ASCC (NZ) Pty. Ltd

MSDS Summary Information

For further information : Please refer to the ASCC SDS

Issue: March, 2008

PRODUCT: Toluene

Other Names: Methyl benzol, Methyl benzene

Uses: Industrial chemical

UN No.	1294
Dangerous Goods Class:	3
Subsidiary Risk:	-
Packing Group:	II
HAZCHEM:	3 [Y] E

Hazardous Nature:	This product is classified as hazardous under HSNO criteria
Exposure Standards:	Toluene $_{SKIN}$ TWA 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 (^{0}C)	110
Flash Point (^{0}C)	4
Specific gravity/Density (g/ml @ 15^{0}C	0.871
Chemical Stability	Stable at room temperature and pressure
Reactivity	Oxidising agents, mineral acids, peroxides, halogenated organic compounds

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	H355 Suspected of damaging fertility or the unborn child
H303 Harmful if swallowed	H363 May cause damage to organs through prolonged or repeated exposure
H332 Harmful if inhaled	H403 Harmful to aquatic life
H315 Causes skin irritation	
H320 Causes eye irritation	

For further Hazard and Precautionary information, please refer to the SDS

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, e.g. Flammable Goods N.O.S. (Not otherwise specified), UN 1993
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.
HSNO Act	Hazardous Substance and New Organisms Act – limits and manages the transaction of hazardous substances in New Zealand and her territories.

SUMMARY INFORMATION ONLY

1. IDENTIFICATION

Product Name:	Toluene
Other Names:	Methyl benzol, Methyl benzene
Chemical Family:	Blended hydrocarbon
Molecular Formula:	$CH_3C_6H_6$
Recommended Use:	Industrial chemical
Supplier:	Australasian Solvents and Chemicals Company Pty. Ltd
Address:	PO Box 8340, Symonds Street, Auckland, N.Z.
Telephone:	0800 754 767
Emergency phone:	**CHEMCALL: 0800 243 622**
All other inquiries:	0800 754 767

2. HAZARDS IDENTIFICATION

Product is classified as hazardous according to Schedules 1 to 6 of the *Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001* of the HSNO Act, 1996.

HSNO Classifications: 3.1B, 6.1D (oral, inhalation), 6.3A, 6.4A, 6.8B, 6.9B (inhalation), 9.1D

Signal word: **DANGER**

Hazard Statements :

H225 Highly flammable liquid and vapour
H332 Harmful if inhaled
H315 Causes skin irritation
H320 Causes eye irritation
H303 Harmful if swallowed
H355 Suspected of damaging fertility or the unborn child
H363 May cause damage to organs through prolonged or repeated exposure
H403 Harmful to aquatic life

Precaution Statements :

P103 Read label before use
P201 Obtain special instructions before use
P233 Keep container tightly closed
P242 Use only non-sparking tools
P261 Avoid breathing vapours
P264 Wash hands and exposed skin thoroughly after handling
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing and eye protection
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.
P240 Ground container and receiving equipment
P241 Use explosion-proof electrical, ventilating and lighting equipment
P243 Take precautionary measures against static discharge
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to environment

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 Poison Centre (Phone New Zealand: 0800 764 766) or a doctor.

Swallowed
If swallowed, do not induce vomiting. Keep at rest. Give a glass of water to drink. Seek immediate medical attention. Begin artificial respiration if the person is not breathing. Use mouth to nose rather than mouth to mouth.

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.

Eye Contact
Hold eyelids apart and flush the eye continuously with running water. Continue flushing for at least 15 minutes. Get medical attention if irritation persists.

Inhalation
Move the victim to fresh air immediately. Keep warm and at rest. Begin artificial respiration if breathing has stopped. Use mouth to nose rather than mouth to mouth. Seek immediate medical attention.

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

Medical Attention
Treat according to symptoms. Gastric lavage may be indicated if ingested. Risk of aspiration of product to lungs with the potential to cause chemical pneumonitis. General measures should be taken to control acidosis and maintain urine output.

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 fire-fighters 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:
Carbon dioxide and carbon monoxide

Precautions for fire fighters and special protective equipment:
Full protective clothing and self-contained breathing apparatus

Hazchem Code: 3 [Y] E

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 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 open flame, sources of heat or ignition. No smoking. Keep container closed. Handle containers with care. Open slowly to control possible pressure release. Material may accumulate static discharge. Use grounding leads to avoid discharge (electrical spark).

Conditions for safe storage:
Store locked up in a cool, dry well-ventilated place away from direct sunlight. Do not pressurize, cut, heat or weld containers - residual vapours are extremely 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

Health Exposure Standards:
The following Tolerable Exposure Limit (TEL) Workplace Exposure Standard (WES), 2002 have been set by the Occupational Safety and Health Service , NZ Department of Labour 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 Health Exposure Standards, it is recommended to use a half-face filter mask to protect from over-exposure 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 be worn when handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of measurement	Typical value
Appearance	-	Clear, colourless liquid
Boiling Point/Range	^{0}C	110
Flash Point	^{0}C	4
Density @ 15^{0}C	g/ml	0.871
Vapour Pressure @ 20^{0}C	kPa	3.5
Vapour Density @ 20^{0}C	kPa	3.1
Autoignition Temperature	^{0}C	480 - 536
Explosive Limits in Air	%	1.2 – 8.0
Viscosity	cSt	Not applicable
Volatiles	%	100
Solubility in 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: No decomposition products except on burning. See "Fire Fighting Measures".

Hazardous reactions: Oxidising agents, mineral acids, halogenated organic compounds and peroxides. Combination with ethanol will result in greatly increased adverse health effects similar to those described under *Ingestion* and *Inhalation*.

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

Harmful if swallowed, will irritate throat and tube to stomach and may cause nausea. Vomiting may cause this product to be aspirated to the lungs resulting in chemical pneumonitis.

Eye Contact

This product is irritating to eyes and will cause redness and swelling with a burning sensation and blurred vision.

Skin Contact

This product is irritating to the skin with prolonged exposure. It may result in dryness and cracking.

Inhalation

Harmful by inhalation. The inhalation of vapours will cause dizziness and drowsiness. Possibility also of organ damage through prolonged use or exposure. Central nervous system depression includes nausea, headaches, dizziness and possible 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.

This product contains toluene. ERMA NZ have classified toluene as a 6.8B; suspected of damaging fertility or the unborn child, and as a 6.9B; 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 LD50	636 mg/kg
	Dermal, rabbit LD50	> 2000 mg/kg
	Inhalation, rat LC50(4h)	12.5 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic toxicity: Product is harmful.

Persistence/degradability: This product is expected to biodegrade rapidly. Does not bioaccumulate significantly.

Mobility: Highly volatile and will evaporate to air if released into water.

Environmental Exposure Standards:

EEL $_{(WATER)}$:	Not set
EEL $_{(SOIL)}$	Not set
EEL $_{(SEDIMENTS)}$	Not set

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 is ashless and can be burned directly in appropriate equipment.

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	3 [Y] E	Hazchem	3 [Y] E		

Dangerous Goods Segregation

This product is classified as a Dangerous Goods Class 3, packing group III.
Please consult the Land Transport Rule: Dangerous Goods 2005, and NZS 5433:2007 Transport of Dangerous Goods on Land for information.

15. REGULATORY INFORMATION

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

ERMA New Zealand Approval Code: HSR001227
HSNO Controls: Codes: F1 - F6, F11,F12, F14, F16, F17, T1, T2, T3, T4, T7, E1, E2, E6, E8, P1, P3, P5, PI3, PG2, P15, D2, D4 - D8, EM1, EM4, EM6 – EM13, I1, I5, I8, I9, I11, I13, I16 - I21, I25, I28, I29, AH1, GN35A.
Refer www.ermanz.govt.nz for information on Controls.

16. OTHER INFORMATION

Reasons for Issue: Updating HSNO information

Abbreviations:
AICS: Australian Inventory of Chemical Substances
CAS Number: Chemical Abstracts Number
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety & Health
NOHSC: National Occupational Health and Safety Council
NZIoC: New Zealand Inventory of Chemicals
REL: Recommended Exposure Limits

References:
Supplier Material Safety Data Sheets
Sax's Dangerous Properties of Industrial Materials, Richard J. Lewis Snr., pub. Canada (2000)
New Zealand Environmental Risk Management Authority (ERMA)

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.