

# 1. IDENTIFICATION

**Product Name** Hydrochloric acid, >25%

Hydrochloric acid 31 - 33%; Hydrochloric acid 32%; Hydrochloric acid 33% **Other Names** 

Uses Industrial use. **Chemical Family** No Data Available

**Chemical Formula** 

**Chemical Name** Aqueous hydrogen chloride

**Product Description** No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation Location **Telephone** 

03 9768 2669 F1 / 5 Bungaleen Court Aurora Cleaning Supplies

Dandenong South

VIC 3175

### **Emergency Contact Details**

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

Organisation	Location	Telephone	
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.H433 Harmful to terrestrial vertebrates.

Precautionary Statements Prevention P260 Do not breathe fume/mist/vapours/spray.

**P280** Wear protective gloves/protective clothing/eye protection/face protection.

**P271** Use only outdoors or in a well-ventilated area.

Response P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing.

Rinse skin with water/shower.

P310 Immediately call a POISON CENTER or doctor/physician.

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 at rest in a position

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)

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

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	NO Classifications Health 6.1B Hazards		Substances that are acutely toxic - Fatal	
		6.1D	Substances that are acutely toxic - Harmful	
		8.1A	Substances that are corrosive to metals	
		8.2B	Substances that are corrosive to dermal tissue UN PGII	
		8.3A	Substances that are corrosive to ocular tissue	

Environme Hazards

Environmental 9.1D

Substances that are slightly harmful to the aquatic environment or are otherwise

designed for biocidal action

9.3C

Substances that are harmful to terrestrial vertebrates

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Water	H2O	7732-18-5	<75 %
Hydrochloric acid	HCI	7647-01-0	>25 %

#### 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** 

**Personal Protective Equipment** 

**Auto Ignition Temperature** 

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.

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 PointNo Data AvailableLower Explosion LimitNo Data AvailableUpper Explosion LimitNo 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.

No Data Available

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 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** For 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.

**Exposure Limits** No Data Available

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, e.g. Nitrile rubber (full contact); Latex gloves (splash contact).
- 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 StateLiquidAppearanceClear liquidOdourPungent

**Colour** Colourless to slightly yellow

pH <1 (Neat)

Vapour PressureNo Data AvailableRelative Vapour DensityNo Data AvailableBoiling Point81.5 - 110 °CMelting Point-74 °C

Freezing Point No Data Available
Solubility Miscible with water

Specific Gravity 1.0 - 1.2

Flash Point No Data Available **Auto Ignition Temp** No Data Available **Evaporation Rate** >1 (Butyl acetate = 1) **Bulk Density** No Data Available No Data Available **Corrosion Rate 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

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.

Will react with many compounds (some violently) releasing flammable, toxic and/or corrosive gases and runoff.

**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, sulfities, 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** Hazardous polymerisation does not occur.

### 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

Acute toxicity (Oral): Ingestion

COMPONENT: Hydrochloric acid (CAS No. 7647-01-0):

- LD50, Rats (female): 238 - 277 mg/kg bw. (3.3% conc.) [NICNAS].

Carcinogen Category

12. ECOLOGICAL INFORMATION

**Ecotoxicity** Aquatic toxicity:

- LC50, Fish (Gambusia affinis): 282 mg/L (96 h) [Hydrochloric acid].
- EC50, Daphnia (Water flea): 56 mg/L (72 h) [Hydrochloric acid].

Persistence/Degradability Persistence is unlikely based on available information.

None

**Mobility** No information available.

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 No information available.

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

Oubsidial y Hisk(s)

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 NameHYDROCHLORIC ACIDClass8 Corrosive SubstancesSubsidiary 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 NameHYDROCHLORIC ACIDClass8 Corrosive Substances

Subsidiary Risk(s) No Data Available

ERG 157 Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)

 UN Number
 178

 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 InformationNo Data AvailablePoisons Schedule (Aust)Schedule 6

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

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR001557

National/Regional Inventories

Australia (AICS) 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**

HYACIB1000, HYACIB1500, HYACIB1600, HYACIB1893, HYACIB1895, HYACIB1897, HYACIB1900, HYACIB1901, HYACIB1902, HYACIB1903, HYACIB1904, HYACIB1940, HYACIB1941, HYACIB1959, HYACIB2000, HYACIB2100, HYACIB2200, HYACIB2300, HYACIB2500, HYACIB2510, HYACIB3000, HYACIB3001, HYACIB3002, HYACIB3003, HYACIB3004, HYACIB3005, HYACIB3006, HYACIB3016, HYACIB3050, HYACIB3060, HYACIB3200, HYACIB3500, HYACIB3600, HYACIB3700, HYACIB3701, HYACIB3702, HYACIB3703, HYACIB3705, HYACIB4000, HYACIB4005, HYACIB5000, HYACIB6000, HYACIB6700, HYACIB6900, HYACIB7500, HYACIB7900, HYACIB8000, HYACIB8001, HYACIB8100, HYACIB8500, HYACIB8501, HYACIB8502, HYACIB9000, HYACIB9600, HYACIB9601, HYACIB9602, HYACIB9603, HYACIB9604, HYACIC1000, HYACIC1001, HYACIC1300, HYACIC1500, HYACIC1861, HYACIC2000, HYACIC2001, HYACIC3000, HYACIC3001, HYACIC3002, HYACIC3003, HYACIC3004, HYACIC3005, HYACIC3006, HYACIC3007, HYACIC3008, HYACIC3050, HYACIC3070, HYACIC3300, HYACIC3400, HYACIC3700, HYACIC4003, HYACIC4400, HYACIC5000, HYACIC6000, HYACIC6300, HYACIC6301, HYACIC6500, HYACIC7300, HYACIC7500, HYACIC7501, HYACIC7502, HYACIC7505, HYACIC8000, HYACID0800, HYACID1000, HYACID1001, HYACID1002, HYACID1003, HYACID1004, HYACID1005, HYACID1006, HYACID1007, HYACID1008, HYACID1009, HYACID1010, HYACID1011, HYACID1012, HYACID1013, HYACID1014, HYACID1015, HYACID1016, HYACID1017, HYACID1018, HYACID1019, HYACID1020, HYACID1021, HYACID1022, HYACID1023, HYACID1024, HYACID1025, HYACID1026, HYACID1027, HYACID1028, HYACID1030, HYACID1200, HYACID1300, HYACID1301, HYACID1400, HYACID1500, HYACID1501, HYACID1600, HYACID1700, HYACID1701, HYACID1730, HYACID1733, HYACID1801, HYACID1802, HYACID1803, HYACID1804, HYACID1805, HYACID1806, HYACID1807, HYACID1808, HYACID1812, HYACID1813, HYACID1814, HYACID1815, HYACID1816, HYACID1817, HYACID1818, HYACID1821, HYACID1822, HYACID1823, HYACID1824, HYACID1825, HYACID1826, HYACID1827, HYACID1828, HYACID1829, HYACID1830, HYACID1831, HYACID1832, HYACID1833, HYACID1834, HYACID1835, HYACID1836, HYACID1837, HYACID1838, HYACID1839, HYACID1840, HYACID1841, HYACID1842, HYACID1857, HYACID1858, HYACID1859, HYACID1860, HYACID1861, HYACID1862, HYACID1863, HYACID1864, HYACID1865, HYACID1866, HYACID1867, HYACID1868, HYACID1869, HYACID1870, HYACID1871, HYACID1872, HYACID1873, HYACID1874, HYACID1875, HYACID1876, HYACID1877, HYACID1878, HYACID1879, HYACID1880, HYACID1881, HYACID1882, HYACID1883, HYACID1884, HYACID1885, HYACID1886, HYACID1887, HYACID1888, HYACID1889, HYACID1890, HYACID1891, HYACID1892, HYACID1893, HYACID1894, HYACID1895, HYACID1896, HYACID1897, HYACID1898, HYACID1899, HYACID1900, HYACID1901, HYACID1902, HYACID1903, HYACID1904, HYACID1905, HYACID1906, HYACID1907, HYACID1908, HYACID1909, HYACID1910, HYACID1911, HYACID1912, HYACID1913, HYACID1914, HYACID1915, HYACID1917, HYACID1919, HYACID1924, HYACID1927, HYACID1930, HYACID1932, HYACID1934, HYACID1935, HYACID1936, HYACID1937, HYACID1940, HYACID1941, HYACID1942, HYACID1943, HYACID1948, HYACID1957, HYACID1958, HYACID2000, HYACID2001, HYACID2002, HYACID2003, HYACID2034, HYACID2040, HYACID2100, HYACID2200, HYACID2300, HYACID2400, HYACID2500, HYACID2501, HYACID2505, HYACID2506, HYACID2507, HYACID2508, HYACID2509, HYACID2510, HYACID2600, HYACID2900, HYACID3000, HYACID3001, HYACID3002, HYACID3006, HYACID3050, HYACID3100, HYACID3500, HYACID3600, HYACID3700, HYACID3701, HYACID4000, HYACID4200,

HYACID5000, HYACID5100, HYACID5500, HYACID6000, HYACID6010, HYACID6050, HYACID6500, HYACID6501, HYACID7000, HYACID7100, HYACID7200, HYACID7300, HYACID7500, HYACID8000, HYACID8100, HYACID9500, HYACID9501, HYACID9502, HYACID9503, HYACID9505, HYACID9506, HYACID9507, HYACID9508, HYACIL1000

Revision

**AICS** Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square CentimetresCO2 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/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
inH2O Inch of Water

K Kelvin

kg Kilogram

kg/m³ 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%

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Itr 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