



SAFETY DATA SHEET SUMMARY INFORMATION
 For further information: Please refer to the Safety Data Sheet

Issue: February, 2015

PRODUCT: Toluene

Other Names: Methyl benzol.
Methyl benzene

Uses: Industrial solvent

UN No. 1294

Dangerous Goods Class: 3

Subsidiary Risk: -

Packing Group: II

HAZCHEM: 3YE

Hazardous Nature:	This product is classified as hazardous under HSNO criteria.
Hazard Classifications:	3.1B: Highly flammable liquid and vapour, 6.1D Acute toxicity (oral, inhalation), 6.3A Skin irritant, 6.4A Eye irritant, 6.8B Suspected of damaging fertility or unborn child, 6.9B (inhalation) May cause damage to organs, 9.1D Toxic to aquatic life, 9.3C Harmful to terrestrial vertebrates
Exposure Standards:	TEL (air): Not available ; TWA _{skin} 50 ppm (188 mg/m ³)
Environmental Standards:	EEL (air) : Not available

Physical Characteristics (Typical)

Section 9 of SDS

Appearance	Clear, colourless liquid
Boiling Point/Range (°C)	110 - 111
Flashpoint (°C)	5 (typical)
Specific gravity	0.865
Chemical Stability	Stable at room temperature and pressure
Reactivity	Strong oxidising agents.

Product Ingredients

Section 3 of SDS

Toluene	108-88-3	100 %
---------	----------	-------

For further ingredients information, please refer to the SDS

Hazardous Statements

Section 2 of SDS

H225 Highly flammable liquid and vapour	H302 Harmful if swallowed
H332 Harmful if inhaled	H315 Causes skin irritation
H361 Suspected of damaging fertility or the unborn child	H320 Causes eye irritation
H401 Toxic to aquatic life	H373 May cause damage to organs through prolonged or repeated exposure
H433 Harmful to terrestrial vertebrates	

For full Hazard and Precautionary information, please refer to Section 2 of the SDS

SUMMARY INFORMATION ONLY

1. IDENTIFICATION

Product Name: Toluene
Other Names: Methyl benzol, methyl benzene
Chemical Family: Hydrocarbon, aromatic
Molecular Formula: CH₃C₆H₆
Recommended Use: Industrial solvent

Supplier: Australasian Solvents and Chemicals Company Pty. Ltd
Address: PO Box 8340, Symonds Street, Auckland, N.Z.
Telephone: 0800 754 767 (toll free)
Emergency phone: **CHEMCALL: 0800 243 622**
All other inquiries: 0800 754 767

2. HAZARDS IDENTIFICATION

Hazardous Substance: Product is classified as hazardous under the HSNO criteria.
HSNO Approval Number: HSR001227
Hazard Classifications: 3.1B Highly flammable
6.1D (oral, inhalation) Acute toxicity
6.3A Skin irritant
6.4A Eye irritant
6.8B Suspected of damaging fertility or the unborn child
6.9B (inhalation) May cause damage to organs through prolonged or repeated exposure
9.1D Toxic to aquatic life
9.3C Harmful to terrestrial vertebrates



Signal word: DANGER

Hazard Statements :

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H320 Causes eye irritation.
H332 Harmful if inhaled
H361 Suspected of damaging fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure
H401 Toxic to aquatic life
H433 Harmful to terrestrial vertebrates

Precautionary Statements:

- 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, and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical, ventilating and lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing vapours.
- P264 Wash hands and exposed skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to environment.
- P280 Wear protective clothing, gloves and eye protection.

Response Statements

- P301 + P312 IF SWALLOWED: Call a POISON CENTRE if you feel unwell.
- P330 Rinse mouth.

- P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
- P363 Wash contaminated clothing before reuse.
- P332 + P313 If skin irritation occurs: Get medical advice.

- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTRE or doctor if you feel unwell.

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice.

- P370 + P378 In case of fire: Stop leak if safe to do so.

Storage Statements

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

Disposal Statements

- P501 Dispose of product and packaging in accordance with local regulations.

Transport Information

- Dangerous Goods Classification: Class 3 Flammable
- Packing Group II
- HAZCHEM Code 3YE

3. COMPOSITION : Information on Ingredients

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

4. FIRST AID MEASURES

For advice, contact the National Poisons Centre (Phone New Zealand: 0800 764 766) or a doctor. Have product label or this Safety Data Sheet at hand.

Swallowed

If swallowed, do NOT induce vomiting. Rinse mouth. Obtain medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into lungs.

Skin Contact

If skin (or hair) contact occurs, remove contaminated clothing and flush affected area with large amounts of water then wash with soap and water. If redness, swelling, pain and/or blisters occurs, get medical attention.

Eye Contact

Hold eyelids apart and flush the eye continuously with running water. Continue flushing for at least 15 minutes. Remove contact lenses if present and easy to do after the first 5 minutes then continue flushing. Get medical attention.

Inhalation

Move the victim to fresh air immediately. Keep warm and at rest. Obtain medical attention if rapid recovery does not occur.

First Aid facilities

Provide eye baths and safety showers close to areas where splashing may occur.

Advice to Doctor

Treat according to symptoms. Risk of chemical pneumonitis or pulmonary oedema if aspirated into the lungs. Consider use of gastric lavage with protected airway; administration of activated charcoal. Potential for cardiac sensitization, particularly in abuse situation. Hypoxia or negative inotropes may enhance these effects. Consider oxygen therapy.

5. FIRE FIGHTING MEASURES

Shut off product that may 'fuel' a fire if safe to do so. Clear area of non-emergency personnel. Allow trained personnel to attend a fire in progress, providing fire-fighters with this Safety Data Sheet. Vapour is heavier than air, spreads along the ground and distant ignition is possible. Prevent extinguishing media from escaping to drains and waterways. Will float and can be reignited on surface water.

Suitable extinguishing media

Water spray, water fog or fine mist, alcohol foam.

Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not use water in a jet.

Hazards from combustion products

Carbon monoxide from incomplete combustion.

Precautions for fire fighters and special protective equipment

Full protective clothing and self-contained breathing apparatus. Keep adjacent containers cool by spraying with water.

HAZCHEM Code: 3YE

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Avoid contact with spilled product. Isolate hazard area. Prevent entry by unnecessary or unprotected personnel. Prevent fluid from escaping to drains and waterways. Contain leaking packaging in a containment drum. Vapor heavier than air, spreads along the ground, and distant ignition is possible. Prevent vapours from building up in confined areas. Ensure that drain valves are closed at all times. Clean up and report spills immediately.

For small spills, allow residues to evaporate, or absorb with sand, earth or inert absorbent and dispose contaminated material safely. Do not flush away with water.

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 minimize 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 Highly Flammable. Do not open near naked flame, sources of heat or ignition. Avoid sparks. Remove ignition sources. No smoking. Keep container closed when not in use. Handle containers with care. Open slowly to control possible pressure release. Use grounding leads to avoid discharge (electrical spark). Do not use compressed air for filling, discharging or handling. Electrostatic charges may be generated during pumping; this may cause a fire. Restrict line velocity during pumping. Avoid splash filling.

Avoid breathing vapours or contact with product. Avoid contact with skin. Eyes and clothing. Use only in well ventilated areas. Wear personal protective equipment. Wash thoroughly after handling and before eating, drinking, smoking and using the toilet.

Recommended materials

For containers, or container linings, use mild steel or stainless steel.

Conditions for safe storage

Store locked up in closed container in a cool, dry place away from direct sunlight. Do not pressurize, cut, heat or weld containers. Keep away from aerosols, flammables, oxidizing agents, corrosives and from products harmful to man or the environment. Bulk storage tanks should be in a bund and way from sunlight, ignition sources and other heat sources. Vapors from tanks should not be vented to atmosphere but controlled by suitable vapour treatment system.

Incompatible materials

Avoid contact with natural rubber, butyl rubber, EPDM, polystyrene, polyethylene, PVC, polypropylene, polyacrylonitrile.

8. EXPOSURE CONTROLS : PERSONAL PROTECTION

Health Exposure Standards

The Workplace Exposure Standards have been set by WorkSafe NZ for this substance.

	WES-TWA	WES-STEL
Toluene _{SKIN}	50 ppm (188 mg/m ³)	-

Biological limit values

None established.

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 Workplace Exposure Standards, it is recommended to use a filter mask suitable for organic gases and vapours (boiling point < 65 °C). Use a full-face mask.

Where air-filtering respirators are unsuitable, e.g. airborne concentrations are high, risk of oxygen deficiency, then use an appropriate positive pressure breathing apparatus.

Eye Protection:

Use chemical splash goggles.

Skin/ Body Protection:

Always wear chemical resistant protection; clothes with long sleeves and long trousers or coveralls, chemical resistant gloves/gauntlets, apron and safety boots. Use gloves suitable for usage (frequency of use and duration). Suitable gloves; nitrile rubber for incidental contact, or Viton.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of measurement	Typical value
Appearance	-	Clear, colourless liquid
Boiling Point/Range	°C	110 - 111
Flash Point	°C	5 (typical)
Density @ 20°C	g/ml	0.865
Vapour Pressure @ 38°C	kPa	7
Vapour Density @ 20°C	Air =1	>1
Evaporation rate	nBuAc = 1	2.4
Autoignition Temperature	°C	>530
Explosive Limits in Air	%v/v	1.3 – 6.7
Volatiles	%	100
Viscosity @ 20°C	cSt	0.64
Solubility in Water @ 20°C	%	0.05

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, sparks.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

No decomposition products except on burning. See "Fire Fighting Measures".

Hazardous polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

Harmful if swallowed. Will irritate throat and tube to stomach and may cause nausea. Small amounts of liquid aspirated into the lungs during ingestion, or from vomiting, may cause chemical pneumonitis, or pulmonary oedema which can be fatal.

Eye Contact

Irritant. Symptoms may include burning redness, swelling, burning sensation and/or blurred vision.

Skin Contact

Irritating to skin. Repeated or prolonged contact may result in dryness and cracking.

Inhalation

Harmful if inhaled. The inhalation of vapours will cause dizziness and drowsiness. Possibility of organ damage through prolonged or repeated exposure. Central nervous system depression symptoms include headaches, dizziness and nausea. Continuing inhalation may result in unconsciousness, coma and/or death.

Chronic Effects

Repeated over exposure may cause hemolysis of the red blood cells leading to possible liver and kidney damage. There is evidence of potentially irreversible damage to the peripheral nervous system, particularly arms and legs. 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.

EPA NZ have classified toluene as a 6.8B; suspected of damaging fertility or the unborn child, and as a 6.9B substance ; may cause damage to organs and systems through prolonged or repeated exposure by inhalation.

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. The potential for adverse effects through exposure to this product are increased when in combination with ethanol. This means the adverse effects as described under *Ingestion* or *Inhalation* will be increased or experienced more quickly.

Toxicological Information:

Toluene	Oral, rat, LD ₅₀	636 mg/kg
	Dermal, rabbit, LD ₅₀	> 2000 mg/kg
	Inhalation, rat, LC ₅₀ (4h)	12.5 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Toxicity:

Product is classified as ecotoxic in the aquatic environment.

Ecotoxicity Data:

Rainbow trout LC₅₀ (96 hr) 5.8 mg/L
Daphnia magna EC₅₀ (48 hr) 11.5 mg/L
Selenastrum capricornutum growth, EC₅₀ (72 h) 12.5 mg/L

Persistence/degradability:

Product expected to be readily biodegradable. Not expected to bioaccumulate significantly.

Mobility:

Product is highly volatile and mobile in soil. Will evaporate to air if released in water. .

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Recover or recycle product whenever possible.
 Packaging may still contain fumes and vapours that are flammable and harmful. Allow empty packaging to vent and dry in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
 Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor.
 Ensure empty packaging is managed in accordance with Dangerous Goods and HSNO regulations.

Special Precautions

This product is NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product is ashless and can be burned directly in appropriate equipment. In the absence of a designated industrial incinerator, this product should be treated and disposed through chemical waste treatment, or considered for use in solvent recycling.

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	-	Sub. Risk	-	Sub. Risk	-
Pack Group	II	Pack Group	II	Pack Group	II
Hazchem	3YE	Hazchem	3YE		

Dangerous Goods Segregation

This product is classified as Dangerous Goods Class 3, Packing Group II.
 Please consult the Land Transport Rule: Dangerous Goods 2005 plus amendments, and NZS 5433:2012 Transport of Dangerous Goods on Land for information.



15. REGULATORY INFORMATION

Country/ Region: Australia, New Zealand
Inventory: AICS, NZIoC
Status: Listed

New Zealand HSNO Approval Code: HSR001227 Benzene, methyl-
Hazard classifications: 3.1B, 6.1D, 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C.
HSNO Controls: Refer to www.epa.govt.nz for information on Controls.
Environmental Exposure Standards: Not set

16. OTHER INFORMATION

Date of Issue: 5th February, 2015
Reasons for Issue: Product information review and amend SDS format.
Replaces: Safety Data Sheet dated 11 February 2013.

Abbreviations:

AICS: Australian Inventory of Chemical Substances
CCID: Chemical Classification and Information Database
EPA: Environmental Protection Authority
HSNO: Hazardous Substances and New Organisms
NZIoC: New Zealand Inventory of Chemicals
CAS Number: Chemical Abstracts Number
IARC: International Agency for Research on Cancer
NOHSC: National Occupational Health and Safety Council
STEL: Short-Term Exposure limit
TWA: Time Weighted Average
WES: Workplace Exposure Standards

References:

Supplier Material Safety Data Sheet
EPA CCID database; www.epa.govt.nz

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 (NZ) Pty. Ltd.

END OF SAFETY DATA SHEET