H361d H304 H373 H315 H336

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

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Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. This material can be absorbed through the skin with resultant adverse effects. Seek immediate medical assistance.

Eye Contact:

If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically and as for exposure to hydrocarbon solvents. Aspiration can result in pulmonary oedema. Do not give epinephrine or related drugs.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Normal foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:

Water jet.

Hazchem or Emergency Action Code: 3YE

Specific hazards arising from the chemical:

Highly flammable liquid. May form flammable vapour mixtures with air. Flameproof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed. Avoid all ignition sources. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc) must be eliminated both in and near the work area. Do NOT smoke. Vapour may travel a considerable distance to source of ignition and flash back. On burning will emit toxic fumes, including those of oxides of carbon .

Special protective equipment and precautions for fire-fighters:

Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. Shut off all possible sources of ignition. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect in properly labelled containers for disposal.

7. HANDLING AND STORAGE

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

Product Name: TOLUENE

Issued: 25/02/2019

Version: 1.0

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Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour. May form flammable vapour mixtures with air. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc) must be eliminated both in and near the work area. Do NOT smoke. Flameproof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed. Vapour may travel a considerable distance to source of ignition and flash back. Take precautionary measures against static discharges. Do not use compressed air for filling, discharging, or handling operations.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Store away from sources of heat or ignition. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Toluene: 8hr TWA = 191 mg/m³ (50 ppm), 15 min STEL = 574 mg/m³ (150 ppm), Sk

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

'Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.



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Wear overalls, safety glasses and impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colourless
Odour:	Characteristic , Aromatic , Solvent
Molecular Formula:	C ₆ H ₅ CH ₃
Solubility:	Soluble in many organic solvents
Specific Gravity:	0.865 @25°C
Relative Vapour Density (air=1):	3.1
Vapour Pressure (20 °C):	2.93 kPa
Flash Point (°C):	4.0 (Closed cup)
Flammability Limits (%):	1.2-7.1
Autoignition Temperature (°C):	535
% Volatile by Weight:	100
Solubility in water (g/L):	0.5 @15°C
Boiling Point/Range (°C):	110-111
pH:	Not applicable
Evaporation Rate:	2.24 (n-Butyl acetate = 1)
Freezing Point/Range (°C):	-93

10. STABILITY AND REACTIVITY

Reactivity:	Reacts with strong oxidising agents.
Chemical stability:	Stable under normal conditions of use.
Possibility of hazardous reactions:	Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Avoid build up of static electricity.
Incompatible materials:	Incompatible with oxidising agents. Incompatible with nitric acid , sulphuric acid , chlorine , nitrogen tetroxide .
Hazardous decomposition products:	Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung).
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Eye contact: May be an eye irritant.

Skin contact: Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Can be absorbed through the skin with resultant adverse effects.

Inhalation: Breathing in vapour may produce respiratory irritation. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Breathing in high concentrations may result in an irregular heart beat and prove suddenly fatal.

Acute toxicity:
Oral LD50 (rat): 636 mg/kg
Inhalation LC50 (rat): 49 gm/m³/4 Hr

Skin corrosion/irritation: Mild to moderate irritant Std Draize test. (rabbit)
Serious eye damage/irritation: Mild to severe. (rabbit) (Standard Draize test)
Respiratory or skin sensitisation: No information available.

Chronic effects: Evidence indicates that repeated or prolonged exposure to this chemical could result in central nervous system disorders.

Deliberate concentration and inhalation of vapours (solvent abuse) has been associated with organ damage and death.

Mutagenicity: No evidence of mutagenic effects.
Carcinogenicity: No carcinogenic effects were observed in animal studies.
Reproductive toxicity: Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (STOT) - single exposure: May cause drowsiness and dizziness.
Specific Target Organ Toxicity (STOT) - repeated exposure: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard: May be fatal if swallowed and enters airways.

This material has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. Data available is insufficient for an assessment to be made.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: The material is readily biodegradable.

Bioaccumulative potential: Bioconcentration Factor (BCF): 90.

Mobility in soil: No information available.

24hr EC50 (algae): 10 mg/L (green algae)
48hr EC50 (Daphnia magna): 6 mg/L
96hr LC50 (rainbow trout): 7.63 mg/L

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13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Advise flammable nature. Normally suitable for incineration by an approved agent.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



UN No: 1294
Transport Hazard Class: 3 Flammable Liquid
Packing Group: II
Proper Shipping Name or Technical Name: TOLUENE
Hazchem or Emergency Action Code: 3YE

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 1294
Transport Hazard Class: 3 Flammable Liquid
Packing Group: II
Proper Shipping Name or Technical Name: TOLUENE

IMDG EMS Fire: F-E
IMDG EMS Spill: S-D

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 1294
Transport Hazard Class: 3 Flammable Liquid
Packing Group: II
Proper Shipping Name or Technical Name: TOLUENE

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

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Classification of the chemical:

Flammable liquids - Category 2
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H373 May cause damage to organs through prolonged or repeated exposure.

Poisons Schedule (SUSMP): S6 Poison.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2018.

In: 'IARC Monographs on the Evaluation of Carcinogenic Risk to Humans'. World Health Organisation, Vol 71, 1999.

This safety data sheet has been prepared by Bermuda Industrial Supplies & SDS Services).

Reason(s) for Issue:

5 Yearly Revised Primary SDS
Update in Ecological Information

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Bermuda Industrial Supplies cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Bermuda representative or Bermuda Industrial Supplies at the contact details on page 1.

Bermuda Industrial Supplies' responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.