

Infosafe No™ 3CHGU	Issue Date :August 2019	RE-ISSUED by CHEMSUPP
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Product Name **HYDROGEN PEROXIDE 35 - <50%**

Classified as hazardous

## 1. Identification

**GHS Product Identifier** HYDROGEN PEROXIDE 35 - <50%

**Company Name** CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)

**Address** 38 - 50 Bedford Street GILLMAN  
SA 5013 Australia

**Telephone/Fax Number** Tel: (08) 8440-2000

**Emergency phone number** CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

**E-mail Address** www.chemsupply.com.au

**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.

<b>Other Names</b>	<u><b>Name</b></u>	<u><b>Product Code</b></u>
	HYDROGEN PEROXIDE 30% AR	HA154
	HYDROGEN PEROXIDE 35% LR Peroxide	HL001
	HYDROGEN PEROXIDE 35% TG Hydrogen dioxide	HT001
	Hydroperoxide	
	AG Spray 35% Hydrogen Peroxide Aseptic Packaging Grade	VP032

### Other Information

ChemSupply Australia 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 ChemSupply Australia 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 ChemSupply Australia 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** Acute Toxicity - Oral: Category 4  
Skin Corrosion/Irritation: Category 2  
Eye Damage/Irritation: Category 1  
Specific Target Organ Toxicity - Single Exposure Category 3 (respiratory tract irritation)

**Signal Word (s)** DANGER

**Hazard Statement (s)** H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

**Pictogram (s)** Corrosion, Exclamation mark,

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**Precautionary statement – Prevention**

P261 Avoid breathing 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+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
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.

**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

Ingredients	Name	CAS	Proportion
	Water	7732-18-5	50-65 %
	Hydrogen peroxide	7722-84-1	35-<50 %
<b>Other Information</b>	May contain <1% stabiliser.		

### 4. First-aid measures

<b>Inhalation</b>	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.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
<b>Skin</b>	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
<b>Eye contact</b>	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.
<b>First Aid Facilities</b>	Maintain eyewash fountain and drench facilities in work area.
<b>Advice to Doctor</b>	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.
<b>Other Information</b>	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

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<b>Hazards from Combustion Products</b>	Molecular oxygen, which can accelerate the burning of flammable materials or cause spontaneous combustion.
<b>Specific Methods</b>	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.
<b>Specific hazards arising from the chemical</b>	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.
<b>Hazchem Code</b>	2P
<b>Decomposition Temp.</b>	>= 60 °C (Self-Accelerating decomposition temperature (SADT) (> 50%)); < 60 °C (slow decomposition) (> 50%); 100 °C in 25 kg package (SADT (35%)); 80 °C in 1 m <sup>3</sup> volume (SADT (35%)).
<b>Precautions in connection with Fire</b>	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.
<b>Other Information</b>	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

<b>Spills &amp; Disposal</b>	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.
<b>Personal Precautions</b>	Avoid inhalation, contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel.
<b>Personal Protection</b>	Use personal protective equipment listed in Section 8.

## 7. Handling and storage

<b>Precautions for Safe Handling</b>	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. In 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
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<b>Conditions for safe storage, including any incompatibilities</b>	lead. Rinse empty drums and containers thoroughly with water before discarding. 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.
<b>Corrosiveness</b>	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.
<b>Storage Regulations</b>	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'.
<b>Recommended Materials</b>	Aluminium 99.5 %; stainless steel 304L/316L; glass; approved grades of HDPE.

## 8. Exposure controls/personal protection

Occupational exposure limit values	<u>Name</u>	STEL		TWA		<u>Footnote</u>
		<u>mg/m3</u>	<u>ppm</u>	<u>mg/m3</u>	<u>ppm</u>	
	Hydrogen peroxide			1.4	1	
<b>Other Exposure Information</b>	These Workplace 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 workplace 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. A time weighted average (TWA) has been established for Hydrogen peroxide (Safe Work Australia) of 1.4 mg/m <sup>3</sup> , (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).					
<b>Appropriate engineering controls</b>	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.					
<b>Respiratory Protection</b>	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.					
<b>Eye Protection</b>	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.					

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<b>Hand Protection</b>	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.
<b>Personal Protective Equipment</b>	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
<b>Body Protection</b>	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.
<b>Hygiene Measures</b>	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

<b>Form</b>	Liquid
<b>Appearance</b>	Clear, colourless liquid.
<b>Odour</b>	Odourless to slightly acrid odour, resembling that of ozone.
<b>Decomposition Temperature</b>	>= 60 °C (Self-Accelerating decomposition temperature (SADT) (> 50%)); < 60 °C (slow decomposition) (> 50%); 100 °C in 25 kg package (SADT (35%)); 80 °C in 1 m <sup>3</sup> volume (SADT (35%)).
<b>Melting Point</b>	-14.6 °C (20%); -25.7 °C (30%); -33 °C (35%); -41 °C (40 %); -52.2 °C (50%).
<b>Boiling Point</b>	103.6 °C (20%); 106.2 °C (30%); 108 °C at 1013 hPa (decomposes) (35 %); 110 °C (40 %); 114 °C at 1013 hPa (decomposes) (50%).
<b>Solubility in Water</b>	Miscible in all proportions.
<b>Solubility in Organic Solvents</b>	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%).
<b>Specific Gravity</b>	1.07 @ 20 °C/4 °C (20%); 1.11 @ 20 °C/4 °C (31%); 1.132 at 20 °C (35 %); 1.15 (40 %); 1.195 at 20 °C (50 %).
<b>pH</b>	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).
<b>Vapour Pressure</b>	Partial vapour pressure = ca. 0.48 hPa at 30 °C (H2O2), Total vapour pressure = 30.70 hPa (water + H2O2) (35 %); Partial vapour pressure = ca. 0.99 hPa at 30 °C (H2O2), Total vapour pressure = 24.00 hPa (water + H2O2) (50 %).
<b>Vapour Density (Air=1)</b>	1.17 (30 %); 1 (50 %).
<b>Volatile Component</b>	100 %vol @ 21 °C
<b>Partition Coefficient: n-octanol/water</b>	Log P(oct) = -0.70 to -1.33 (estimated); - 1.1 (30%).
<b>Surface Tension</b>	75.6 mN/m (75.6 dynes/cm) at 20 °C (50%).
<b>Flammability</b>	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.
<b>Explosion Properties</b>	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.

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<b>Molecular Weight</b>	34.01 (H2O2)
<b>Oxidising Properties</b>	Oxidizing
<b>Kinematic Viscosity</b>	0.98 mm <sup>2</sup> /s (0.98 centistokes) at 20 °C (35% or 50%).
<b>Dynamic Viscosity</b>	1.11 mPa.s (1.11 centipoise) (35%); 1.17 mPa.s at 20 °C (50%).
<b>Saturated Vapour Concentration</b>	500 ppm at 30 °C (35%); 500 ppm (50%).
<b>Other Information</b>	Conversion Factor: 1 ppm = 1.39 mg/m <sup>3</sup> ; 1 mg/m <sup>3</sup> = 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 <sup>-12</sup> at 20 °C) (>20 %). Taste: Slight acid. Bitter. Dissociation Constants: pKa = 11.75. Henry's Law = 7.04 x 10 <sup>-9</sup> atm m <sup>3</sup> /mol @ 25 °C. Index of refraction: 1.4061 @ 28 °C.

## 10. Stability and reactivity

<b>Chemical Stability</b>	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.
<b>Conditions to Avoid</b>	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.
<b>Incompatible Materials</b>	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.
<b>Hazardous Decomposition Products</b>	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.
<b>Possibility of hazardous reactions</b>	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

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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.

Will not occur.

**Hazardous  
Polymerization**

## 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.

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<b>Chronic Effects</b>	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.
<b>Mutagenicity</b>	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

<b>Ecological Information</b>	No ecological problems are to be expected when the product is handled and used with due care and attention.
<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	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 1/2 from 50 - 70 h, mineral and enzymatic catalysis, salt water; - Soil, redox reaction, t 1/2 from 0.05 - 15 h, mineral catalysis. Biodegradation: - aerobic, t 1/2 < 2 min, biological treatment sludge, Remarks: Readily biodegradable; - aerobic, t 1/2 from 0.3 - 5 d, fresh water, Remarks: Readily biodegradable; - anaerobic, Remarks: not applicable.
<b>Mobility</b>	- Air, Volatility, Henry's law constant (H) = 1 Pa.m <sup>3</sup> /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.
<b>Bioaccumulative Potential</b>	H2O2 does not accumulate in cells of living organisms.
<b>Other Precautions</b>	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
<b>Acute Toxicity - Fish</b>	C. carpio LC50: 42 mg/l /48 h; Pimephales promelas, LC50: 16.4 mg/l /96 h.
<b>Acute Toxicity - Daphnia</b>	Daphnia magna EC50: 7.7 mg/l /24 h.
<b>Acute Toxicity - Algae</b>	Chlorella vulgaris IC50: 2.5 mg/l /72 h.
<b>Acute Toxicity - Other Organisms</b>	Crustaceans, EC50: 2.4 mg/l /48 h.
<b>Sewage Treatment</b>	Effects on waste water treatment plants, Inhibitor > 30 mg/l, Remarks: inhibitory action.

## 13. Disposal considerations



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Classified as hazardous

**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

**Packing Group** II

**EPG Number** 5.1.005

**IERG Number** 31

**Environmental Hazards** Toxic for aquatic organisms. In high concentrations: Toxic effect on fish and plankton. No ecological problems, or impairments in the function of waste-water-treatment plants are to be expected when the product is handled and used with due care and attention.

## 15. Regulatory information

**Regulatory Information** Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

**Poisons Schedule** S6

## 16. Other Information

**Literature References** 'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia.  
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'  
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'.  
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand.  
Safe Work Australia, 'Hazardous Chemical Information System'.  
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'.  
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.

**Contact Person/Point** Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**  
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**Empirical Formula & Structural Formula** H2O2

...End Of MSDS...

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Product Name **HYDROGEN PEROXIDE 35 - <50%**

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