

# **1. IDENTIFICATION**

Product Name	Cyclohexylamine
Other Names	Aminocyclohexane; Aminohexahydrobenzene; CHA; Hexahydroaniline; Hexahydrobenzenamine
Uses	Boiler water treatment, rubber accelerator, organic synthesizing intermediate.
Chemical Family	No Data Available
Chemical Formula	C6H13N
Chemical Name	Cyclohexanamine
Product Description	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 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
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

### 2. HAZARD IDENTIFICATION

### **Poisons Schedule (Aust)**

Not Scheduled

Redox Ltd

Corporate Office Sydney Locked Bag 15 Minto NSW 2566 Australia 2 Swettenham Road Minto NSW 2566 Australia All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

Form 21047, Revision 3, Page 1 of 11, 01-Feb-2024 02:01:00

Phone +61 2 9733 3000 +61 2 9733 3111 Fax E-mail sydney@redox.com Web www.redox.com ABN 92 000 762 345

Australia Adelaide Brisbane Melbourne Perth UK Sydney

New Zealand Malaysia Auckland Christchurch USA Los Angeles Hawke's Bay Oakland Mexico London Saltillo

Kuala Lumpur



# **Globally Harmonised System**

Globally Harmonised Syste	:111			
Hazard Classification		Hazardous according to Chemicals (GHS)	o the criteria of the Globally Harmonised System of Classification and Labelling of	
Hazard Categories		Flammable Liquids - Category 3		
		Corrosive to Metals - Ca	ategory 1	
		Acute Toxicity (Oral) - C	ategory 4	
		Acute Toxicity (Dermal)	- Category 3	
		Acute Toxicity (Inhalatic	on) - Category 3	
		Skin Corrosion/Irritatior	n - Category 1B	
		Serious Eye Damage/Irr	ritation - Category 1	
		Toxic To Reproduction	- Category 2	
		Acute Hazard To The Ad	quatic Environment - Category 3	
Pictograms				
Signal Word		Danger		
Hazard Statements		H226	Flammable liquid and vapour.	
		H290	May be corrosive to metals.	
		H302	Harmful if swallowed.	
		H311 + H331	Toxic in contact with skin or if inhaled.	
		H314	Causes severe skin burns and eye damage.	
		H361f	Suspected of damaging fertility.	
		H402	Harmful to aquatic life.	
Precautionary Statements	Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
		P280	Wear protective gloves/protective clothing/eye protection/face protection.	
		P260	Do not breathe fume/mist/vapours/spray.	
		P240	Ground and bond container and receiving equipment.	
		P241	Use explosion-proof electrical/ventilating/lighting and all other equipment.	
		P242	Use non-sparking tools.	
		P243	Take action to prevent static discharges.	
		P270	Do not eat, drink or smoke when using this product.	
		P271	Use only outdoors or in a well-ventilated area.	
		P201	Obtain special instructions before use.	
		P273	Avoid release to the environment.	
		P233	Keep container tightly closed.	
	Response	P370 + P378	In case of fire: Use carbon dioxide (CO2), dry chemical, alcohol resistant foam or water spray for extinction.	
		P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.	
		P310	Immediately call a POISON CENTER or doctor.	
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.	
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	

	P363	Wash contaminated clothing before reuse.
	P390	Absorb spillage to prevent material-damage.
	P308 + P313	IF exposed or concerned: Get medical attention.
Storage	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.
	P406	Store in corrosive resistant container with a resistant inner liner.
	P403 + P235	Store in a well-ventilated place. Keep cool.
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
Cyclohexanamine	C6H13N	108-91-8	>=99.5 %
Water	H2O	7732-18-5	<=0.3 %

### **4. FIRST AID MEASURES**

Description of necessary measures according to routes of exposure		
Swallowed	IF SWALLOWED: Rinse mouth, then drink 200-300 ml of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.	
Еуе	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes. Immediately call a Poison Centre or doctor/physician for advice; consult an eye specialist.	
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 20 minutes, apply sterile dressings. Immediately call a Poison Centre or doctor/physician for advice; consult a skin specialist. Wash contaminated clothing and shoes before reuse. *In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.	
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. *Immediately administer a corticosteroid from a controlled/metered dose inhaler.	
Advice to Doctor	If exposed or concerned, get medical advice/attention. Treat according to symptoms (decontamination, vital functions), no known specific antidote. Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. *Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.	
Medical Conditions Aggravated by Exposure	SENSITIZER: May cause an allergic skin reaction.	

### **5. FIRE FIGHTING MEASURES**

General Measures	Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. *Fight fire from maximum distance or use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
Flammability Conditions	FLAMMABLE LIQUID & VAPOUR: May be ignited by heat, sparks or flames.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), water spray or alcohol-resistant foam for extinction. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray can be used.
Fire and Explosion Hazard	Risk of violent reaction or explosion! Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Most vapours are heavier than air. They will spread along ground and collect in low or confined areas. Vapour explosion hazard indoors, outdoors or in sewers. Containers may explode when heated. Many liquids are lighter than water.
Hazardous Products of Combustion	Fire will produce irritating, corrosive and/or toxic gases, including nitrogen oxides, carbon oxides. Under certain conditions in case of fire other hazardous combustion products may be generated.
Special Fire Fighting Instructions	Runoff from fire control or dilution water may cause pollution. Runoff to sewer may create fire or explosion hazard! Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Flash Point	27 °C [Closed cup) [Literature]
Lower Explosion Limit	1.6 %
Upper Explosion Limit	9.4 %
Auto Ignition Temperature	265 °C
Hazchem Code	•2W

### **6. ACCIDENTAL RELEASE MEASURES**

General Response Procedure	Ensure adequate ventilation - Ventilate closed spaces before entering. ELIMINATE all ignition sources nearby and downwind. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe vapours and prevent contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to containers for disposal (see SECTION 13). Use clean, non-sparking tools to collect absorbed material.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Dike far ahead of large spill for later disposal. A vapour-suppressing foam may be used to reduce vapours. Water spray may reduce vapour, but may not prevent ignition in closed spaces.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Immediately isolate spill or leak area. Keep unauthorised personnel away. Stay upwind and/or uphill.
Personal Precautionary Measures	Wear positive pressure self-contained breathing apparatus (SCBA). Fully encapsulating, vapour-protective clothing should be worn for spills and leaks with no fire. Structural firefighters' protective clothing is not effective in spill situations where direct contact with the substance is possible.

## 7. HANDLING AND STORAGE

#### Handling

Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure thorough ventilation of stores and work areas - Use only outdoors or in a well-ventilated area. Obtain special instructions before use - Do not handle until all safety precautions have been red and understood. Do not breathe

mist/vapours/aerosols and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). FLAMMABLE LIQUID & VAPOUR: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Ground and bond container and receiving equipment. Use explosion-proof equipment and non-sparking tools. Take action to prevent static discharges. CORROSIVE TO METALS: Absorb spillage to prevent material damage (see SECTION 6). Avoid release to the environment.

Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.

 Container
 Keep only in the original packaging.

 \*Suitable materials for containers: Stainless steel

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Storage

General	For Cyclohexylamine (CAS No. 108-91-8): - Safe Work Australia Exposure Standard: TWA = 10 ppm (41 mg/m3). - New Zealand Workplace Exposure Standard [Next review 2022]: TWA = 10 ppm (41 mg/m3); Dermal sensitiser (dsen).
Exposure Limits	No Data Available
<b>Biological Limits</b>	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. *Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	<ul> <li>Respiratory protection: Wear respiratory protection in case of vapour/aerosol release. Recommended: Organic vapour respirator (refer to AS/NZS 1715 &amp; 1716).</li> <li>Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly fitting safety goggles (chemical goggles).</li> <li>Hand protection: Wear protective gloves. Recommended: Chemical-resistant protective gloves, as determined by an evaluation of glove performance characteristics and the potential hazards identified, e.g. butyl, natural and synthetic rubber, nitrile or neoprene. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).</li> <li>Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit. Wearing of closed work clothing is required additionally to the stated personal protection equipment.</li> </ul>
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice. Hands and/or face should be washed before breaks and at the end of the shift. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Amine-like
Colour	Colourless to pale yellow
рH	11.5 (100 g/l, 20 °C)
Vapour Pressure	14 mbar (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	134.5 °C (1,013 hPa) [Literature data]
Melting Point	No Data Available
Freezing Point	-18 °C

Solubility	Miscible with water (1,000 g/l) 20°C
Specific Gravity	No Data Available
Flash Point	27 °C [Closed cup) [Literature]
Auto Ignition Temp	265 ℃
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
<b>Decomposition Temperature</b>	No Data Available
Density	0.8647 g/cm3 [DIN 51757]
Specific Heat	No Data Available
Molecular Weight	99.18 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	Log Pow: 1.2 (23 °C) [measured]
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	2.12 mPa.s (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion!
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Fire/thermal decomposition will produce irritating, corrosive and/or toxic gases, including nitrogen oxides, carbon oxides. Under certain conditions, other hazardous combustion products may be generated.
Reactions That Release Gases or Vapours	FLAMMABLE LIQUID & VAPOUR: May be ignited by heat, sparks or flames.
Release of Invisible Flammable Vapours and Gases	Vapours may form explosive mixtures with air.

# **10. STABILITY AND REACTIVITY**

General Information	Exothermic reaction. No hazardous reactions if stored and handled as prescribed/indicated.
Chemical Stability	The product is stable if stored and handled as prescribed/indicated.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid electro-static charge.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, acids and acid forming substances.
Hazardous Decomposition Products	Fire/thermal decomposition will produce irritating, corrosive and/or toxic gases, including nitrogen oxides, carbon oxides. Under certain conditions, other hazardous combustion products may be generated.
Hazardous Polymerisation	No information available.

General Information	<ul> <li>Acute toxicity: Harmful if swallowed and if inhaled. Toxic in contact with skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.</li> <li>Skin corrosion/irritation: Causes series win burns.</li> <li>Eye damage/irritation: Causes series are some amine can cause respiratory tract allergies. Though patient without allergy is not affected by low concentration, patient with allergy may appear symptoms of inflammation of the larynx and bronchi, such as stridor, shortness of breath, sneezing, runny nose or blocked nose.</li> <li>Skin sensitisation: Only limited data are available due to the corrosive nature of the chemical. The chemical was reported to be slightly to moderately sensitising.</li> <li>Germ cell mutagenicity: Based on the weight of evidence from the available in vitro and in vivo genotoxicity studies, including germ cell studies, the chemical is not considered to be genotoxic. Most of the results from the available studies show no evidence of a mutagenic effect.</li> <li>Carcinogenicity: Based on the available data, the chemical is not expected to be carcinogenic. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed [Literature data].</li> <li>Reproductive toxicity: Suspected of damaging fertility. On the basis of animal study findings, an effect on fertility cannot be excluded when given in high doses. The substance did not cause malformations in animal studies. When given in high doses embryotoxicity was observed [Literature data].</li> <li>STOT (single exposure): Based on the available data and observations in humans, the chemical is a respiratory irritant. The inhalation of a highly enriched/saturated vapour-air-mixture represents an acute hazad. In humans accidentally exposed to the chemical by inhalation, neurotoxic</li></ul>
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: 303 mg/kg (BASF-Test) [Supplier's SDS]. - LD50, Rat: 432 mg/kg bw. [NICNAS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: >631 - <1,000 mg/kg [Literature data; Supplier's SDS].
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: >32.9 mg/l (4 h) [Literature data; Supplier's SDS].

# **12. ECOLOGICAL INFORMATION**

**11. TOXICOLOGICAL INFORMATION** 

Ecotoxicity	Aquatic toxicity: - LC50, Fish (Oncorhynchus mykiss): 44 mg/l (96 h) (static; nominal concentration) [Literature data]. - EC50, Aquatic invertebrates (Daphnia magna): 49 mg/l (24 h) (DIN 38412 Part 11, static; nominal concentration) [Literature data]. - EC50, Algae/aquatic plants (Selenastrum capricornutum): 20 mg/l (96 h) (growth rate, static) [Literature data]. Toxicity to microorganisms: - EC50, Activated sludge, domestic: 870 mg/l (3 h) (OECD Guideline 209, static; nominal concentration) [Literature data]. *The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Persistence/Degradability	Readily biodegradable (according to OECD criteria) [Literature data].
Mobility	The substance will slowly evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
Environmental Fate	Acutely harmful for aquatic organisms. Avoid release to the environment.
<b>Bioaccumulation Potential</b>	Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Environmental Impact	No Data Available

### **13. DISPOSAL CONSIDERATIONS**

General InformationDispose of container and unused contents in accordance with federal, state and local requirements.Special Precautions for Land FillWhatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved<br/>incinerator or disposed in an approved waste facility. Processing, use or contamination of this product may change the<br/>waste management options.

### **14. TRANSPORT INFORMATION**

## Land Transport (Australia) ADG Code

Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
EPG	19 Liquids - Flammable , Toxic And/Or Corrosive
UN Number	2357
Hazchem	•2W
Pack Group	II
Special Provision	No Data Available
<b>Land Transport (Malaysia)</b> ADR Code	
Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
EPG	19 Liquids - Flammable , Toxic And/Or Corrosive
UN Number	2357
Hazchem	•2W
Pack Group	II
Special Provision	No Data Available
Land Transport (New Zealand) NZS5433	
Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
EPG	19 Liquids - Flammable , Toxic And/Or Corrosive
UN Number	2357
Hazchem	•2W
Pack Group	II
Special Provision	No Data Available

# Land Transport (United States of America) US DOT

Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
ERG	132 Flammable Liquids - Corrosive
UN Number	2357
Hazchem	•2W
Pack Group	ll
Special Provision	No Data Available
Sea Transport IMDG Code	
Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
UN Number	2357
Hazchem	•2W
Pack Group	II
Special Provision	No Data Available
EMS	F-E, S-C

### Air Transport

**Marine Pollutant** 

IATA DGR

Proper Shipping Name	CYCLOHEXYLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	3 Flammable Liquids
UN Number	2357
Hazchem	•2W
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)

No

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	*AMINES for use as curing agents for epoxy resins (unless separately specified in the Schedules) are listed in Schedule 5 of the SUSMP. This general entry may cover the use of this chemical in some adhesive applications.
Poisons Schedule (Aust)	Not Scheduled

# **Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

# **National/Regional Inventories**

Australia (AIIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACh)	Not Determined
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	CYHEXY7300, CYHEXY8000, CYHEXY8001, CYHEXY8100, CYHEXY9000
Revision	4
Revision Date	08 Sep 2021
Key/Legend	< Less Than <ul> <li>Greater Than</li> </ul> <li>AICS Australian Inventory of Chemical Substances <ul> <li>atm Atmosphere</li> </ul> </li> <li>CAS Chemical Abstracts Service (Registry Number) <ul> <li>cm<sup>2</sup> Square Centimetres</li> <li>CO2 Carbon Dioxide</li> <li>COD Chemical Oxygen Demand</li> <li>deg C (°C) Degrees Celcius</li> </ul> </li> <li>EPA (New Zealand) Environmental Protection Authority of New Zealand</li> <li>deg F (°F) Degrees Farenheit</li> <li>g Grams</li> <li>g/cm<sup>3</sup> Grams per Cubic Centimetre</li> <li>g/I Grams per Litre</li>

HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH20 Inch of Water K Kelvin kg Kilogram kg/m<sup>3</sup> Kilograms per Cubic Metre Ib 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. Itr or L Litre m<sup>3</sup> Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m<sup>3</sup> Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH20 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