



# SAFETY DATA SHEET

## SECTION 1 IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

|                                    |   |
|------------------------------------|---|
| <b>Product Identifier</b>          | <b>TOLUENE</b>                              |
| <b>Other Names</b>                 | Toluol, Methyl benzene                      |
| <b>Manufacturer's Product Code</b> | 16025                                       |
| <b>Recommended Use</b>             | 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

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

|                    |               |
|--------------------|---------------|
| <b>Signal Word</b> | <b>DANGER</b> |
|--------------------|---------------|

| GHS Classification   | Pictogram  | Hazard statement   |
|--|--|--|
| Flammable Liquids, Category 2                                  | <br>FLAME         | H225 Highly flammable liquid and vapour                                |
| Aspiration Hazard, Category 1                                  | <br>HEALTH HAZARD | H304 May be fatal if swallowed and enters airways                      |
| Toxic to Reproduction, Category 1A                             |  | H360 May damage fertility or the unborn child                          |
| Specific Target Organ Toxicity (Repeated exposure), Category 2 |  | H373 May cause damage to organs through prolonged or repeated exposure |

**Product: TOLUENE**

|  |   |                             |
|--|---|-----------------------------|
| Skin Corrosion/Irritation,<br>Category 2 | <br>EXCLAMATION MARK | H315 Causes skin irritation |
|--|---|-----------------------------|

**Precautionary statements:**

|                     |  |
|---------------------|--|
| <i>GENERAL</i>      |  |
| 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  |
| <i>PREVENTATIVE</i> |  |
| 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  |
| P264                | Wash thoroughly after handling   |
| P280                | Wear protective gloves/eye protection/face protection  |
| P281                | Use personal protective equipment as required  |
| <i>RESPONSE</i>     |  |
| 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 |
| P308 + P313         | IF exposed or concerned: Get medical advice/attention  |
| 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   |
| <i>STORAGE</i>      |  |
| P403 + P235         | Store in a well-ventilated place. Keep cool  |
| P405                | Store locked up  |
| <i>DISPOSAL</i>     |  |
| 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 |            |                |

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**SECTION 4 FIRST AID MEASURES**

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**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.

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**SECTION 5 FIRE FIGHTING MEASURES**

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**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.

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**SECTION 6 ACCIDENTAL RELEASE MEASURES**

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**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.

**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.

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**SECTION 7 HANDLING AND STORAGE**

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**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.

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**SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION**

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**Exposure control measures**

From National Occupational Health & Safety Commission (NOHSC) Worksafe Australia - Toluene: 191mg/m<sup>3</sup> (50ppm) TWA (8hr), 574mg/m<sup>3</sup> (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.   |

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**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

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|   |                    |
|---|--------------------|
| 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          |
| 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          |

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|--|--------------------|
| Vapour pressure (kPa):                           | 3.0 - 3.5          |
| Vapour density (air = 1):                        | 3.1                |
| Density (g/ml @ 15°C):                           | 0.871              |
| Solubility (kg/m <sup>3</sup> ):                 | 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 <sup>2</sup> /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 -<br>LD50 Oral (rat) > 2000 mg/kg<br>LC50 Inhalation (rat, 4h) > 20 mg/l<br>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:                           | May cause irritation to eyes.   |
| Respiratory or skin sensitisation:                       | Not expected to be a sensitiser.  |
| Germ cell mutagenicity:                                  | Not May cause mutagenic.  |
| Carcinogenicity:   | Not expected to be carcinogenic.  |
| 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.  |

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|--|--|
| Specific Target Organ Toxicity (STOT) – repeated exposure: | Central nervous system: repeated exposure affects the nervous system. Effects seen at high doses only.<br>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.

**SECTION 14 TRANSPORT INFORMATION**

|  |         |
|--|---------|
| <b>UN number:</b>                                | 1294    |
| <b>Proper shipping name:</b>                     | Toluene |
| <b>Australian Dangerous Goods class:</b>         | 3       |
| <b>Australian Dangerous Goods packing group:</b> | II      |
| <b>Hazchem code:</b>                             | 3YE     |

**Product: TOLUENE**

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**SECTION 15 REGULATORY INFORMATION**

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|---|--------|
| 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     |

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**SECTION 16 OTHER INFORMATION**

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|---------------------------|-------------------------------|
| Date of preparation:      | 24/10/2010                    |
| Revision number:          | 7                             |
| Changes in this revision: | Updated hazard classification |

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This SDS 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.

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