

# **1. IDENTIFICATION**

Product Name	Caustic Soda
Other Names	Soda lye
Uses	Food processing aid; Industrial/commercial use: In flotation agents; in pH regulation; as a solvent; in water treatment; as a photochemical; as a reducing agent; and in hydraulic fracturing. Domestic use: In cleaning/washing agents and additives; adhesives; and cosmetic use.
Chemical Family	No Data Available
Chemical Formula	NaOH
Chemical Name	Sodium hydroxide
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

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 12, 01-Feb-2024 02:03:24

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Australia Adelaide Brisbane Melbourne Perth Sydney

New Zealand Auckland Christchurch Hawke's Bay UK London

Malaysia Kuala Lumpur USA Los Angeles Oakland Mexico Saltillo



Poisons Schedule (Aust)		Schedule 6	
Globally Harmonised Syste	em		
Hazard Classification		Hazardous according to Chemicals (GHS)	the criteria of the Globally Harmonised System of Classification and Labelling of
Hazard Categories		Corrosive to Metals - Ca	ategory 1
		Skin Corrosion/Irritation	n - Category 1B
		Serious Eye Damage/Irr	itation - Category 1
Pictograms			
Signal Word		Danger	
Hazard Statements		H290	May be corrosive to metals.
		H314	Causes severe skin burns and eye damage.
		AUH071	Corrosive to the respiratory tract
Precautionary Statements	Prevention	P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P260	Do not breathe dusts or mists.
	Response	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.
		P390	Absorb spillage to prevent material-damage.
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		P363	Wash contaminated clothing before reuse.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	P406	Store in corrosive resistant container with a resistant inner liner.
		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
Sodium hydroxide	NaOH	1310-73-2	>=98 - 100 %

# 4. FIRST AID MEASURES

# Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink a glass 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.
Eye	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 flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice. Wash contaminated clothing and shoes before reuse. *For minor skin contact, avoid spreading material on unaffected 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.
Advice to Doctor	Treat symptomatically and supportively. 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	No information available.

# **5. FIRE FIGHTING 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!
Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
If material is involved in a fire, use extinguishing media suitable for the surrounding fire. Do not use water jet as an extinguisher, as this will spread the fire. *If water is used, care should be taken, since it can generate heat and cause spattering if applied directly to Sodium hydroxide.
Risk of violent reaction or explosion! Containers may explode when heated or contaminated with water. The heat generated by contact with water (heat of dilution) may be sufficient to ignite combustible materials. Contact with metals may evolve flammable hydrogen gas.
Fire may produce irritating, corrosive and/or toxic gases, including oxides of Sodium.
Contain runoff from fire control or dilution water - Runoff may be corrosive and/or toxic and cause pollution.
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.
No Data Available
2W

# 6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Avoid generating dust. Do not breathe dust and prevent contact with eyes, skin and clothing.
Clean Up Procedures	Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers for disposal (see SECTION 13). *Do NOT get water inside containers. Never return contaminated material to its original container.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	Flush area with water. Neutralise with dilute acid.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Local authorities should be advised if significant spillages cannot be contained.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. *Large spill: Immediately contact Police or Fire Brigade; Consider initial downwind evacuation of areas within at least 250 m.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).

# 7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Do not breathe dusts or mists and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). WARNING! Water reactive - Heat of reaction may be enough to ignite combustible materials. When diluting, always add the product to water - Never add water to the product.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture/humidity (hygroscopic). Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep only in the original container.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Sodium hydroxide (CAS No. 1310-73-2): - Safe Work Australia Exposure Standard: TWA = 2 mg/m3 Peak limitation. - New Zealand Workplace Exposure Standard: Ceiling = 2 mg/m3. - NIOSH REL/OSHA PEL: TWA = 2 mg/m3 - Immediately dangerous to life or health (IDLH) concentration: 10 mg/m3.
Exposure Limits	No Data Available
<b>Biological Limits</b>	No information available.
Engineering Measures	Use local exhaust ventilation to prevent the chemical from entering the breathing zone of any worker. Air monitoring is recommended to ensure control measures in place are working effectively.
Personal Protection Equipment	<ul> <li>Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Supplied-air respirator (refer to AS/NZS 1715 &amp; 1716).</li> <li>Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles; Full face shield may be required for supplementary protection.</li> <li>Hand protection: Wear protective gloves. Recommended: Elbow length PVC gloves.</li> <li>Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls; PVC apron; PVC protective suit may be required if exposure severe.</li> </ul>
Special Hazards Precaustions	No information available.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Flake, pearl, prill, beads, blocks
Odour	Odourless
Colour	White, translucent
рН	14
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	1,388 °C
Melting Point	323 °C
Freezing Point	No Data Available
Solubility	Soluble in water (Water reactive)
Specific Gravity	2.13
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	2.13 g/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
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	The heat generated by contact with water (heat of dilution) may be sufficient to ignite combustible materials.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Reactions That Release Gases or Vapours	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Sodium.

Release of Invisible Flammable Contact with metals may evolve flammable hydrogen gas. Vapours and Gases

### **10. STABILITY AND REACTIVITY**

General Information	Reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc; This produces a combustible/explosive gas (hydrogen). Reacts with ammonium salts; This produces ammonia and generates fire hazard. Contact with moisture and water generates heat - Heat of reaction may be enough to ignite combustible materials.
Chemical Stability	The substance is stable under normal (and foreseeable) conditions of temperature and pressure during storage and handling.
Conditions to Avoid	Avoid generating dust. Avoid exposure to moisture and incompatible materials. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with aluminium, tin, zinc and their alloys, copper, lead, etc; acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, nitromethane and nitroparaffins.
Hazardous Decomposition Products	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Sodium. Contact with metals may evolve flammable hydrogen gas.
Hazardous Polymerisation	Will not occur.

# **11. TOXICOLOGICAL INFORMATION**

General Information	<ul> <li>Acute toxicity: Corrosive on ingestion; Symptoms include abdominal pain, burns in mouth and throat, burning sensation in the throat and chest, nausea, vomiting, shock or collapse. The substance is not expected to be systemically available and the effects are expected to be due to pH changes.</li> <li>Skin corrosion/irritation: Corrosive; Causes severe skin burns. Symptoms include redness, pain, burns, blisters.</li> <li>Eye damage/irritation: Corrosive; Causes serious eye damage. Symptoms include redness, pain, blurred vision, severe burns.</li> <li>Respiratory/skin sensitisation: Based on data obtained in a study with human volunteers the substance has no skin sensitisation potential.</li> <li>Germ cell mutagenicity: Both the in vitro and the in vivo genetic toxicity tests indicated no evidence of mutagenic activity.</li> <li>Carcinogenicity: Systemic carcinogenicity is not expected to be systemically available in the body.</li> <li>Reproductive toxicity: The substance is not expected to be systemically available in the body and for this reason it can be stated that the substance will not reach the foetus nor reach male and female reproductive organs.</li> <li>STOT (single exposure): Corrosive to the respiratory tract; Symptoms include cough, sore throat, burning sensation, shortness of breath.</li> <li>STOT (repeated exposure): The substance is not expected to be systemically available in the body and therefore systemic effects of the substance after repeated exposure are not expected to occur.</li> <li>Aspiration toxicity: No information available.</li> </ul>
Carcinogen Category	None

# **12. ECOLOGICAL INFORMATION**

Ecotoxicity

#### Aquatic toxicity:

- LC50, Fish: All available tests resulted in a range of toxicity values between 35 to 189 mg/l. However, in the majority of these test reports there were no data on pH variation.

- EC50, Crustacea (Ceriodaphnia): 40.4 mg/l (48 h) [based on immobility].

- NOEC, Fish/Crustacea: It is not required to conduct this study since the substance dissociates in water and the only possible effect would result from the pH effect. However, pH will remain within environmentally expected ranges.

Persistence/Degradability	NaOH is a strong alkaline substance that dissociates completely in water to Na+ and OH High water solubility and low vapour pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly neutralised by carbon dioxide and the salts will be washed out by rain.
Mobility	High water solubility and mobility. If emitted to soil, sorption to soil particles will be negligible. Depending on the buffer capacity of the soil, OH- will be neutralised in the soil pore water or the pH may increase. There is no direct exposure of soil to NaOH based on the available uses. In addition, no indirect exposure via air is expected as it rapidly neutralises in air.
Environmental Fate	The hazard of the substance for the environment is caused by the hydroxyl ion (pH effect). For this reason the effect of the substance on the organisms depends on the buffer capacity of the aquatic or terrestrial ecosystem.
Bioaccumulation Potential	Considering its high water solubility, NaOH is not expected to bioconcentrate in organisms. In addition, sodium is a naturally-occurring element that is prevalent in the environment and to which organisms are exposed regularly, for which they have some capacity to regulate the concentration in the organism.
Environmental Impact	No Data Available

# **13. DISPOSAL CONSIDERATIONS**

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Any contaminated absorbent products must be treated by an authorised waste manager, along with any used packaging and residue.

# **14. TRANSPORT INFORMATION**

Land Transport (Australia)	
ADC Codo	

ADG Code	
Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available
Land Transport (Fiji)	
Proper Shipping Name	SODIUM HYDROXIDE, SOLID
	SODIUM HYDROXIDE, SOLID 8 Corrosive Substances
Proper Shipping Name	,
Proper Shipping Name Class	8 Corrosive Substances
Proper Shipping Name Class Subsidiary Risk(s)	8 Corrosive Substances No Data Available
Proper Shipping Name Class Subsidiary Risk(s) EPG	8 Corrosive Substances No Data Available 37 Toxic And/Or Corrosive Substances Non-Combustible
Proper Shipping Name Class Subsidiary Risk(s) EPG UN Number	8 Corrosive Substances No Data Available 37 Toxic And/Or Corrosive Substances Non-Combustible 1823
Proper Shipping Name Class Subsidiary Risk(s) EPG UN Number Hazchem	8 Corrosive Substances No Data Available 37 Toxic And/Or Corrosive Substances Non-Combustible 1823 2W

### Land Transport (Malaysia) ADR Code

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

# Land Transport (New Caledonia)

SODIUM HYDROXIDE, SOLID
8 Corrosive Substances
No Data Available
37 Toxic And/Or Corrosive Substances Non-Combustible
1823
2W
II
No Data Available

### Land Transport (New Zealand) NZS5433

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

# Land Transport (Papua New Guinea)

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

# Land Transport (United States of America)

US DOT

**Proper Shipping Name** 

SODIUM HYDROXIDE, SOLID

8 Corrosive Substances
No Data Available
154 Substances - Toxic and/or Corrosive (Non-Combustible)
1823
2W
11
No Data Available

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

### Sea Transport IMDG Code

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1823
Hazchem	2W
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

# Air Transport

IATA I	DGR
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Proper Shipping Name	SODIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1823
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)

**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	SODIUM HYDROXIDE
Poisons Schedule (Aust)	Schedule 6

### Environmental Protection Authority (New Zealand) Hazardous Substances and New Organisms Amendment Act 2015

Hazardous Substances and New Organisms Amendment Act 20	
Approval Code	HSR001547
National/Regional Inventories	
Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	215-185-5
Europe (REACh)	01-2119457892-27-
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed

Listed

### **16. OTHER INFORMATION**

USA (TSCA)

Related Product CodesCASODA0300, CASODA1000, CASODA1001, CASODA1002, CASODA1003, CASODA1004, CASODA1005, CASODA1006,<br/>CASODA1007, CASODA1008, CASODA1009, CASODA1010, CASODA1011, CASODA1012, CASODA1013, CASODA1014,<br/>CASODA1015, CASODA1015, CASODA1016, CASODA1017, CASODA1018, CASODA1019, CASODA1020, CASODA1021, CASODA1022,<br/>CASODA1023, CASODA1024, CASODA1025, CASODA1026, CASODA1027, CASODA1028, CASODA1029, CASODA1030,<br/>CASODA1031, CASODA1032, CASODA1033, CASODA1034, CASODA1035, CASODA1036, CASODA1037, CASODA1038,<br/>CASODA1039, CASODA1040, CASODA1041, CASODA1042, CASODA1043, CASODA1044, CASODA1045, CASODA1050,<br/>CASODA1039, CASODA1040, CASODA1041, CASODA1042, CASODA1043, CASODA1044, CASODA1045, CASODA1050,<br/>CASODA1100, CASODA1101, CASODA1150, CASODA1200, CASODA1201, CASODA1202, CASODA1300,<br/>CASODA1301, CASODA1302, CASODA1303, CASODA1304, CASODA1305, CASODA1306, CASODA1307, CASODA1300,<br/>CASODA1301, CASODA1302, CASODA1303, CASODA1304, CASODA1305, CASODA1306, CASODA1307, CASODA1308,<br/>CASODA1309, CASODA1310, CASODA1311, CASODA1312, CASODA1315, CASODA1314, CASODA1315, CASODA1316,<br/>CASODA1317, CASODA1318, CASODA1319, CASODA1320, CASODA1321, CASODA1322, CASODA1322, CASODA1324,

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Revision Date Key/Legend

Revision

6 06 Sep 2021 < Less Than > Greater Than **AICS** Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm<sup>2</sup> 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 **q** Grams g/cm<sup>3</sup> Grams per Cubic Centimetre g/I 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 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