1. IDENTIFICATION

Product Name	**Toluene**
Other Names	Benzene, methyl; Benzene, methyl-; Methacide; Methylbenzene; Methylbenzol; Phenylmethane; Toluol
Uses	Raw material for use in the chemical industry. Solvent.
Chemical Family	No Data Available
Chemical Formula	C7H8
Chemical Name	Toluene
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	2132A E. Dominguez Street Carson CA 90810 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 6

Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Flammable Liquids - Category 2

Acute Toxicity (Oral) - Category 5

Acute Toxicity (Inhalation) - Category 4

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2B

Toxic To Reproduction - Category 1A

Specific Target Organ Toxicity (Single Exposure) - Category 1

Specific Target Organ Toxicity (Repeated Exposure) - Category 1

Aspiration Hazard - Category 1

Acute Hazard To The Aquatic Environment - Category 2

Pictograms

Signal Word Danger

Hazard Statements		**H225**	Highly flammable liquid and vapour.
		H303	May be harmful if swallowed.
		H304	May be fatal if swallowed and enters airways.
		H315	Causes skin irritation.
		H320	Causes eye irritation.
		H332	Harmful if inhaled.
		H360FD	May damage fertility. May damage the unborn child.
		H370	Causes damage to central nervous system.
		H372	Causes damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure.
		H401	Toxic to aquatic life.
Precautionary Statements	Prevention	**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/ventilating/lighting and all other equipment.
		P242	Use only non-sparking tools.
		P243	Take precautionary measures against static discharge.
		P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P264	Wash contacted areas thoroughly after handling.
		P270	Do not eat, drink or smoke when using this product.
		P273	Avoid release to the environment.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P281	Use personal protective equipment as required.
	Response	**P301 + P330 + P331**	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		P303 + P361 + P353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P308 + P313	IF exposed or concerned: Get medical advice/ attention.
		P311	Call a POISON CENTER or doctor/physician.
		P314	Get medical advice/attention if you feel unwell.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing and wash before reuse.
		P391	Collect spillage.
	Storage	**P403**	Store in a well-ventilated place.
		P405	Store locked up.

Disposal	**P501**	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Toluene	No Data Available	108-88-3	100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	If swallowed, rinse mouth with water. DO NOT induce vomiting. If victim is conscious and alert keep the affected person warm and at rest. Never give anything by mouth to an unconscious person. When vomiting spontaneously, incline the body to avoid aspiration into respiratory tract. Get medical attention immediately.
Eye	Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment. Keep victim calm. Obtain medical treatment immediately.
Skin	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. Keep victim calm. Obtain medical treatment immediately.
Inhaled	DO NOT DELAY. Remove to fresh air. If not breathing, give artificial respiration. If vomiting, incline the body to avoid aspiration into the lungs. Keep affected person warm and at rest. Get immediate medical attention.
Advice to Doctor	Potential for chemical pneumonitis. Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider: oxygen therapy. Call a doctor or poison control center for guidance.
Medical Conditions Aggravated by Exposure	Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Auditory system. Central nervous system (CNS). Respiratory system. Eyes. Skin. Visual system. Kidney.

5. FIRE FIGHTING MEASURES

General Measures	Flame-proof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed.
Flammability Conditions	Flammable liquid : may release vapours that form flammable mixtures at or above the flash point. Toxic gases may form upon combustion. This liquid is volatile and gives off invisible vapours.
Extinguishing Media	Dry chemical, CO2, Water spray or regular foam. Do NOT use direct water jet.
Fire and Explosion Hazard	Either the liquid or vapour may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.
Hazardous Products of Combustion	Fume, smoke, carbon dioxide.
Special Fire Fighting Instructions	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment. Please note: Structural fire fighters uniform will provide limited protection.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.

Flash Point	7 °C TCC typical
Lower Explosion Limit	1.2 %
Upper Explosion Limit	7.1 %
Auto Ignition Temperature	approx 552 °C
Hazchem Code	3YE

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Observe all relevant local and international regulations. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by 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. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly. Additional Advice: Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air. See Chapter 13 for information on disposal.
Clean Up Procedures	For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Containment	Stop leak if safe to do so.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment.
Evacuation Criteria	As an immediate precautionary measure, isolate spill or leak for at least 50 meters (150 feet) in all directions.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Handle and open container with care in a well-ventilated area. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling. Ensure that all local regulations regarding handling and storage facilities are followed.g or handling.
Storage	Store in a cool, dry, well-ventilated, fire-proof area. Keep containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Ground and bond storage containers. Store away from incompatible materials as listed in section 10. Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Bulk storage tanks should be diked (bunded). Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Ensure that all local regulations regarding handling and storage facilities are followed. This product has a UN Classification of 1294 and a Dangerous Goods Class 3 (flammable) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by

manufacturer.

Recommended Materials: For containers, or container linings use mild steel, stainless steel.

Unsuitable Materials: Natural, butyl, neoprene or nitrile rubbers.

Container Advice: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Additional Information: Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC);
Toluene CAS 108-88-3:
TWA = 50 ppm (191 mg/m3)
STEL = 150 ppm (574 mg/m3)
Sk Notice = Absorption through the skin may be a significant source of exposure (see Chapter 11).
NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Exposure Limits

No Data Available

Biological Limits

Material	Determinant	Sampling time	BEI	Reference
Toluene	o-Cresol in urine	End of shift	0.5 mg/L	ACGIH (2003)
	Hippuric acid in urine	End of shift	1.6 g/g creatinine	ACGIH (2003)
	toluene in Blood	Sampling time: Prior to last shift of work week.	0.2 mg/L	ACGIH BEL (01 2010)
	o-Cresol, with hydrolysis in Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	ACGIH BEL (01 2010)
	toluene in Urine	Sampling time: End of shift.	0.03 mg/L	ACGIH BEL (01 2010)

Engineering Measures

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use.

Monitoring Methods: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods, http://www.cdc.gov/niosh/nmam/nmammenu.html. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/dts/sltc/methods/toc.html Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances, http://www.hsl.gov.uk/publications/mdhs.aspx. Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA), http://www.dguv.de/ifa/de/index.jsp L'Institut National de Recherche et de Securite, (INRS), France http://www.inrs.fr/securite/hygiene_securite_travail.html.

Environmental Exposure Controls: Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

Personal Protection Equipment

RESPIRATOR: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65 deg C (149 deg F)]. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus (AS1715/1716).
EYES: Chemical splash goggles (chemical monogoggles) (AS1336/1337).
HANDS: Where hand contact with the product may occur the use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced (AS2161).

	CLOTHING: Chemical resistant gloves/gauntlets. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood and safety footwear (AS3765/2210).
Special Hazards Precaustions	Personal Protective Equipment: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Work Hygienic Practices	Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Mild aromatic
Colour	Colourless, clear
pH	No Data Available
Vapour Pressure	6.266 kPa (@ 20 °C)
Relative Vapour Density	3.2 Air = 1
Boiling Point	110 - 111 °C
Melting Point	-95 °C
Freezing Point	-95 °C
Solubility	0.05 % 25°C
Specific Gravity	No Data Available
Flash Point	7 °C TCC typical
Auto Ignition Temp	approx 552 °C
Evaporation Rate	2.24 (ASTM D 3539, nBuAc=1)
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.87
Specific Heat	No Data Available
Molecular Weight	92 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow = 2.65
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	0.69 cSt (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is a flammable liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available

Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Flammable Liquid.
Chemical Stability	Stable under ambient conditions. Sensitivity to Static Discharge: Yes, in certain circumstances product can ignite due to static electricity.
Conditions to Avoid	Keep away from heat, sparks, open flames and other ignition sources and spark producing equipment. Prevent vapour accumulation.
Materials to Avoid	Strong oxidising agents. Concentrated nitric or sulphuric acid, halogens or molten sulphur.
Hazardous Decomposition Products	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	High vapour / aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and respiratory tract, and may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness, central nervous system effects, brain damage and possible death. Special Health Precautions: Health studies have shown that many petroleum hydrocarbons pose potential health risks, which may vary from person to person. As a precaution, exposure to liquids, vapour, mists or fumes should be minimised.
Chronic	
Other	WARNING: Concentrated, prolonged or deliberate inhalation of this product may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals to toluene (levels greater than approximately 1500 ppm) has been reported to cause adverse foetal development effects.
EyeIrritant	Irritating but will not injure eye tissue.
Ingestion	Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause mild to severe pulmonary injury and possible death.
Inhalation	Harmful: danger of serious damage to health by prolonged exposure through inhalation. Vapours may cause drowsiness and dizziness. Classified as harmful by the European Commission. High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death. Inhalation of vapours or mists may cause irritation to the respiratory system.
SkinIrritant	Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Brief contact with liquid will not result in significant irritation unless evaporation is prevented. Skin contact may aggravate an existing dermatitis condition.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute Toxicity: Fish: Toxic: 1 < LC/EC/IC50 <= 10 mg/l Aquatic crustacea: Harmful: 10 < LC/EC/IC50 <= 100 mg/l Algae/aquatic plants: Practically non toxic: LL/EL/IL50 > 100 mg/l Chronic Toxicity: Fish: NOEC/NOEL > 1.0 - <=10 mg/l (based on test data) Aquatic crustacea: NOEC/NOEL > 1.0 - <=10 mg/l (based on test data) Other Adverse Effects: In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

Persistence/Degradability	Readily biodegradable meeting the 10 day window criterion. Oxidises rapidly by photo-chemical reactions in air.
Mobility	Floats on water. If product enters soil, it will be highly mobile and may contaminate groundwater.
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	Does not bioaccumulate significantly.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Material Disposal: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water. Container Disposal : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer. Local Legislation: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG

Proper Shipping Name	TOLUENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	16 Liquids - Highly Flammable, Toxic
UN Number	1294
Hazchem	3YE
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG

Proper Shipping Name	TOLUENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1294
Hazchem	3YE
Pack Group	II
Special Provision	No Data Available
EMS	F-E,S
Marine Pollutant	No

Air Transport
IATA

Proper Shipping Name	TOLUENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1294
Hazchem	3YE
Pack Group	II
Special Provision	No Data Available

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	6

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	203-625-9
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes

TOLUEB1000, TOLUEB1001, TOLUEB1002, TOLUEB1003, TOLUEB1004, TOLUEB1005, TOLUEB3000, TOLUEB3500, TOLUEB4000, TOLUEN0500, TOLUEN0600, TOLUEN1000, TOLUEN1001, TOLUEN1002, TOLUEN1003, TOLUEN1004, TOLUEN1005, TOLUEN1006, TOLUEN1007, TOLUEN1008, TOLUEN1009, TOLUEN1010, TOLUEN1011, TOLUEN1012, TOLUEN1013, TOLUEN1014, TOLUEN1015, TOLUEN1016, TOLUEN1017, TOLUEN1018, TOLUEN1019, TOLUEN1020, TOLUEN1021, TOLUEN1022, TOLUEN1023, TOLUEN1024, TOLUEN1025, TOLUEN1026, TOLUEN1027, TOLUEN2000, TOLUEN2001, TOLUEN2200, TOLUEN2500, TOLUEN2900, TOLUEN2901, TOLUEN3000, TOLUEN3001, TOLUEN3100, TOLUEN3101, TOLUEN3500, TOLUEN4000, TOLUEN4500, TOLUEN5000, TOLUEN5001, TOLUEN5002, TOLUEN5500, TOLUEN5600, TOLUEN6000, TOLUEN6001, TOLUEN6500, TOLUEN7000, TOLUEN7100, TOLUEN8000, TOLUEN8500, TOLUEN8600, TOLUEN8700, TOLUEN8800, TOLUEN9000, TOLUEN9500, TOLUEN1030, TOLUEN1050, TOLUEN1055, TOLUEN3010, TOLUEN3020, TOLUEN3030, TOLUEN3040, TOLUEN3050, TOLUEN3061, TOLUEN3060, TOLUEN3070, TOLUEN3080, TOLUEN3090, TOLUEN3114, TOLUEN3113, TOLUEN3112, TOLUEN3111, TOLUEN3110, TOLUEN3120, TOLUEN3150, TOLUEN3062, TOLUEN3600, TOLUEN7500, TOLUEN3051, ANSTAT2050, TOLUEN2400

Revision

3

Revision Date

27 Oct 2014

Key/Legend

< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit

TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight