1. IDENTIFICATION

Product Name	**Hydrochloric acid solution (17-25%)**
Other Names	No Data Available
Uses	Used as an etchant in electronic PCB manufacturing, pickling of steel and pH correction in industrial waste water treatment.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Hydrochloric acid, 17-25% aqueous solution
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)	Schedule 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			Corrosive to Metals - Category 1 Skin Corrosion/Irritation - Category 1B Serious Eye Damage/Irritation - Category 1 Specific Target Organ Toxicity (Single Exposure) - Category 3
Pictograms			
Signal Word			Danger
Hazard Statements		**H290**	May be corrosive to metals.
		H314	Causes severe skin burns and eye damage.
		H335	May cause respiratory irritation.
Precautionary Statements	Prevention	**P280**	Wear protective gloves/protective clothing/eye protection/face protection.
		P271	Use only outdoors or in a well-ventilated area.
		P260	Do not breathe mist/vapour/spray.
	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	**P403 + P233**	Store in a well-ventilated place. Keep container tightly closed.
		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
Hydrochloric acid	HCl	7647-01-0	17 - 25 %
Water	H2O	7732-18-5	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: If conscious and alert, rinse mouth then drink 200 - 300 mL water to dilute the substance. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration; Rinse mouth, then drink more water. Keep victim calm and warm - Obtain immediate medical care. Never give anything by mouth to an unconscious or convulsing person.

Eye IF IN EYES: Immediately flush eyes with running water for at least 15 minutes, holding eyelids open and occasionally lifting the upper and lower lids. Immediately call a Poison Centre or doctor/physician for advice. Remove contact lenses if present and easy to do. If irritation persists, continue rinsing. Keep victim calm and warm - Obtain immediate medical care. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport.

Skin IF ON SKIN (or hair): Remove 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. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim calm and warm - Obtain immediate medical care. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport. During transport or if medical treatment is delayed, immerse the affected area in iced water. If immersion is not practicable, apply compresses of iced water. Wash contaminated clothing and shoes before reuse; Discard heavily contaminated clothing and shoes in a manner which limits further exposure.

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. Apply resuscitation if victim is not breathing – Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device. Administer oxygen if breathing is difficult. Keep victim calm and warm - Obtain immediate medical care.

Advice to Doctor Corrosive effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Symptoms may appear up to 48 hrs after exposure. Strict adherence to first aid measures following any exposure is essential. SPEED IS ESSENTIAL. Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.

Medical Conditions Aggravated by Exposure No information available.

5. FIRE FIGHTING MEASURES

General Measures If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Water spray may be used to knock down escaping vapour. Avoid getting water inside containers. When any large containers are involved in a fire, consider evacuation of areas within 800 m in all directions.

Flammability Conditions Non-combustible; Material does not burn, but may produce toxic and/or corrosive fumes upon heating.

Extinguishing Media If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Use extinguishing media suitable for surrounding fires.

Fire and Explosion Hazard Will react with many compounds (some violently) releasing flammable, toxic and/or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or contaminated with water.

Hazardous Products of Combustion Fire will produce irritating, toxic and/or corrosive gases, including chlorine.

Special Fire Fighting Instructions Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may pollute waterways.

Personal Protective Equipment Liquid-tight chemical protective clothing (splash suit) in combination with self-contained breathing apparatus (SCBA) should be used. Structural firefighter’s uniform is NOT effective for this material..

Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2R

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Do not breathe mist/vapours and prevent contact contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material; Use clean non-sparking tools to collect material and place it into suitable containers for later disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Cover with dry earth and/or other non-combustible material followed by plastic sheet to minimise spreading. Vapour-suppressing foam may be used to control vapours; Water spray may be used to knock down or divert vapour clouds.
Decontamination	If possible, neutralize contaminant at the spilled area with lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, and dilute sodium hydroxide. Ensure adequate decontamination of tools and equipment following clean up.
Environmental Precautionary Measures	Small spillages and decontamination run-off may be washed to drains with large quantities of water. Due care must however still be exercised to avoid unnecessary pollution of watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Consider downwind evacuation of areas within 250 m.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear SCBA and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). CORROSIVE: Always add acid to water during dilution - NEVER add water to acid. Avoid contact with common metals. Use corrosion-resistant structural materials. Absorb spillage to prevent material damage (see SECTION 6).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Containers should be labelled and protected from damage. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up. If stored indoors, building floors should be acid resistant with drains to a treatment system. Electrical equipment should be flameproof and protected against corrosive action.
Container	Keep only in the original container or suitable material, i.e. rubber lined steel, PVC/FRP, FRP. Containers should have a safety relief valve - Care should be taken to release any internal pressure slowly.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	COMPONENT: Hydrochloric acid (CAS No. 7647-01-0): - Safe Work Australia (SWA) Exposure Standard: TWA = 5 ppm (7.5 mg/m3) Peak limitation. - New Zealand Workplace Exposure Standard (WES): TWA = 5 ppm (7.5 mg/m3) Ceiling. - OSHA PEL/NIOSH REL: TWA = 5 ppm (7 mg/m3) Ceiling. - Immediately dangerous to life or health (IDLH) concentration: 50 ppm. No Data Available

Exposure Limits	
Biological Limits	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. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Electrical equipment should be flameproof and protected against corrosive action.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation, if facing concentrations above the exposure limit or unknown concentrations. Recommended: Chemical cartridge respirator or air-purifying respirator, providing protection against acid gas (Filter Type E); Supplied air respirator or self-contained breathing apparatus (SCBA). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Wear chemical goggles and full face shield. - Hand protection: Wear protective gloves. Recommended: Wear impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Wear impervious protective clothing, including boots, lab coat, apron or full-body suit.
Special Hazards Precaustions	Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing thoroughly before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Characteristically pungent
Colour	Colourless
pH	<1
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	85 °C
Melting Point	No Data Available
Freezing Point	-27 - -57.22 °C
Solubility	Completely soluble
Specific Gravity	1.132 (25%)
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	No Data Available
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	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Will react with many compounds (some violently) releasing flammable, toxic and/or corrosive gases and runoff.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn, but may produce toxic and/or corrosive fumes upon heating.
Reactions That Release Gases or Vapours	When heated to decomposition, emits toxic hydrogen chloride fumes. Can react violently if in contact with oxidising agents, liberating chlorine.
Release of Invisible Flammable Vapours and Gases	Contact with metals will produce hydrogen gas which can form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Decomposes on heating, with release of (highly) toxic gases/vapours (chlorine). Reacts exothermically with many compounds. Reacts violently with (some) bases. Reacts with (strong) oxidizers, with release of (highly) toxic gases/vapours (chlorine). Reacts with (some) metals, with release of highly flammable gases/vapours (hydrogen).
Chemical Stability	Material is stable under normal conditions.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong mineral acid, strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials; cyanides, sulfides, sulfites, sulfuric acid and formaldehyde; oxidising agents.
Hazardous Decomposition Products	When heated to decomposition, emits toxic hydrogen chloride fumes. Contact with metals will produce hydrogen gas which can form explosive mixtures with air. Can react violently if in contact with oxidising agents, liberating chlorine.
Hazardous Polymerisation	Does not polymerise.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: Acute lethal effects are expected due to the corrosive nature of the chemical. Ingestion will immediately cause corrosion of and damage to the gastrointestinal tract. Potential sequelae following ingestion include perforation, scarring of the oesophagus or stomach and stricture formation causing dysphagia or gastric outlet obstruction. - Skin corrosion/irritation: Corrosive - Causes severe skin burns. Contact with this material will cause burns to the skin. - Eye damage/irritation: Corrosive - Causes serious eye damage. May cause permanent impairment of vision, including blindness. - Respiratory/skin sensitisation: Not expected to cause respiratory or skin sensitization reactions. - Germ cell mutagenicity: Hydrogen chloride does not have any significant mutagenic potential. - Carcinogenicity: IARC has designated Hydrochloric acid as being not classifiable as to its carcinogenicity to humans. i.e. Category 3. - Reproductive toxicity: No information available. - STOT (single exposure): May cause respiratory irritation. Higher concentrations are corrosive to the mucous membrane. Acute inhalation (mist or vapour) may cause coughing, hoarseness, inflammation and ulceration of the respiratory tract and chest pain. Fluid build up on the lung (pulmonary oedema) may occur up to 48 hours after exposure and could prove fatal. - STOT (repeated exposure): Not considered to cause serious damage to health from repeated exposure. However, local irritation effects are expected due to the corrosivity of the chemical. Chronic occupational exposure has been reported to cause gastritis, chronic bronchitis, dermatitis and photosensitisation. Prolonged exposure to low concentration may cause dental discolouration and erosion.

- Aspiration toxicity: No information available.

Acute

Ingestion	Acute toxicity (Oral): COMPONENT: Hydrochloric acid (CAS No. 7647-01-0): - LD50, Rat: 238 - 277 mg/kg - LD50, Rabbit: 900 mg/kg
Inhalation	Acute toxicity (Inhalation): COMPONENT: Hydrochloric acid (CAS No. 7647-01-0): - LC50, Rat: 4.2 - 4.7 mg/L (1 h). - LC50, Mouse: 1.7 mg/L (1 h).
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity (pH effects only): - LC50, Fish (Gambusia affinis): 282 mg/L (96 h). - EC50, Crustacea (Daphnia magna): 0.492 mg/L (48 h) [pH: 5.3]. - EC50, Algae (Pseudokircheneriella subcapitata): 0.780 mg/L (72 h) [pH: 5.1]. Effects on Effluent Treatment: Large discharge may contribute to the acidification of effluent treatment systems and injure sewage treatment organisms.
Persistence/Degradability	Hydrogen chloride in soil-water dissociates almost completely, with the hydrogen ion captured by the water molecules to form the hydronium ion.
Mobility	Liquid with high volatility. The product is soluble in water. The product is predicted to have high mobility in soil.
Environmental Fate	Large discharges may contribute to the acidification of water and be fatal to fish and other aquatic life. Can cause damage to vegetation. Can cause severe damage to aquatic plants.
Bioaccumulation Potential	The product does not bio-accumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container through a licensed waste contractor and in accordance with local/regional/national regulations. Decontamination and destruction of containers should be considered.
Special Precautions for Land Fill	Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together, if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive

UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (Fiji)

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (New Caledonia)

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	

Land Transport (Papua New Guinea)

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	40 Toxic And/Or Corrosive Substances Non-Combustible - Water Reactive
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)
US DOT

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	157 Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1789
Hazchem	2R
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

Air Transport
IATA DGR

Proper Shipping Name	HYDROCHLORIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1789
Hazchem	2R
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)	Schedule 6

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

Approval Code	HSR001565 (Reissued)

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	HYACIB1894, HYACIB1905, HYACIC3010, HYACIC3011, HYACID1518, HYACID1933, HYACID1938, HYACID2006, HYACID2007
Revision	3
Revision Date	15 Jun 2019

Reason for Issue Updated SDS

Key/Legend

< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm^2 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/cm^3 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/m^3 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
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 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