# SAFETY DATA SHEET
# ZINC CHLORIDE
# REVISION 5, DATE 23 OCT 19

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name** | **Zinc chloride** |
| **Other Names** | Butter of Zinc; Zinc dichloride; Zinc(II) chloride |
| **Uses** | Fluxes (soldering and welding); mordant in printing and dyeing textiles; mercerising cotton; sizing and weighing fabrics; carbonising woollen goods; corrosion inhibitors; absorbents and adsorbents; conductive agents; manufacturing other chemicals; agent in vulcanising rubber; tissue fixative in preserving anatomical specimens; manufacturing parchment paper, artificial silk, activated carbon, cold water glues, magnesia cements and cement for metals; electroplating agents; astringent (pharmaceutical). |
| **Chemical Family** | No Data Available |
| **Chemical Formula** | ZnCl2 |
| **Chemical Name** | Zinc chloride |
| **Product Description** | No Data Available |

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

| Organisation | Location | Telephone |
|---|---|---|
| Redox Ltd | 2 Swettenham Road<br>Minto NSW 2566<br>Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road<br>Wiri Auckland 2104<br>New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard<br>Suite 107<br>Lakewood CA 90712<br>USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Level 2, No. 8, Jalan Sapir 33/7<br>Seksyen 33, Shah Alam Premier Industrial Park<br>40400 Shah Alam<br>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<br>131126 |
| Chemcall | Australia | 1800-127406<br>+64-4-9179888 |
| Chemcall | Malaysia | +64-4-9179888 |
| Chemcall | New Zealand | 0800-243622<br>+64-4-9179888 |
| National Poisons Centre | New Zealand | 0800-764766 |
| CHEMTREC | USA & Canada | 1-800-424-9300 CN723420<br>+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**

Acute Toxicity (Oral) - Category 4

Acute Toxicity (Inhalation) - Category 4

Skin Corrosion/Irritation - Category 1C

Serious Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 2

Specific Target Organ Toxicity (Repeated Exposure) - Category 2

Acute Hazard To The Aquatic Environment - Category 1

Long-term Hazard To The Aquatic Environment - Category 1

**Pictograms**

**Signal Word** Danger

**Hazard Statements**

| | |
|---|---|
| **H302 + H332** | Harmful if swallowed or if inhaled. |
| **H314** | Causes severe skin burns and eye damage. |
| **H371** | May cause damage to organs. |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |
| **H410** | Very toxic to aquatic life with long lasting effects. |

**Precautionary Statements**

| | | |
|---|---|---|
| Prevention | **P260** | Do not breathe dusts or mists. |
| | **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |
| | **P273** | Avoid release to the environment. |
| | **P270** | Do not eat, drink or smoke when using this product. |
| | **P271** | Use only outdoors or in a well-ventilated area. |
| 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. |
| | **P301 + P330 + P331** | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| | **P363** | Wash contaminated clothing before reuse. |
| | **P391** | Collect spillage. |
| | **P304 + P340** | IF INHALED: Remove victim to fresh air and keep comfortable for breathing. |
| Storage | **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** | Health Hazards | **6.1C** | Substances that are acutely toxic- Toxic |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

***Ingredients***

| Chemical Entity | Formula | CAS Number | Proportion |
|---|---|---|---|
| Zinc chloride | ZnCl2 | 7646-85-7 | >=98 % |

## 4. FIRST AID MEASURES

***Description of necessary measures according to routes of exposure***

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|---|---|
| **Swallowed** | IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Do not attempt to neutralise. 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. Immediately call a Poison Centre or doctor/physician for advice. 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. |
| **Skin** | IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Rinse skin and hair with running water for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice. For minor skin contact, avoid spreading material onto unaffected skin. Wash contaminated clothing and shoes before reuse. |
| **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. |
| **Advice to Doctor** | Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves. - Inhalation of fume of this substance may cause lung oedema. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. |
| **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. Avoid getting water inside containers. |
| **Flammability Conditions** | Non-combustible; Material itself does not burn. |
| **Extinguishing Media** | Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use water jets. |
| **Fire and Explosion Hazard** | Contact with metals may evolve flammable hydrogen gas. |

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| **Hazardous Products of Combustion** | Fire or heat will produce irritating, toxic and/or corrosive gases, including Hydrogen chloride and Zinc oxide. |
| **Special Fire Fighting Instructions** | Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and pollute waterways. |
| **Personal Protective Equipment** | Wear self-contained breathing apparatus (SCBA) and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. 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** | 2X |

## 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. Avoid generating dust. Do not breathe dusts and prevent contact with eyes, skin and clothing. |
| **Clean Up Procedures** | Collect material and place it into suitable containers for later disposal (see SECTION 13). Do not get water inside containers. |
| **Containment** | Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud. |
| **Decontamination** | No information available. |
| **Environmental Precautionary Measures** | Spillages and decontamination runoff should be prevented from entering drains and watercourses. |
| **Evacuation Criteria** | Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. |
| **Personal Precautionary Measures** | Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). |

## 7. HANDLING AND STORAGE

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|---|---|
| **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. Avoid dust formation/dispersion. Do not breathe dusts or mists; Do not get in eyes, on skin or clothing. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). |
| **Storage** | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from moisture (hygroscopic). Keep away from heat and sources of ignition - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Store locked up. |
| **Container** | Keep only in the original container. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|---|---|
| **General** | - Safe Work Australia Exposure Standard (Zinc chloride, fume): TWA = 1 mg/m3; STEL = 2 mg/m3.<br>- New Zealand WES (Zinc chloride, fume): TWA = 1 mg/m3; STEL = 2 mg/m3.<br>- OSHA PEL/NIOSH REL (Zinc chloride, fume): TWA = 1 mg/m3; STEL = 2 mg/m3.<br>- Immediately dangerous to life or health (IDLH) concentration: 50 mg/m3. |
| **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 |

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| | dispersion of it into the general work area. |
| **Personal Protection Equipment** | - Respiratory protection: In case of exposure to dusts/mist/aerosols, wear respiratory protection. Recommended: Full-face particulate respirator (P2/P3). If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.<br>- Eye/face protection: Wear eye protection/face protection. Recommended: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.<br>- Hand protection: Wear protective gloves. Recommended (full/splash contact): Nitrile rubber (Min. layer thickness: 0.11 mm; Break through time: 480 min).<br>- Skin/body protection: Wear protective clothing. Recommended: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace. |
| **Special Hazards Precaustions** | No information available. |
| **Work Hygienic Practices** | Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Remove contaminated clothing and shoes immediately and wash before storage or reuse. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **Physical State** | Solid |
| **Appearance** | Granular or crystalline |
| **Odour** | Odourless |
| **Colour** | White |
| **pH** | 1 (6M aqueous solution) |
| **Vapour Pressure** | 1,300 Pa (@ 508 °C) |
| **Relative Vapour Density** | No Data Available |
| **Boiling Point** | 732 °C |
| **Melting Point** | 283 °C |
| **Freezing Point** | 283 °C |
| **Solubility** | 432 g/100 mL water - Highly soluble 25°C |
| **Specific Gravity** | 2.91 |
| **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. |

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|---|---|
| **Potential for Dust Explosion** | No information available. |
| **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** | No information available. |
| **Properties That May Initiate or Contribute to Fire Intensity** | Non-combustible; Material itself does not burn. |
| **Reactions That Release Gases or Vapours** | The substance decomposes on heating producing toxic fumes of Hydrogen chloride and Zinc oxide. |
| **Release of Invisible Flammable Vapours and Gases** | Contact with metals may evolve flammable hydrogen gas. |

## 10. STABILITY AND REACTIVITY

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|---|---|
| **General Information** | No information available. |
| **Chemical Stability** | Stable under recommended/normal use conditions. |
| **Conditions to Avoid** | Avoid dust formation/dispersion. Avoid overheating. Protect from moisture. |
| **Materials to Avoid** | Incompatible/reactive with strong bases, metal oxides, strong oxidising agents, potassium. |
| **Hazardous Decomposition Products** | The substance decomposes on heating producing toxic fumes of hydrogen chloride and zinc oxide. |
| **Hazardous Polymerisation** | Will not occur. |

## 11. TOXICOLOGICAL INFORMATION

**General Information**

- Acute toxicity: Harmful if swallowed (corrosive on ingestion) and if inhaled. Ingestion may cause abdominal pain, sore/burning sensation in the throat and chest, nausea, vomiting, shock or collapse. Inhalation may cause cough, sore throat, burning sensation, laboured breathing, shortness of breath. Symptoms may be delayed. Acute dermal toxicity is expected to be low.
- Skin corrosion/irritation: The substance is corrosive to the skin. Causes severe skin burns, pain, redness.
- Eye damage/irritation: The substance is corrosive to the eyes. Causes serious eye damage, pain, redness, deep burns.
- Respiratory/skin sensitisation: Zinc chloride is unlikely to be a skin sensitiser (data from Zinc sulphate, heptahydrate).
- Germ cell mutagenicity: Given the essential role of zinc in human physiology, it is unlikely to be genotoxic. Not mutagenic to germ cells (weight of evidence).
- Carcinogenicity: No information available.
- Reproductive toxicity: Does not show specific reproductive or developmental toxicity. While effects on fertility have been observed at very high doses of soluble zinc chemicals, the levels at which this occurs are unlikely to result from industrial use; Any reproductive and developmental effects were only observed secondary to maternal toxicity.
- STOT (single exposure): May cause damage to organs (respiratory system, liver, pancreas). The aerosol is irritating to the respiratory tract. Inhalation of fume of this substance may cause lung oedema. Symptoms may be delayed. Acute exposure to high concentrations of zinc chloride fume can lead to Adult Respiratory Distress Syndrome (ARDS) leading to pulmonary fibrosis and death.
- STOT (repeated exposure): May cause damage to to organs through prolonged or repeated exposure (lungs, liver). The substance may cause effects on the pancreas, if ingested.
- Aspiration toxicity: No information available.

***Acute***

**Ingestion**

Acute toxicity (Oral):
- LD50, Rats: 1,100 mg/kg bw.
- LD50, Mice: 1,260 mg/kg bw.

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|---|---|
| **Inhalation** | Acute toxicity (Inhalation):<br>- LC50, Rats: <4,095 mg/m3 Zinc chloride (10 min).<br>- LC50, Rats: <1,950 mg Zn/m3. |
| **Carcinogen Category** | None |

## 12. ECOLOGICAL INFORMATION

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|---|---|
| **Ecotoxicity** | Aquatic toxicity:<br>- LC50, Crustace (Mysid shrimp): 0.880 mg/L (96 h). |
| **Persistence/Degradability** | No information available. |
| **Mobility** | No information available. |
| **Environmental Fate** | Very toxic to aquatic life with long lasting effects - Avoid release to the environment. |
| **Bioaccumulation Potential** | Low (BCF = 178). |
| **Environmental Impact** | No Data Available |

## 13. DISPOSAL CONSIDERATIONS

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|---|---|
| **General Information** | Dispose of contents/container in accordance with local/regional/national regulations. Offer surplus product and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. |
| **Special Precautions for Land Fill** | Contaminated packaging: Dispose of as unused product. |

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| **UN Number** | 2331 |
| **Hazchem** | 2X |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Land Transport (Malaysia)

ADR Code

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| **UN Number** | 2331 |

| | |
|---|---|
| **Hazchem** | 2X |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Land Transport (New Zealand)
NZS5433

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 37 Toxic And/Or Corrosive Substances Non-Combustible |
| **UN Number** | 2331 |
| **Hazchem** | 2X |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Land Transport (United States of America)
US DOT

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **ERG** | 154 Substances - Toxic and/or Corrosive (Non-Combustible) |
| **UN Number** | 2331 |
| **Hazchem** | 2X |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Sea Transport
IMDG Code

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | 2331 |
| **Hazchem** | 2X |
| **Pack Group** | III |
| **Special Provision** | No Data Available |
| **EMS** | F-A, S-B |
| **Marine Pollutant** | Yes |

### Air Transport
IATA DGR

| | |
|---|---|
| **Proper Shipping Name** | ZINC CHLORIDE, ANHYDROUS |
| **Class** | 8 Corrosive Substances |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | 2331 |
| **Hazchem** | 2X |
| **Pack Group** | III |
| **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** | ZINC CHLORIDE |
| **Poisons Schedule (Aust)** | Schedule 6 |

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

| | |
|---|---|
| **Approval Code** | HSR001554 (Reissued) |

**National/Regional Inventories**

| | |
|---|---|
| **Australia (AIIC)** | Listed |
| **Canada (DSL)** | Not Determined |
| **Canada (NDSL)** | Not Determined |
| **China (IECSC)** | Not Determined |
| **Europe (EINECS)** | 231-592-0 |
| **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** | ZICHLO0300, ZICHLO0500, ZICHLO0700, ZICHLO0701, ZICHLO0702, ZICHLO0703, ZICHLO0704, ZICHLO0705, |

ZICHLO0706, ZICHLO0707, ZICHLO0708, ZICHLO0709, ZICHLO0710, ZICHLO0711, ZICHLO0712, ZICHLO0713, ZICHLO0714, ZICHLO0715, ZICHLO0716, ZICHLO0717, ZICHLO0718, ZICHLO0719, ZICHLO0720, ZICHLO0721, ZICHLO0722, ZICHLO0723, ZICHLO0724, ZICHLO1000, ZICHLO1001, ZICHLO1002, ZICHLO1003, ZICHLO1004, ZICHLO1005, ZICHLO1006, ZICHLO1007, ZICHLO1008, ZICHLO1009, ZICHLO1010, ZICHLO1100, ZICHLO1300, ZICHLO1500, ZICHLO1800, ZICHLO1850, ZICHLO1851, ZICHLO2000, ZICHLO2001, ZICHLO2500, ZICHLO2600, ZICHLO2601, ZICHLO2602, ZICHLO2800, ZICHLO3000, ZICHLO3300, ZICHLO3500, ZICHLO4000, ZICHLO4500, ZICHLO5000, ZICHLO5300, ZICHLO6800, ZICHLO9900

**Revision** 5

**Revision Date** 23 Oct 2019

**Reason for Issue** update 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