



Safety Data Sheet
Sodium Hypochlorite Solution 10-30%
Revision 3, Date 01 Aug 2016

1. IDENTIFICATION

Product Name	Sodium Hypochlorite Solution 10-30%
Other Names	Clorox; HypochloriteSolution; Hypochlorous acid-sodium salt
Uses	Food and beverage industries: Sanitising processing equipment., Textile industry: Bleaching agent., Water treatment: Sanitising agent., Available chlorine = 10 - 15%.
Chemical Family	No Data Available
Chemical Formula	NaOCl
Chemical Name	Sodium Hypochlorite Solution 10-30%
Product Description	Available chlorine = 10 - 15%.

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 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	Skin Corrosion/Irritation - Category 1B Serious Eye Damage/Irritation - Category 1 Specific Target Organ Toxicity (Single Exposure) - Category 3 Acute Hazard To The Aquatic Environment - Category 1



Pictograms



Signal Word

Danger

Hazard Statements

EUH031

Contact with acids liberates toxic gas.

H314

Causes severe skin burns and eye damage.

H400

Very toxic to aquatic life.

Precautionary Statements

Prevention

P260

Do not breathe fume/gas/mist/vapours/spray.

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection.

Response

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER or doctor/physician.

P321

Specific treatment (see First Aid Measures on Safety Data Sheet).

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium Hypochlorite	ClHO.Na	7681-52-9	10.5 - 15.6 %
Sodium Hydroxide	HNaO	1310-73-2	0.7 - 2.0 %
Water	H2O	7732-18-5	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of water. Get medical aid immediately.

Eye

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while



removing contaminated clothing and shoes. Discard contaminated clothing in a manner, which limits further exposure.

Inhaled

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. DO NOT use mouth-to-mouth respiration.

Advice to Doctor

Symptoms caused by exposure:
Chlorine gas released from sodium hypochlorite causes irritation of respiratory system, consisting in coughing, difficult breathing, stomatitis, nausea and pulmonary edema.
Contact with skin can cause skin irritation, followed by blisters and eczema (especially at 12% concentration). The eye contact causes serious damages of eyes.
Ingestion of tens of grams of sodium hypochlorite solution (12% concentration) can cause mucous membrane burns, perforation of the esophagus and stomach, and laryngeal oedema.
Medical Attention and Special Treatment: In case of eyes and face splashing, treat eyes firstly. Treat symptomatically and supportively.

Medical Conditions Aggravated by Exposure

No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures

If safe to do so, remove containers from the path of fire.

Flammability Conditions

Not considered to be a fire hazard. Sodium hypochlorite itself does not burn, but poisonous gases are produced in fire.

Extinguishing Media

Suitable Extinguishing Media: Water. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapour.

Fire and Explosion Hazard

Contact with combustible materials can cause explosions. Hazchem Code: 2X

Hazardous Products of Combustion

Emits toxic fumes of chlorine (hypochlorous acid and sodium chlorate) when heated to decomposition. The decomposition is an exothermal process.

Special Fire Fighting Instructions

Keep containers cool with water spray. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Containers may explode when heated.

Personal Protective Equipment

Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Please note: Structural fire fighters uniform will provide limited protection.

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

Emergency procedures, Evacuate the danger area or to consult an expert. Approach from upwind. Isolate the area. Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions. Prevent further leakage or spillage if safe to do so. Keep away from incompatible products.

Clean Up Procedures

Spills/Leaks: The spills can be neutralized using light reducing agents such as sodium sulphite sodium bisulphite or sodium thiosulphate. Do not use sulphates or bi-sulphate!
Contain and recover when is possible.

Containment

Stop leak if safe to do so.

Decontamination

Special precautions: Do not use combustible materials, such as saw dust! Do not use sulphates or bisulphates for spill neutralizing!

Environmental Precautionary Measures

Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.

Evacuation Criteria

Evacuate all unnecessary personnel.

Personal Precautionary Measures

Personnel involved in the clean up should wear full protective clothing as listed in section 8.



7. HANDLING AND STORAGE

Handling

Protect against physical damage. Personnel which handling the product must wear protective equipment for hand, skin or eyes, and including protective breathing apparatus. Area should be well ventilated. Advice on general occupational hygiene: Avoid inhalation or ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. Chemicals should be used only by those trained in handling potentially hazardous materials. The electrical equipment should be corrosion resistant.

Storage

Keep in tightly closed containers, store in a cool, dry, well ventilated area. Isolate from incompatible substances. The aqueous solutions are sensitive to light and air. Avoid storage for long period because the product degrades over time. The recommended storing temperature is 15-25 C. Storage at 15 C reduces the rate of decomposition. This product has a UN classification of 1791 and a Dangerous Goods Class 8 (Corrosive) according to The Australian Code for the Transport of Dangerous goods By Road and Rail.

Container

Materials used for storage tanks:

- polyethylene; 5-7 years life time. The outdoor tanks will be UV proof.
- glass fibre reinforced plastics – designed accordingly
- steel rubber-lined (thickness of lining - ¾")
- steel Halar lined (Halar is a copolymer 1:1 ethylene- chlorotrifluoroethylene) ; 3-6 years life time function of quality of lining application.
- titanium – the best material used for tank construction but because the high price is used only for specific applications.

Incompatible materials: reducing agents, combustible materials (wood, cellulose), organic materials, metals, acids.
Materials to avoid: carbon steel, stainless steel, copper and its alloys, aluminium, unprotected metals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

HSIS Airborne Exposure Limits: Chlorine: TWA 1 ppm (3 mg/m³ peak limitation)

NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Peak limitation is a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

Engineering Measures

These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Personal Protection Equipment

RESPIRATOR: Self-contained breathing apparatus with full face-piece operated in the pressure demand. For emergencies or instances where exposure levels are not known, use a full face piece positive pressure, air supplied respirator. Warning! Air -purifying respirators do not protect workers in oxygen deficient atmospheres (AS1715/1716).
EYES: Chemical splash goggles and/or face shield must be worn when possibility exist for eye contact due to splashing or spraying liquid or vapor (AS1336/1337).
HANDS: Wear PVC, rubber or neoprene gloves. Glove thickness has to be of minimum 1.2 mm. Do not use leather gloves (AS2161).
CLOTHING: Wear impervious protective clothing including boots, lab coat, apron or coveralls and safety footwear (AS3765/2210).

Work Hygienic Practices

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.x

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Liquid

Appearance

Liquid

Odour

Chlorine odour

Colour

Clear, colourless



pH	>12
Vapour Pressure	2500 Pa Pa (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	100 approx °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Miscible in water
Specific Gravity	1.09 for 5.25% - 1.21 for 12.0%
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	-3.42 (calculated value)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	2.6 mPas (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Specific density (water=1) 1.09 for 5.25%; 1.15 for 8.0%; 1.21for 12.0% Sodium hypochlorite solution is an aqueous mix of inorganic salts; therefore by heating of solution, water evaporates. At temperatures above 60C, the water evaporates with depositing of white crystals on the bottom of tank .For this reason the boiling point can not be determined
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information

Reactivity: Reacts violently with acids with chlorine released.
Possibility of Hazardous Reactions: Sodium hypochlorite is extremely corrosive for aluminium, brass. Reacts with metals (nickel, cooper, tin) with oxygen release, with ammonia urea, oxidisable substances, ammonium nitrate, ammonium oxalate, ammonium phosphate , ammonium acetate , ammonium carbonate , cellulose and methanol.

Chemical Stability

Unstable. Stability decreases with concentration, heat, light exposure, decrease in pH and contamination with heavy metals, such as nickel, cobalt, copper and iron. In practice, a factor of 2 decrease in concentration produces nearly a factor of 5 decrease in decomposition rate at any given temperature with a pH range of approximately 11 to 13. At



Conditions to Avoid

pH<11, sodium hypochlorite is unstable and decomposes with the release of chlorine.

Materials to Avoid

Light, heat and incompatibles.

Incompatible materials and possible hazardous reactions: aluminum, brass, cellulose, steel, stainless steel, bronzes. Strong acids, strong oxidizers, heavy metals (which act as catalysts), reducing agents, ammonia and ammonium salts, ether, and many organic and inorganic chemicals such as paint, kerosene, paint thinners, shellac.

Hazardous Decomposition Products

Emits toxic fumes of chlorine (hypochlorous acid and sodium chlorate) when heated to decomposition. The decomposition is an exothermal process.

Hazardous Polymerisation

Sodium hypochlorite is extremely corrosive for aluminium, brass. Reacts with metals (nickel, copper, tin) with oxygen release, with ammonia, urea, oxidisable substances, ammonium nitrate, ammonium oxalate, ammonium phosphate, ammonium acetate, ammonium carbonate, cellulose and methanol.

11. TOXICOLOGICAL INFORMATION

General Information

Acute toxicity: Sodium Hypochlorite: Rat male Oral LD50 = 1100 mg/kg bw (for sodium hypochlorite sol.. 12% free chlorine). Mouse male Oral LD50, = 880 mg/kg bw (for sodium hypochlorite sol.. 12% free chlorine). Other routes : intra-peritoneal Rat LD 50, (1h) > 10,7 mg/L air, causes abundant tearing. Rabbit male/female LD50, >20 g/kg bw. Causes serious skin irritation. Mouse LD= 240-250mg/kg bw, Guinea pig LD: 63 mg/kg bw. Repeated dose toxicity: Oral NOAEL: 50 mg/kg bw/day

Respiratory or skin sensitisation: Not sensitising

Germ cell mutagenicity: No genetic toxicity effects

Carcinogenicity: No carcinogenic potential

Reproductive toxicity: Sodium hypochlorite has no genotoxic potential, therefore no classification is required according to 67/548/EEC and 1272/2008/EC (CLP) requirements.

Information on Possible routes of exposure: Ingestion, Inhalation, Skin/ eye exposure.

Interactive Effects: Sodium hypochlorite reacts rapidly with the organic molecules and cellular components, forming organic chlorinated compounds which have their own toxicity (BIBRA 1990)

Eye/Irritant

Causes eye damage. Eye damage, category 1. Eye contact causes serious burns and discomfort.

Ingestion

Causes severe pain, nausea, vomiting, diarrhoea, and shock. May cause haemorrhaging of the digestive tract. May cause corrosion and permanent tissue destruction of the oesophagus and digestive tract. May be harmful if swallowed.

Inhalation

Irritant. Inhalation of sprayed solution and vapours can cause respiratory system irritation caught, difficulty of breathing, stomatitis, nausea and pulmonary edema. Classified as STOT Single Exposure 3.

Skin/Irritant

Light irritant at low concentrations. Moderate irritant at medium concentrations (>5%). Corrosive at concentration higher than 10%. Skin corrosive category 1B.

Chronic

Other

Prolonged inhalation may cause respiratory tract inflammation and lung damage. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis to serious eye damage.

Carcinogen Category

No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Toxicity

Tests demonstrate NOEC (7 days)= 0,0021 mg/L. Factor M=10.

Short-term toxicity to invertebrates (molluscs, Daphnia magna, Ceriodaphnia dubia)

- Fresh water: EC50/LC50 =0,141 mg/L

- Marine water: EC50/LC50 =0.026 mg/L

Long-term toxicity to invertebrates

- Marine water: LC100 (36days) 0,005mg/L

- NOEC for aquatic invertebrates = 0.007 mg/L

Short-term toxicity to fish

- Fresh water LC 50 =0,06 mg/l

- Marine water LC 50= 0.032 mg/l

Long-term toxicity to fish

- Marine water: NOEC= 0,04 mg CPO/L

Short-term toxicity to algae and aquatic plants: Not applicable, sodium hypochlorite decomposes rapidly.

Long-term toxicity to algae and aquatic plants

- Fresh water EC50/LC50=0,1 mg/l

- Marine water EC10/LC10 or NOEC =0,02 mg/L

PNEC (Predicted No Effect Concentration)

PNEC fresh water = Minimum long-term aquatic toxicity/10 = 0.21 µg/L



PNEC marine water = Minimum long-term aquatic toxicity /50 = 0.042 µg/L
 Toxicity to sediment micro-organisms
 There are not predicted exposures due the fact that sodium hypochlorite is destroyed quickly by oxy-reduction.
 Sodium hypochlorite can not exist in presence of organic carbon.
 PNEC=0 fresh water sediment / marine water sediment.
 Terrestrial toxicity
 Short/long -term toxicity to terrestrial invertebrates
 Substance is not absorbed in soil and is not persistent in soil. TD50<1 min, PEC/PNEC soil<1.
 Toxicity to soil micro-organisms
 Short/long term toxicity to plants
 Due the fact that PEC/PNEC for terrestrial toxicity is <1 and at contact with soil hypochlorite dissipates quickly (TD50 <1 min) there is not estimated short/long toxicity to plants. In accordance with column 2 of REACH Annexes IX and X, there is no need to further investigate the effects of the substance on plants.
 Long-term toxicity to birds
 EC10/LC10 or NOEC on long term : 200 mg/kg food

Persistence/Degradability

Biotic: The inorganic water can not be tested for biodegradability.
 Abiotic: Hypochlorite degrades quickly during the transport through sewage system.
 Photo-transforming (Photolysis)
 Atmospheric degradation: At medium pH (6, 5-8, 5) value, half of sodium hypochlorite is present as hypochlorous acid and the other half is dissociate as hypochlorite ions. In the atmosphere, hypochlorous acid degrades, generating atomic chlorine, which is destroyed by UV radiation. The half ??life is 115 days. Does not react with ozone layer.
 Photolysis in water
 Half-life for sodium hypochlorite solution, active chlorine 12-15%, at 250C is 220 days. In presence of light, the half-life decreases 3-4 times. The UV radiation decomposes the hypochlorite, generating chlorate, chlorite and oxygen:
 $3 \text{ ClO}^- \Rightarrow \text{ClO}_3^- + 2 \text{ Cl}^-$ (1)
 $2 \text{ ClO}^- \Rightarrow 2 \text{ Cl}^- + \text{O}_2$ (2)
 In water, under photolysis, sodium hypochlorite with concentration of 13-18 mg/L, has a half-life of 12 min. at pH =8 .
 This increases up to 60 min. with pH decreasing

Mobility

At medium pH (6,5-8,5) value, half of sodium hypochlorite is present as hypochlorous acid and the other half is dissociate as hypochlorite ions. The absorption of hypochlorous acid particles, the air volatilization and soil absorption are very low. Thus, hypochlorite remains in aqueous phase and degrades to chlorine.

Environmental Fate

Do NOT let product reach waterways, drains and sewers.

Bioaccumulation Potential

Hypochlorite reacts instantaneously with organic and oxidant materials. Has not potential for bioaccumulation.
 PBT/vPvB: Hypochlorite does not fulfil the PBT criteria (not PBT) and not the vPvB criteria (not vPvB).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Waste packaging should be recycled. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Special Precautions for Land Fill

Contact a specialist disposal company or the local waste regulator for advice. Incineration or landfill should only be considered when recycling is not feasible.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name

HYPOCHLORITE SOLUTION

Class

8 Corrosive Substances

Subsidiary Risk(s)

No Data Available

EPG

37 Toxic And/Or Corrosive Substances Non-Combustible

UN Number

1791



Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	HYPOCHLORITE SOLUTION
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1791
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	FA,SB
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	HYPOCHLORITE SOLUTION
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1791
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)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	6

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	231-668-3
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	SOHYCB1000, SOHYCB1001, SOHYCB2000, SOHYCC1000, SOHYCC2000, SOHYCC3000, SOHYCC3001, SOHYCC3300, SOHYCC7000, SOHYCC7100, SOHYCC9000, SOHYCC9500, SOHYCL0837, SOHYCL1000, SOHYCL1001, SOHYCL1002, SOHYCL1003, SOHYCL1004, SOHYCL1005, SOHYCL1006, SOHYCL1007, SOHYCL1008, SOHYCL1009, SOHYCL1010, SOHYCL1011, SOHYCL1012, SOHYCL1013, SOHYCL1014, SOHYCL1100, SOHYCL1200, SOHYCL1210, SOHYCL1211, SOHYCL1300, SOHYCL1400, SOHYCL1500, SOHYCL1600, SOHYCL1700, SOHYCL1800, SOHYCL1801, SOHYCL1802, SOHYCL1803, SOHYCL1804, SOHYCL1805, SOHYCL1806, SOHYCL1807, SOHYCL1808, SOHYCL1809, SOHYCL1810, SOHYCL1811, SOHYCL1812, SOHYCL1813, SOHYCL1814, SOHYCL1815, SOHYCL1816, SOHYCL1817, SOHYCL1818, SOHYCL1819, SOHYCL1820, SOHYCL1821, SOHYCL1822, SOHYCL1823, SOHYCL1824, SOHYCL1825, SOHYCL1826, SOHYCL1827, SOHYCL1828, SOHYCL1829, SOHYCL1830, SOHYCL1831, SOHYCL1832, SOHYCL1833, SOHYCL1834, SOHYCL1835, SOHYCL1836, SOHYCL1837, SOHYCL1838, SOHYCL1839, SOHYCL1840, SOHYCL1841, SOHYCL1842, SOHYCL1843, SOHYCL1844, SOHYCL1845, SOHYCL1846, SOHYCL1847, SOHYCL1848, SOHYCL1849, SOHYCL1850, SOHYCL1851, SOHYCL1852, SOHYCL1853, SOHYCL1854, SOHYCL1855, SOHYCL1856, SOHYCL1857, SOHYCL1858, SOHYCL1859, SOHYCL1860, SOHYCL1861, SOHYCL1862, SOHYCL1863, SOHYCL1864, SOHYCL1865, SOHYCL1866, SOHYCL1867, SOHYCL1868, SOHYCL1869, SOHYCL1870, SOHYCL1871, SOHYCL1872, SOHYCL1873, SOHYCL1874, SOHYCL1875, SOHYCL1876, SOHYCL1877, SOHYCL1878, SOHYCL1879, SOHYCL1880, SOHYCL1881, SOHYCL1882, SOHYCL1883, SOHYCL1884, SOHYCL1885, SOHYCL1886, SOHYCL1887, SOHYCL1888, SOHYCL1889, SOHYCL1890, SOHYCL1891, SOHYCL1892, SOHYCL1893, SOHYCL1900, SOHYCL1912, SOHYCL1932, SOHYCL1938, SOHYCL1939, SOHYCL2000, SOHYCL2012, SOHYCL2015, SOHYCL2100, SOHYCL2150, SOHYCL2200, SOHYCL2300, SOHYCL2400, SOHYCL2500, SOHYCL2600, SOHYCL2700, SOHYCL2813, SOHYCL2913, SOHYCL3000, SOHYCL3200, SOHYCL3500, SOHYCL3600, SOHYCL3601, SOHYCL3700, SOHYCL3800, SOHYCL3801, SOHYCL4000, SOHYCL4100, SOHYCL4201, SOHYCL4400, SOHYCL5000, SOHYCL6000, SOHYCL7000, SOHYCL7100, SOHYCL7200, SOHYCL7500, SOHYCL8000, SOHYCL8100, SOHYCL9000, SOHYCL9100, SOHYCL9500
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Revision	3
Revision Date	01 Aug 2016
Reason for Issue	SDS Updated
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² 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 Fahrenheit g Grams g/cm³ 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 insoluble in each other.</p>



inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ 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

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 Health 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

