Classified as hazardous

1. Identification

GHS Product Identifier	HYDROGEN PEROXIDE 20 - 50%
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001
Recommended use of the chemical and restrictions on use	Bleaching and deodorizing of wood pulp, textiles, hair and fur; source of organic and inorganic peroxides; pulp and paper industry; plasticizers; foam rubber; manufacture of glycerol; antichlor; dyeing; electroplating; antiseptic; epoxidation, hydroxylation, oxidation and reduction; viscosity control for starch and cellulose derivatives; refining and cleaning metals; bleaching and oxidizing agent in foods; seed disinfectant; neutralising agent in wine distillation; substitute for chlorine in water and sewage treatment; and laboratory reagent.

Other Names

Name	Product Code
HYDROGEN PEROXIDE 35% LR	HL001
Peroxide	
HYDROGEN PEROXIDE 35% TG	HT001
HYDROGEN PEROXIDE 30% AR	HA154
Hydrogen dioxide	
Hydroperoxide	

Other Information

EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture	Oxidizing Liquids: Category 2 Skin Corrosion/Irritation: Category 1B Acute Toxicity - Oral: Category 4 Specfic Target Organ Toxicity - Single Exposure Category 3 (respiratory tract irritation)
Signal Word (s)	DANGER
Hazard Statement (s)	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation.
Pictogram (s)	Flame over circle, Corrosion, Exclamation mark,

Precautionary statement – Prevention	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P220 Store away from combustible materials. P221 Take any precaution to avoid mixing with combustibles. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

	P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement – Response	P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. 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. P370+P378 In case of fire: Use FLOODING QUANTITIES OF WATER for extinction.
Precautionary statement – Storage	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container according to local, state and federal regulations.

3. Composition/information on ingredients

Chemical Characterization	Liquid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Water	7732-18-5	50-80 %		
Hydrogen peroxide	7722-84-1	20-50 %		

Other Information	May contain <1% stabiliser.

4. First-aid measures

First Aid Measures	Urgent hospital treatment is likely to be needed.
Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately medical attention is required.
Ingestion	Immediately give a glass of water. If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical assistance.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Seek urgent medical assistance.
Eye contact	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical assistance.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	Treat symptomatically and supportively. Attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. In the event of severe distension of the stomach or esophagus due to gas formation, insertion of a gastric tube may be required. To treat corneal damage, careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Monitor for respiratory tract irritation and hypoxia after severe inhalation exposure.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

5. Fire-fighting measures

Hazards from Combustion Products	Molecular oxygen, which can accelerate the burning of flammable materials or cause spontaneous combustion.
Specific Methods	Small fire: USE FLOODING QUANTITIES OF WATER. Do not use dry chemicals, CO2 or foam. If safe to do so, move undamaged containers from fire area. Do not move cargo if cargo has been exposed to heat. Large fire: Flood fire area with water from a protected position. Cool containers with flooding quantities of water until well after fire is out - If impossible, withdraw from area and let fire burn. Avoid getting water inside containers: a violent reaction may occur. Dam fire control water for later disposal.
Specific hazards arising from the chemical	Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.

Hazchem Code	2P
Decomposition Temp.	>= 60 °C (Self-Accelerating decomposition temperature (SADT) (> 50%)); < 60 °C (slow decomposition) (> 50%); l00 °C in 25 kg package (SADT (35%)); 80 °C in l m^3 volume (SADT (35%)).
Precautions in connection with Fire	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.
Other Information	Concentrations of 27.5% up to 52% will cause a moderate increase in the burning rate or cause spontaneous ignition of combustible materials with which it comes in contact. Concentrations of 35% and above can cause combustible materials such as wood, paper, oils and grease to burst into flames and will support, accelerate and intensify the burning of combustible materials. Large amounts of oxygen gas may be released to form an oxygen-rich atmosphere.

6. Accidental release measures

Spills & Disposal	Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to knock down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat. Dry Spill Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area. Small Liquid Spill Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a loosely-covered container for later disposal. Large Liquid Spill SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
Personal Precautions	Avoid inhalation, contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel.
Personal Protection	Use personal protective equipment listed in Section 8.

7. Handling and storage

Precautions for Safe Handling	Avoid contact with eyes, skin, and clothing. Keep container locked up and tightly sealed. Contents may develop pressure upon prolonged storage. Open carefully. Loosen caps slowly to release any pressure. Ensure good ventilation at the workplace. n case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wash thoroughly after handling. Keep away from heat, welding and all sources of ignition, even when empty. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Substance/product can reduce the ignition temperature of flammable substances. Keep combustible materials away from the area, maintain all equipment in a thoroughly clean condition. Do not use metal equipment or containers. Containers and equipment used to handle the product should be used exclusively for that product. Handling systems must exclude fittings of iron, brass, copper, Monel, and screwed joints caulked with red lead. Rinse empty drums and containers thoroughly with water before discarding.
Conditions for safe storage, including any incompatabilities	Store in tightly closed, light-resistant, vented containers, in a dark, cool, dry, well-ventilated area, away from incompatible materials such as combustible substances, reducing agents, strong bases, acids, organics, foodstuffs flammable substances, metals, and oxidizable materials. Use adequate venting devices on all packages, containers and tanks to permit release of internal pressure. Protect from physical damage, direct sunlight, moisture and contamination.
Corrosiveness	Corrosivity to Metals: Hydrogen peroxide solutions (35% and greater) are corrosive (corrosion rate greater than 1.27 mm/year) to carbon steel (types 1010 and 1020 (35-100%); 1075, 1095 and 12L14 (100%), grey cast iron, 3% nickel cast iron, ductile cast iron, the nickel base alloys, Hastelloy B and D and Monel, copper, nickel-copper alloy, brass, cartridge brass, bronze, aluminium bronze, naval bronze, silicon bronze, and lead at room temperature. Hydrogen peroxide solutions attack types 1010 and 1020 carbon steel at any concentration and temperature. One source reports that 50-90% hydrogen peroxide is corrosive to type 3003 aluminium. Hydrogen peroxide solutions (35% and greater) are not corrosive (corrosion rate less than 0.5 mm/year) to stainless steel (e.g. types 303, 304, 316, 17-4PH, 400 series, Carpenter 20Cb-3), aluminium (99.5%), certain aluminium alloys (types 1060, 5052, 6063 and aluminium-magnesium alloys), nickel (100% solution), the nickel-base alloys, Hastelloy C and Inconel, tantalum, titanium and zirconium. Both stainless steel and aluminium surfaces must be passivated (formation of a protective film by chemical treatment) before use. May attack or ignite some forms of plastics, rubber, or coatings.

Storage Regulations	Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'. Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.
Recommended Materials	Aluminium 99.5 %; stainless steel 304L/316L; glass; approved grades of HDPE.

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL mg/m3	STEL ppm	TWA mg/m3	TWA ppm	Footnote
Hydrogen peroxide			1.4	1	

Other Exposure Information	A time weighted average (TWA) has been established for Hydrogen peroxide (Safe Work Australia) of 1.4 mg/m^3, (1 ppm). 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. IDLH Value: 75 ppm (NIOSH).
Appropriate engineering controls	Provide sufficient ventilation to ensure that the working environment is below the TWA (time weighted average). Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. Refer to AS 1940-The storage and handling of flammable and combustible liquids and AS 2430-Explosive gas atmospheres for further information concerning ventilation requirements.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: Vinyl gloves. Fair: NR latex. Poor: Neoprene or nitrile rubber gloves.
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean clothing or protective clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals. Recommendation: PVC apron.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear, colourless liquid.
Odour	Odourless to slightly acrid odour, resembling that of ozone.
Decomposition Temperature	>= 60 °C (Self-Accelerating decomposition temperature (SADT) (> 50%)); < 60 °C (slow decomposition) (> 50%); l00 °C in 25 kg package (SADT (35%)); 80 °C in l m^3 volume (SADT (35%)).
Melting Point	-14.6 ºC (20%); -25.7 °C (30%); -33 ºC (35%); -41 °C (40 %); -52.2 °C (50%).
Boiling Point	103.6 ºC (20%); 106.2 ºC (30%); 108 °C at 1013 hPa (decomposes) (35 %); 110 °C (40 %); 114 °C at 1013 hPa (decomposes) (50%).
Solubility in Water	Miscible in all proportions.
Solubility in Organic Solvents	Soluble in all proportions in many polar solvents, e.g. low molecular weight alcohols, glycols and ketones; insoluble in petroleum ether (>20%). (Note: Concentrated hydrogen peroxide solutions can react explosively with these solvents.) Soluble in diethyl ether (>50%).
Specific Gravity	1.07 @ 20 ºC/4 ºC (20%); 1.11 @ 20 ºC/4 ºC (31%); 1.132 at 20 °C (35 %); 1.15 (40 %); 1.195 at 20 °C (50 %).
pH	3.3 (30 %); 4.6 (35 %), 4.3 (50 %) (Note: The pH of commercial solutions can be affected by the type and amount of stabilizers added, and many times the pH is purposely adjusted to a grade specification range).

Vapour Pressure	Partial vapour pressure = ca. 0.48 hPa at 30 °C (H202), Total vapour pressure = 30.70 hPa (water + H202) (35 %); Partial vapour pressure = ca. 0.99 hPa at 30 °C (H202), Total vapour pressure = 24.00 hPa (water + H202) (50 %).
Vapour Density (Air=1)	1.17 (30 %); 1 (50 %).
Volatile Component	100 %vol @ 21 °C
Partition Coefficient: n-octanol/water	Log P(oct) = -0.70 to -1.33 (estimated); - 1.1 (30%).
Surface Tension	75.6 mN/m (75.6 dynes/cm) at 20 °C (50%).
Flammability	Not combustible, but concentrated material is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Liberates oxygen - sustains fires.
Explosion Properties	Explosive decomposition may occur under fire conditions. Contact with combustible materials may cause explosion. Can react violently or explosively with many chemicals. Some substances that do not normally burn in air will explode upon contact with hydrogen peroxide. May form explosive peroxides. Closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time, or if contaminated with certain metals or dirt.
Molecular Weight	34.01 (H2O2)
Oxidising Properties	Oxidizing
Kinematic Viscosity	0.98 mm^2/s (0.98 centistokes) at 20 °C (35% or 50%).
Dynamic Viscosity	1.11 mPa.s (1.11 centipoise) (35%); 1.17 mPa.s at 20 °C (50%).
Saturated Vapour Concentration	500 ppm at 30 °C (35%); 500 ppm (50%).
Other Information	Conversion Factor: 1 ppm = 1.39 mg/m^3; 1 mg/m^3 = 0.72 ppm at 25 °C (calculated) (20-35%). Critical Temperature: 457 °C (100%). Critical Pressure: 20990 kPa (207 atm.) (100%). Dipole moment: 2.26 D. Acidity: Weak acid; pKa = 11.75 at 20 °C (Ka = 1.78 x 10(-12) at 20 °C) (>20 %). Taste: Slight acid. Bitter. Dissociation Constants: pKa = 11.75. Henry's Law = 7.04 x 10-9 atm m^3/mol @ 25 °C. Index of refraction: 1.4061 @ 28 °C.

10. Stability and reactivity

Chemical Stability	Stable under recommended storage conditions. It may contain a stabilizer; product usually stabilized by addition of acetanilide or similar organic materials. Solutions of hydrogen peroxide gradually deteriorate, even when stabilized (relatively stable sample of hydrogen peroxide typically decomposes at the rate of about 0.5%/year at room temperature) to release molecular oxygen, water and heat. Unstable upon standing or upon repeated agitation, undergoes accelerated decomposition when exposed to light or when in contact with rough surfaces, many oxidizing or reducing substances or contaminated with heavy metals, rust, or dirt, and decomposes suddenly with alkalies, finely divided metals or when heated. Stability is reduced when pH is above 4.0 (the optimum pH is 3.5-4.5); the presence mineral acids of renders it more stable.
Conditions to Avoid	Organic materials plus mechanical shock, light, ignition sources, dust generation, heat, combustible materials, reducing agents, alkaline materials, strong oxidants, rust, dust, pH > 4.0, contamination, depletion of stabilizers, lack of vents and incompatible materials.
Incompatible Materials	Nitric acid (more than 50%) or sulfuric acid, strong bases (e.g potassium hydroxide or sodium hydroxide), metals (powdered or metal surfaces, e.g. osmium, palladium, platinum, iridium, gold, silver, manganese, cobalt, copper, lead, potassium, sodium, lithium, iron, brass, bronze, chromium, zinc, nickel, magnesium), metal oxides (e.g. cobalt oxide, iron oxide, lead oxide, lead hydroxide, manganese oxide), metal sulfides, metal salts (e.g. calcium permanganate, salts of iron, copper, chromium, vanadium, tungsten, molybdeum, and platinum), or iodates, reducing agents (e.g. metal hydrides), organic materials (e.g. carboxylic acids and anhydrides, nitrogen-containing bases, aldehydes, ketones, ethers (dioxane, furfuran, tetrahydrofuran), soluble fuels (acetone, alcohol, glycerol), charcoal, organic dust), flammable materials, combustible materials (e.g. wood, paper, cellulose, textiles, oil, grease), strong oxidizing agents (e.g. potassium permanganate), hydrazine, sodium carbonate, cyanides (e.g. potassium cyanide, sodium cyanide), urea, triethylamine, sodium borate, aniline, cyclopentadiene, glycerine, asbestos, mercurous chloride, sodium pyrophosphate, hexavalent chromium compounds, sodium fluoride, chlorosulfonic acid, hydrogen selenide, some forms of plastics, rubber, or coatings.

Hazardous Decomposition Products	Oxygen, the release of other hazardous decomposition products is possible, hydrogen gas, water, heat, steam. Decomposition continuously occurs even at a slow rate when the compound is inhibited.
Possibility of hazardous reactions	Hydrogen peroxide solutions (30% or greater) are strong oxidizing agents capable of reacting explosively with many substances. The degree of hazard associated with hydrogen peroxide depends on concentration. Some organic compounds react with hydrogen peroxide to form unstable peroxides. Contact with combustible materials (e.g. wood, paper, textiles, oil, grease) may cause spontaneous fire or explosion. Drying of concentrated hydrogen peroxide on clothing or other combustible materials may cause fire. Reaction with strong bases (e.g. potassium hydroxide or sodium hydroxide) may be violently explosive. Mixtures with 35% and above hydrogen peroxide with nitric acid (more than 50%) or sulfuric acid can explode violently. Contact with organic compounds (e.g. carboxylic acids and anhydrides, nitrogen-containing bases, aldehydes, ketones, ethers, alcohols, charcoal, organic dust) may result in spontaneous combustion, violent decomposition and/or explosion. Contact with metals (powdered or metal surfaces), metal oxides, metal sulfides, metal salts, or iodates may cause violent decomposition. Reaction with reducing agents (e.g. metal hydrides) may be violent. May attack or ignite some forms of plastics, rubber, or coatings. Very concentrated hydrogen peroxide may react explosively when in contact with potassium permanganate. Soluble fuels (acetone, ethanol, glycerol) will detonate on admixture with peroxide of over 30% concentration, the violence increasing with concentration.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Ingestion	Harmful if swallowed. Ingestion of concentrated solutions (greater than 20%) causes irritation of the gastrointestinal and respiratory tract, with sharp pains in the abdominal pain, nausea, vomiting, hypermotility and diarrhoea, and may cause corrosive injury to the mouth and throat, difficulty in swallowing, foaming at the mouth, oedema (bleeding) of the throat with obstruction of air passages, stomach distension (due to rapid liberation of oxygen), and perforation of the oesophagus and stomach, with bleeding of the stomach and ulcer formation, belching, peritonitis, convulsions, pulmonary oedema, coma, spastic paralysis with or without sensory change, haemorrhage and damage to the red blood cells, temporary unconsciousness and fever, possible cerebral swelling (fluid on the brain), and death. Ingestion is not a typical route of occupational exposure.
Inhalation	Harmful if inhaled. Hydrogen peroxide does not readily form a vapour at room temperature. If heated or misted, inhalation of vapours or mist is highly irritating to the nose, throat, lungs, and respiratory tract, and may burn the mucous membrane of the nose and throat, causing ulceration of nasal tissue, and respiratory effects such as throat pain, inflammation, lacrimation, coughing, wheezing, laryngitis, shortness of breath, nausea and vomiting. May affect behaviour/central nervous system (insomnia, headache, ataxia, nervous tremors with numb extremities) and blood (cyanosis) and cause chemical pneumonia. In severe cases, respiratory effects may include acute lung damage, bronchitis, delayed pulmonary oedema (fluid in lungs), unconsciousness and death.
Skin	Hydrogen peroxide solutions of 20% to 35% are very mild skin irritants, while solutions of 50% are severely irritating and corrosive respectively, based on animal information. Corrosive materials are capable of producing severe burns, blisters, ulcers and permanent scarring, depending on the concentration of the solution and the duration of contact. May cause discolouration, erythema (redness), swelling of tissue, and pain. Transient whitening or bleaching of the skin has been observed in humans following contact with dilute solutions. Solutions over 30% may easily cause papules and vesicles (blisters). A limited human study showed a severe reaction to 35% that healed completely. Prolonged contact (e.g. 24-hours) can cause moderate to severe irritation and possible moderate to severe burns. Non-permeator into skin.
Eye	Contact with solutions of 20% and greater is irritating and corrosive to eyes, based on animal information. Can cause severe eye burns, and permanent eye lesions, including corneal damage and blindness, depending on the concentration of the solutions and duration of contact. Symptoms include pain, redness, blurred vision, superficial clouding, lacrimation, swelling of the eyelids and corneal oedema. Vapour may cause irritation. No human information was located for hydrogen peroxide solutions of 20% and greater.
Carcinogenicity	Hydrogen peroxide [7722-84-1] is evaluated in the IARC Monographs (Vol. 36, Suppl. 7, Vol. 71; 1999) as Group 3: Not classifiable as to carcinogenicity to humans.
Chronic Effects	Repeated or prolonged exposure to spray mist may produce throat and respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated or prolonged exposure may produce sore throat, and nose bleeds. Prolonged ingestion causes damage to the gastrointestinal tract. May cause damage to the central nervous system (CNS), and blood. Repeated use of hydrogen peroxide topical solution as a mouthwash or gargle may produce a condition known as 'hairy tongue' or may cause irritation of the

	buccal mucous membrane. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Prolonged or repeated skin contact may cause dermatitis. Prolonged or intense skin contact or splashes in the eyes may cause corneal damage and severe injury. Chronic exposure to vapour produces eye irritation and gradual bleaching of their hair.
Mutagenicity	It is not possible to conclude that hydrogen peroxide is mutagenic. Positive results have been obtained in cultured humans cells. Negative results have been obtained in relevant studies using live animals. Positive results have been obtained in short-term mutagenicity tests.

12. Ecological information

Ecological Information	No ecological problems are to be expected when the product is handled and used with due care and attention.
Ecotoxicity	When used properly, no impairments in the function of waste-water-treatment plants are to be expected. Toxic for aquatic organisms. In high concentrations: Toxic effect on fish and plankton.
Persistence and degradability	Readily biodegradable. Decomposition products: water and oxygen. Abiotic degradation: - Air, indirect photo-oxidation, t 1/2 from 16 - 20 h, sensitizer: OH radicals; - water, redox reaction, t 1/2 from 25 - 100 h, mineral and enzymatic catalysis, fresh water; - water, redox reaction, t l/2 from 50 - 70 h, mineral and enzymatic catalysis, salt water; - Soil, redox reaction, t l/2 from 0.05 - 15 h, mineral catalysis. Biodegradation: - aerobic, t l/2 < 2 min, biological treatment sludge, Remarks: Readily biodegradable; - aerobic, t l/2 from 0.3 - 5 d, fresh water, Remarks: Readily biodegradable; - anaerobic, Remarks: not applicable.
Mobility	- Air, Volatility, Henry's law constant (H) = 1 Pa.m^3/mol @ 20 °C, Remarks: not significant. - Air, condensation on contact with water droplets, Remarks. rain washout; - water, Remarks: The product evaporates slowly; - Soil/sediments, Remarks: non-significant evaporation and adsorption.
Bioaccumulative Potential	H202 does not accumulate in cells of living organisms.
Other Precautions	Wear protective clothing made of chloroprene rubber, polyvinyl chloride, polyethylene etc. Keep combustible materials away from the area, maintain all equipment in a thoroughly clean condition. To avoid contamination do not return any unused peroxide to the container. Keep away from glycerin, hydrazine, alcohol, carbon, oil and resins
Acute Toxicity - Fish	C. carpio LC50: 42 mg/l /48 h; Pimephales promelas, LC50: 16.4 mg/l /96 h.
Acute Toxicity - Daphnia	Daphnia magna EC50: 7.7 mg/l /24 h.
Acute Toxicity - Algae	Chlorella vulgaris IC50: 2.5 mg/l /72 h.
Acute Toxicity - Other Organisms	Crustaceans, EC50: 2.4 mg/l /48 h.
Sewage Treatment	Effects on waste water treatment plants, Inhibitor > 30 mg/l, Remarks: inhibitory action.

13. Disposal considerations

Disposal Considerations	Dispose of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous Goods of Class 5.1 Oxidising Agents are incompatible in a placard load with any of the following: - Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and combustible liquids.
U.N. Number	2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1
Sub.Risk	8
Hazchem Code	2P
Packaging Method	3.8.5.1RT7,RT8

Packing Group	II
EPG Number	5.1.005
IERG Number	31

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	S6
Hazard Category	Harmful,Corrosive,Oxidising

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons No. 15', Commonwealth of Australia, November 2016. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	H_2O_2

...End Of MSDS...