

**FOR FURTHER INFORMATION, PLEASE REFER TO THE SDS FOLLOWING**

Issue: January 19

**PRODUCT:** Toluene  
**Other Names:** Methyl benzol, methyl benzene  
**Uses:** Industrial solvent  
**Signal Word:** Danger

<b>UN No.</b>	1294
<b>Dangerous Goods Class</b>	3
<b>Subsidiary Risk</b>	None
<b>Pack Group</b>	II
<b>Hazchem</b>	3YE

<b>Hazardous Nature:</b>	This product is classified as hazardous under HSNO criteria
<b>Hazardous Classification:</b>	3.1B, 6.1D (oral), 6.1D (inhalation), 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C
<b>HSNO Approval Number:</b>	HSR001227
<b>Exposure Standards:</b>	TWA: 188 mg/m <sup>3</sup> (50 ppm): STEL: No value established

**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 @ 20°C):	0.865
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. Products not classed as Dangerous Goods are designated as not regulated for transport or N/R (non-regulated).
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 classified with risks such as potential for misuse, like flammability, or explosions when heated and ignited, may be both classed as Dangerous Goods and Hazardous Substances.

**1. IDENTIFICATION**

<b>Product Name:</b>	<b>Toluene</b>
<b>Other Names:</b>	Methyl benzol, methyl benzene
<b>Chemical Family:</b>	Aromatic hydrocarbon
<b>Recommended Use:</b>	Industrial solvent
<b>Supplier:</b>	ASCC Limited
<b>Street Address:</b>	112A Bush Road, Rosedale, Auckland, New Zealand
<b>Telephone:</b>	(09) 966 2447
<b>Emergency phone:</b>	<b>0800 243 622 (24 hours)</b> <b>+64 4 917 9888 (Outside NZ)</b>
<b>National Poisons Centre:</b>	0800 764 766

**2. HAZARDS IDENTIFICATION****Hazardous Nature**

This product is classified as hazardous under HSNO criteria

**Hazardous Classification**

3.1B, 6.1D (oral), 6.1D (inhalation), 6.3A, 6.4A, 6.8B, 6.9B, 9.1D, 9.3C

**GHS Pictograms**

**Signal Word** Danger

**Dangerous Goods Classification** 3

**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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/light/.../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 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 the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response Statements**

P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P363: Wash contaminated clothing before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER/ 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/attention.

P370+P376: In case of fire: Stop leak if safe to do so.

**Storage Statements**

P403+P235: Store in a well ventilated place. Keep cool.

P405: Store locked up.

**Disposal Statements**

P501: Dispose of contents, or container in accordance with local/regional/national/international regulation.

**3. COMPOSITION: Information on Ingredients**

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

**4. FIRST AID MEASURES**

For advice, contact National Poisons Centre (Phone New Zealand: 0800 764 766) or a doctor.

**Ingestion**

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

**Eye Contact**

Hold eyelids apart and flush the eye with running water for at least 15 minutes. Check for and remove any contact lenses. Continue rinsing. Seek medical attention if irritation persists

**Skin/Hair Contact**

If skin contact occurs, remove contaminated clothing and wash skin with soap and water. If skin irritation occurs, get medical advice. Launder contaminated clothing before re-use.

**Inhalation**

Move the victim to fresh air and keep at rest in a position comfortable for breathing. Begin artificial respiration if breathing has stopped. Seek 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**

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**

Toxic/irritating fumes and gases including carbon dioxide and carbon monoxide from incomplete combustion.

**Specific Hazards**

Highly flammable liquid and vapour. Vapour is heavier than air and may travel across ground and reach remote ignition sources causing a flash back danger. Will float and can be reignited on surface water - prevent extinguishing media from escaping to drains and waterways.

**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

**Accidental Release Controls**

Avoid contact with spilt product. Isolate hazard area. Prevent entry by unnecessary or unprotected personnel. Vapour/air mixtures may ignite explosively. Prevent fluid from escaping to drains and waterways. Contain leaking packaging in a containment drum.

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.

**Emergency Procedures**

Prevent material 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 product 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 ground water
- Contain any spilled liquid with sand or earth
- Recover liquid spills 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 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).

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 (e.g. overalls, gloves, safety glasses). Wash thoroughly after handling and before eating, drinking, smoking and using the toilet.

**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. 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.

Recommended materials: use mild steel or stainless steel.

**8. EXPOSURE CONTROLS: PERSONAL PROTECTION**

**National Exposure Standards**

The time weighted average (TWA) concentration, which means the highest allowable exposure concentration in an eight-hour day for a five-day working week for this product is: 188 mg/m<sup>3</sup> (50 ppm). The short-term exposure limit (STEL), which is the maximum allowable exposure concentration at any time is: No value established.

**Biological limit values**

No values 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. Where air-filtering respirators are unsuitable, e.g. airborne concentrations are high, risk of oxygen deficiency, then use an appropriate positive pressure breathing apparatus.

**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 or full-face filter mask to protect from overexposure by inhalation.

**Recommended Filter Type:** Type A filter material (organic vapour). Use a full-face mask.

Refer to AS/NZS 1715: *Selection, Use and Maintenance of Respiratory Equipment* and AS/NZS 1716: *Respiratory Protective Devices* for further details on the use of respiratory protective equipment.

**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.

apparatus.

Suitable gloves: nitrile rubber for incidental contact, or Viton.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Property	Unit of measurement	Typical value
Appearance	-	Clear, colourless liquid
Odour	-	Not available
Odour Threshold	ppm	Not available
Melting Point/Range	°C	Not available
Boiling Point/ Range	°C	110
Flash Point	°C	4
Flammability	-	Highly flammable
Specific Gravity / Density @ 20°C	g/mL	0.865
Vapour Pressure @ 38°C	kPa	7
Explosive Limits (LEL – UEL)	%	1.3 – 6.7
Vapour Density @ 20°C (Air = 1)	-	<1
Autoignition Temperature	°C	>530
Decomposition Temperature	°C	Not available
Viscosity @ 20°C	cSt	0.64
pH	-	Not available
Partition Coefficient	-	Not available
Percent Volatiles	%	100
Solubility with Water@20°C	% w/w	0.05
Other Solubility	% w/w	Not available
Other Information	-	Evaporation rate (nBuAc = 1): 2.4

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.

### **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. 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**

**Oral / Dermal LD<sub>50</sub>:** LD<sub>50</sub> (Oral, rat): 636 mg/kg, LD<sub>50</sub> (dermal, rabbit) >2,000 mg/kg

**Inhalation LC<sub>50</sub>:** LC<sub>50</sub> (inhalation, rat): 12.5 mg/L/4 h

**Acute Toxicity (6.1A, 6.1B, 6.1C, 6.1D):** Harmful if swallowed or inhaled

**Aspiration Hazard (6.1E):** Not classified

**Respiratory Irritation (6.1E):** Not classified

**Skin Corrosion/Irritation (8.2A, 8.2B, 8.2C, 6.3A):** Causes skin irritation

**Serious Eye damage/irritation (8.3A, 6.3A):** Causes eye irritation

**Respiratory or Skin Sensitisation (6.5A, 6.5B):** Not classified

**Germ cell mutagenicity (6.6A, 6.6B):** Not classified

**Carcinogenicity (6.7A, 6.7B):** Not classified

**Reproductive Toxicity (6.8A, 6.8B, 6.8C):** Suspected of damaging fertility or the unborn child

**Specific Organ Toxicity** (Repeated and Single Exposure) (6.9A, 6.9B): May cause damage to organs through prolonged or repeated exposure.

**Narcotic Effects** (6.9B): Not classified

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Aquatic Toxicity**

Fish toxicity, LC <sub>50</sub> (96 hr):	LC <sub>50</sub> (rainbow trout): 5.8 mg/L/96 h
Crustacean toxicity (Daphnia Magna), EC <sub>50</sub> (48 hr):	LC <sub>50</sub> (daphnia magna): 11.5 mg/L/48 h
Green algae toxicity, EC <sub>50</sub> (72 hr):	EC <sub>50</sub> (Selenastrum capricornutum, growth): 12.5 mg/L/72 h
Blue-green algae toxicity (Cyanobacteria), EC <sub>50</sub> (72 hr):	No data available

**Persistence/Degradability**

Expected to be readily biodegradable.

Log P: 2.73 - volatilises in air.

**Mobility**

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

**Bioaccumulative Potential**

Not expected to bioaccumulate significantly

**Other Information**

Product is classified as ecotoxic in the aquatic environment with long lasting effects.

Harmful to terrestrial vertebrates

**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 harmful residue and/or fumes and vapours that are flammable. 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 classified as Dangerous Goods Class 3, packing group II.





**15. REGULATORY INFORMATION**

**Country/ Region:** New Zealand

**Inventory:** NZIoC

**Status:** Listed in NZIoC

**HSNO Approval:** HSR001227: Benzene, methyl-

**HSNO/HSWA Controls:** Refer to the above Group Standard, Health and Safety at Work Act 2015, [www.epa.govt.nz](http://www.epa.govt.nz) and [www.worksafe.govt.nz](http://www.worksafe.govt.nz) for further information on controls

**Certified Handler:** Not required

**Tracking:** Not required

**Restriction to workplace:** Not applicable

**Signage:** Threshold quantity: 250 L

**Fire extinguishers:** Threshold quantity: 250 L

**Emergency Response Plan:** Threshold quantity: 1,000 L

**Secondary containment:** Threshold quantity: 1,000 L

**Other:** Location and transit depot test certification: 100 L (closed containers greater than 5 L); 250 L (closed containers up to and including 5 L); 50 L (open containers)

Hazardous atmosphere zone: 100 L (closed containers); 25 L (decanting); 5 L (open occasionally); 1 L (open containers in continuous use)

**Agricultural Compounds and Veterinary Medicines Act 1997 (ACVM):** Not applicable

**Montreal Protocol on Substances that Deplete the Ozone Layer:** Not applicable

**Stockholm Convention:** Not applicable

**Rotterdam Convention:** Not applicable

**16. OTHER INFORMATION**

**Reasons for Issue:** Information review and update. Updated SDS format and company details.

**Replaces SDS dated:** 09 February 2015

**New SDS issue date:** 22 January 2019

**Abbreviations:**

ACGIH: American Conference of Governmental Industrial Hygienists

AS/NZS: Standards Australia & Standards New Zealand

BCF: Bioconcentration Factor

BEI: Biological Exposure Index

CAS: Chemical Abstracts Service

CCID: Chemical Classification and Information Database

EC<sub>50</sub>: Effective Concentration, 50 per cent

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

HSNO: Hazardous Substances and New Organisms Act 1996

HSWA: Health and Safety at Work Act 2015

IARC: International Agency for Research on Cancer

IC<sub>50</sub>: Half Maximal Inhibitory Concentration

LC<sub>50</sub>: Lethal Concentration, 50 per cent

LD<sub>50</sub>: Lethal Dose, 50 per cent

LEL: Lower Explosive Limit

LOAEL: Lowest-observed-adverse-effect level

N/R: Not Regulated

NOAEL: No-observed-adverse-effect-level

NOEC: No Observed Effect Concentration

NZIoC: New Zealand Inventory of Chemicals

NZS 5433 New Zealand Standard Transport of Dangerous Goods on Land

OECD: Organisation for Economic Co-operation and Development



STEL: Short-Term-Exposure Limit

TLV: Threshold Limit Value

TWA: Time-Weighted Average

UEL: Upper Explosive Limit

**References:**

- Supplier Safety Data Sheets
- EPA CCID <https://www.epa.govt.nz/database-search/chemical-classification-and-information-database-ccid/>
- Workplace Exposure Standards and Biological Exposure Indices. 9th Edition, published by WorkSafe New Zealand November 2017. <https://worksafe.govt.nz/topic-and-industry/work-related-health/monitoring/exposure-standards-and-biological-exposure-indices>
- US EPA Toxnet ChemIDPlus: <http://chem.sis.nlm.nih.gov/chemidplus> (January 19)
- OECD eChemPortal Substance Search <https://www.echemportal.org/echemportal/participant/page.action?pageID=9>

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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 ASCC Limited.