



SAFETY DATA SHEET

SECTION 1 IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Identifier	TOLUENE
Other Names	Toluol, Methyl benzene
Manufacturer's Product Code	16025
Recommended Use	Solvent, raw material for chemical industry

Details of Supplier/Manufacturer

Company:	Recochem Inc. ABN: 69 010 485 999
Address:	1809 Lytton Road, Lytton, Queensland 4178
Phone:	(07) 3308 5200 Fax: (07) 3308 5201
Website:	www.recochem.com.au



Emergency Telephone Numbers

Business Hours:	(07) 3308 5200
After Hours:	1300 131 001
Poisons Information:	Australia: 13 11 26 New Zealand: 0800 764 766

SECTION 2 HAZARDS IDENTIFICATION

Hazardous chemical	<i>according to classification by Safe Work Australia</i>
Dangerous goods	<i>according to the Australian Code for the Transport of Dangerous Goods by Road and Rail</i>

Signal Word	DANGER
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GHS Classification	Pictogram	Hazard statement
Flammable Liquids, Category 2	 FLAME	H225 Highly flammable liquid and vapour
Skin Corrosion/Irritation, Category 2	 EXCLAMATION MARK	H315 Causes skin irritation
Specific Target Organ Toxicity (Single exposure), Category 3		H336 May cause drowsiness or dizziness

Product: TOLUENE

Specific Target Organ Toxicity (Repeated exposure), Category 2	 HEALTH HAZARD	H373 May cause damage to organs through prolonged or repeated exposure
Aspiration Hazard, Category 1		H304 May be fatal if swallowed and enters airways
Toxic to Reproduction, Category 2		H361 Suspected of damaging the unborn child

Precautionary statements:

GENERAL	
P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P103	Read label before use
PREVENTATIVE	
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/hot surfaces. - No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilation/lighting equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P260	Do not breathe mist/vapours/spray
P261	Avoid breathing mist/vapours/spray
P264	Wash thoroughly after handling
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/eye protection/face protection
P281	Use personal protective equipment as required
RESPONSE	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P303 + P361 + P353	IF ON SKIN (or hair): Take off contaminated clothing and wash before reuse. Rinse skin with water/shower
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P308 + P313	IF exposed or concerned: Get medical advice/attention
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P314	Get medical advice/attention if you feel unwell
P331	Do NOT induce vomiting
P332 + P313	If skin irritation occurs: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P370 + P378	In case of fire: Use foam/water spray/fog for extinction
STORAGE	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed
P403 + P235	Store in a well-ventilated place. Keep cool
P405	Store locked up
DISPOSAL	
P501	Dispose of contents/container in accordance with local regulations

SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients Names and Proportions

Chemical Entity	CAS Number	Proportion (%)
Toluene	108-88-3	100
Note – contains < 0.1% benzene		

SECTION 4 FIRST AID MEASURES

Description of necessary first aid measures

Inhalation:	Keep victim calm and remove to fresh air if safe to do so. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact:	If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water and follow by washing with soap if available. Transport to nearest medical facility for additional treatment if necessary.
Eye Contact:	If in eyes, hold eyes open, flood with water for at least 15 minutes. Seek immediate medical assistance.
Ingestion:	If swallowed, do NOT induce vomiting. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Symptoms caused by exposure

Inhalation:	Breathing of high vapour concentrations may cause central nervous system depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continuous inhalation may result in unconsciousness and death.
Skin:	May include burning sensation and/or a dried/cracked appearance.
Eye:	May include burning sensation, redness, swelling and/or blurred vision.
Ingestion:	May include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath and/or fever.

Medical attention and special treatment

Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Suitable extinguishing equipment

Foam, water spray or fog, dry chemical powder or carbon dioxide. Do not use water in a jet.

Specific hazards arising from the chemical

Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. Vapour is heavier than air, can spread along ground and distant ignition is possible.

Special protective equipment and precautions for fire fighters

Wear full protective clothing and self-contained breathing apparatus. Hazchem code 3YE.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with spilled or released material. Shut off leaks, if possible without personal risks. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Remove all sources of ignition in the surrounding area. Take precautionary measure against static discharge. Ensure electrical continuity by bonding and earthing all equipment.

Environmental precautions

Use appropriate containment to avoid environmental contamination. Prevent from spreading and entering waterway using sand, earth or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Ventilate contaminated area thoroughly.

Product: TOLUENE**Methods and materials for containment and cleaning up**

For small spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely.

For larger spills (> 1 drum), transfer by means such as a vacuum truck to a salvage tank for recovery or disposal. Do not flush residues with water. Retain as contaminated waste. Allow any residues to evaporate or use an appropriate absorbent material and dispose of safely.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Highly flammable product. Avoid breathing vapours. Handle and open containers with care in a well-ventilated area. Ensure that the workplace is ventilated such that the Occupational Exposure limit is not exceeded. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in contaminated areas. Electrostatic charges may be generated during transfer. Electrostatic discharge may cause fire. Ensure electrical continuity by earthing all equipment. Flameproof equipment necessary in area where chemical is being used. Vapours may accumulate in low or confined areas.

Conditions for safe storage, including any incompatibilities

Bulk storage tanks should be banded. Store in a well-ventilated area, away from sunlight, ignition sources and other sources of heat. Do not store near strong oxidants.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure control measures

From National Occupational Health & Safety Commission (NOHSC) Worksafe Australia -
Toluene: 191mg/m³ (50ppm) TWA (8hr), 574mg/m³ (150ppm) STEL

Biological monitoring

No biological limit allocated.

Engineering controls

Ensure that adequate ventilation is provided. Maintain air concentrations below recommended exposure standards. Avoid generating and inhaling mists and vapours. Keep containers closed when not in use.

Individual protection measures

Eye and face protection:	Wear safety goggles.
Skin protection:	Use solvent resistant gloves, nitrile for longer term protection or PVC and neoprene for incidental splashes.
Respiratory protection:	If work practices do not maintain airborne level below the exposure standard, use appropriate respiratory protection equipment. When using respirators, select an appropriate combination of mask and filter. Select a filter for organic gases and vapours (boiling point > 65°C). Respirators should comply with AS1716 or an equivalent approved by a state/territory authority.
Thermal hazards:	Not applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid
Odour:	Aromatic
Odour threshold (ppm):	1.74
pH:	Data not available
Melting point/freezing point (°C):	-95
Initial boiling point and boiling range (°C):	110 - 111

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Flash point (°C):	4 (Abel)
Evaporation rate (Butyl acetate = 1):	Data not available
Flammability:	Highly flammable
Upper/lower flammability or explosive limits (%):	1.2 - 8.0
Vapour pressure (kPa):	3.0 - 3.5
Vapour density (air = 1):	3.1
Density (g/ml @ 15°C):	0.871
Solubility (kg/m ³):	0.515
Partition coefficient: n-octanol/water:	Data not available
Auto-ignition temperature (°C):	Typical 480 - 536
Decomposition temperature (°C):	Data not available
Kinematic viscosity (mm ² /s @ 20°C):	Data not available

SECTION 10 STABILITY AND REACTIVITY**Reactivity**

Stable under normal conditions of use.

Chemical stability

Stable under normal conditions of use.

Possibility of hazardous reactions

Stable under normal conditions of use.

Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

Incompatible materials

Strong oxidising agents.

Hazardous decomposition products

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids, gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute toxicity:	Expected to be of low toxicity - LD50 Oral (rat) > 2000 mg/kg LC50 Inhalation (rat, 4h) > 20 mg/l LD50 Dermal (rabbit) > 2000 mg/kg
Skin corrosion/irritation:	May cause moderate skin irritation. Prolonged contact may cause defatting of skin which can lead to dermatitis.
Serious eye damage/irritation:	Irritating to eyes.
Respiratory or skin sensitisation:	Not expected to be a sensitiser.
Germ cell mutagenicity:	Not mutagenic.
Carcinogenicity:	Not expected to be carcinogenic.

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Reproductive toxicity:	Experiments have shown reproductive toxicity effects in male and female laboratory animals. Suspected human reproductive toxicant. Damage to foetus possible.
Specific Target Organ Toxicity (STOT) – single exposure:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Specific Target Organ Toxicity (STOT) – repeated exposure:	Central nervous system: repeated exposure affects the nervous system. Effects seen at high doses only. Respiratory system: repeated exposure affects the respiratory system. Effects seen at high doses only.
Aspiration hazard:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

SECTION 12 ECOLOGICAL INFORMATION**Ecotoxicity**

Acute toxicity:

Fish –	Toxic: $1 < LC/EC/IC50 \leq 10\text{mg/l}$
Aquatic invertebrate –	Harmful: $10 < LC/EC/IC50 \leq 100\text{mg/l}$
Algae –	Low: $LC/EC/IC50 > 100\text{mg/l}$
Microorganisms –	Data not available

Chronic toxicity:

Fish –	Data not available
Aquatic invertebrate –	Data not available
Algae –	Data not available
Microorganisms –	Data not available

Persistence and degradability

Readily biodegradable. Oxidises by photo-chemical reactions in air.

Bioaccumulative potential

Not expected to bioaccumulate significantly.

Mobility in soil

Floats on water, highly mobile and may contaminate groundwater.

Other adverse effects

Data not available.

SECTION 13 DISPOSAL CONSIDERATIONS

Ensure waste disposal conforms to local waste disposal regulations.

Product: TOLUENE

SECTION 14 TRANSPORT INFORMATION

UN number:	1294
Proper shipping name:	Toluene
Australian Dangerous Goods class:	3
Australian Dangerous Goods packing group:	II
Hazchem code:	3YE

SECTION 15 REGULATORY INFORMATION

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP), Poisons Schedule:	6
Australian Inventory of Chemical Substances (AICS):	Listed
Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76):	16

SECTION 16 OTHER INFORMATION

Date of preparation:	10/12/2014
Revision number:	6
Changes in this revision:	Update to GHS SDS standard

This MSDS summarises product safety information at the date of issue, to the best of our knowledge, as a general guide. Recochem cannot anticipate or control the conditions under which the product is used, so prior to usage each user must assess and control the risks associated with their use of the product. Users should also consult the relevant legislation governing the use and storage of this product. We make no warranties, express or implied, and assume no liability in connection with any use of information contained within this document. If clarification or further information is needed, the user should contact Recochem on (07) 3308 5200.
