


## 1. Identification

Product identifier	Hydrogen Peroxide 50%	
Recommended use of the chemical and restrictions on use	The principal use is as an oxidant in bleaching paper pulp, cotton/synthetic blends, and wool fabrics. Used in wastewater and sewage treatment plants to reduce sulphide corrosion and odours and to supply supplemental dissolved oxygen.	
Details of manufacturer or importer	Company Name	Chemwell Pty Ltd ABN 94 155 544 040
	Address	3 Clive St, Springvale, VIC, 3171
	Phone	03 9558 5678
	Email	<a href="mailto:chemwell@chemwell.com.au">chemwell@chemwell.com.au</a>
	Website	<a href="http://www.chemwell.com.au">www.chemwell.com.au</a>
Emergency phone number	Police, Fire & Ambulance	000
	Poisons Information Centre	13 11 26

## 2. Hazard(s) Identification

This material is hazardous according to criteria of Safe Work Australia.

Considered as a 'Dangerous Good' by the Australian Code for transport of Dangerous Goods by Road and Rail.

Classification of the hazardous chemical	Acute Toxicity, Inhalation 4 Acute Toxicity, Oral 4 Corrosive to metals 1 Eye Damage/Irritation 1 Skin Corrosion/Irritation 1
Hazard symbols	
Signal word(s)	Danger
Hazard statement(s)	H290 - May be corrosive to metals H302 - Harmful if swallowed H314 - Causes severe skin burns and eye damage H332 - Harmful if inhaled

Precautionary statement(s)	Prevention	<p>P234 - Keep only in original container.</p> <p>P260 - Do not breathe dust/fumes/gas/mist/vapours/spray.</p> <p>P264 - Wash thoroughly after handling.</p> <p>P280 - Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P261 - Avoid breathing dust/fumes/gas/mist/vapours/spray.</p> <p>P271 - Use only outdoors or in a well-ventilated area.</p> <p>P270 - Do not eat, drink or smoke when using this product.</p>
	Response	<p>P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.</p> <p>P330 - Rinse mouth.</p> <p>P304+340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P312 - Call a POISON CENTER or doctor if you feel unwell.</p> <p>P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P303+361+353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.</p> <p>P363 - Wash contaminated clothing before reuse.</p> <p>P310 - Immediately call a POISON CENTER or doctor.</p> <p>P321 - Specific treatment (see ... on this label).</p> <p>P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p>
	Storage	<p>P405 - Store locked up.</p> <p>P406 - Store in a corrosive resistant container with a resistant inner liner.</p>
	Disposal	<p>P501 - Dispose of contents/container to in accordance with local regulation.</p>

### 3. Composition and Information on Ingredients

Name	Proportion
Hydrogen Peroxide 50%	>60%

Disclosure of ingredients is only required if an ingredient causes the classification of the chemical to include a hazard class and hazard category in the following list:

- Acute toxicity (oral, dermal and inhalation) – Category 1 to 4
- Respiratory sensitiser – Category 1
- Skin sensitiser – Category 1
- Mutagenicity – Category 1 or 2
- Carcinogenicity – Category 1 or 2
- Toxic to reproduction – Category 1 or 2

- Target organ toxicity (single exposure) – Category 1 or 2
- Target organ toxicity (repeat exposure) – Category 1 or 2
- Aspiration hazards – Category 1
- Skin corrosion or irritation – Category 1 or 2
- Serious eye damage or eye irritation – Category 1 or 2A

#### 4. First Aid Measures

Swallowed	Immediately rinse mouth out thoroughly with water and give water to drink. DO NOT induce vomiting. Seek medical advice.
Eye	Immediately irrigate eyes with large amounts of water for at least 15 minutes with eyelids held open. Take care not to rinse contaminated water into the non-affected eye. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. Seek medical advice.
Skin	Immediately wash affected area with large amounts of water. Remove any contaminated clothing and wash before re-use. Seek medical advice if pain or irritation persists.
Inhaled	For all but minor symptoms seek medical advice. Not considered a normal feature of use.
First Aid Facilities	Standard first aid facilities.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.

#### 5. Fire Fighting Measures

Suitable extinguishing equipment	Use water spray, alcohol-resistant foam, dry agent (carbon dioxide, dry chemical powder).
Specific hazards arising from the chemical	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Hazardous products of combustion for each ingredient are: Ingredient 0) Involved in fire, it may decompose yielding oxygen.
Special protective equipment and precautions for fire fighters	Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant section.  Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

	HazChem (EAC): 2RE
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## 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	<p>Personnel involved in the clean-up should wear protective clothing as listed in section 8. Use clean, non-sparking tools and equipment. Avoid breathing vapours and contact with skin and eyes. Remove contaminated clothing and wash before reuse.</p> <p>Eliminate all sources of ignition. Increase ventilation.</p> <p>Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. Clean up all spills immediately. Clear area of all unnecessary personnel.</p>
Environmental precautions	<p>Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.</p>
Methods and materials for containment and cleaning up	<p>Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. This may involve tipping container on its side. Clean up all spills immediately. Clear area of all unnecessary personnel. If safe to do so repack leaking container into new container.</p> <p>Place inert, absorbent, non-combustible material onto spillage. Wipe up. Place in a suitable, labelled container for waste disposal.</p>

## 7. Handling and Storage

Handling	<p>Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Check Section 8 for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the counteracting workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.</p>
Storage	<p>Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Containers should be protected against any form of physical damage indeterminate goodness wellbeing always. Have appropriate fire extinguishers available in and near storage area. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10.</p>

## 8. Exposure Controls and Personal Protection

Exposure standards	No value assigned for this specific material by Safe Work Australia. However, Exposure Standard(s) for ingredient(s) are:  Ingredient 0) No Data Available
Biological limits	Biological limits for ingredient(s) are:  Ingredient 0) No information available on biological limit values for this product.
Engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protective equipment (PPE)	Safety glasses with side shields. Chemical protective gloves.

## 9. Physical and Chemical Properties

Appearance (physical state, colour etc.)	Clear liquid
Odour	Slightly pungent
Odour threshold	Not specified
pH	1-3
Melting point/freezing point	-52oC
Initial boiling point and boiling range	114oC
Flash point	Not specified
Evaporation rate	Not specified
Flammability (solid, gas)	Not specified
Upper/lower flammability or explosive limits	Not specified
Rejonasus Factor	Not specified
Vapour pressure	2400Pa (30oC) torr (@ 20oC)
Vapour density	Not specified

Relative density	1.196
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not specified
Auto-ignition temperature	Not specified
Decomposition temperature	Not specified
Viscosity	Not specified

## 10. Stability and Reactivity

Reactivity	Will react with compounds that contain sodium hypochlorite/bleach to create toxic gas.  Reacts exothermically with alkalis.
Chemical stability	Stable under normal ambient storage and handling conditions.
Possibility of hazardous reactions	No data available.
Conditions to avoid	Sun rays, heat, heat effect.
Incompatible materials	Impurities, decomposition catalysts, metals, metallic salts, alkalis, hydrochloric acid, reducing agents., (Risk of decomposition.). Flammable substances (Danger of fire). Organic solvents: Mixtures with organic materials (e.g. solvents) can display explosive properties. Decomposition products Under conditions of thermal decomposition: steam, oxygen.
Hazardous decomposition products	Release of oxygen may support combustion.

## 11. Toxicological Information

Acute Toxicity, Dermal	Not Applicable
Acute Toxicity, Dusts And Mists	Not Applicable
Acute Toxicity, Gases	Not Applicable
Acute Toxicity, Inhalation	Category 4
Acute Toxicity, Oral	Category 4
Acute Toxicity, Vapours	Not Applicable
Skin Corrosion/Irritation	Category 1
Eye Damage/Irritation	Category 1

Respiratory Sensitization	Not Applicable
Skin Sensitization	Not Applicable
Germ Cell Mutagens	Not Applicable
Carcinogenicity	Not Applicable
Reproductive Toxicity	Not Applicable
Specific Target Organ Toxicity RE	Not Applicable
Specific Target Organ Toxicity SE	Not Applicable
Aspiration Hazard	Not Applicable

### Toxicological Information for Hydrogen Peroxide 50%

#### General Information

dermal (rat) LD50: 3000-5480 mg/kg

Inhalation (rat) LC50: 2 mg/L/4H

Oral (rat) LD50: 75 mg/kg

Acute inhalation toxicity: LC50 rat: > 0.17 mg/l / 4 h. Method: literature. Test substance: hydrogen peroxide, 50%.

The maximum dose attainable under experimental conditions no fatalities.

Acute dermal toxicity: LD50 rabbit: > 6500 mg/kg. Method: literature. Test substance: Hydrogen peroxide 70%.

Skin irritation rabbit: Slightly irritating. Method: literature

Eye irritation rabbit: Corrosive. Method: literature

Sensitization guinea pig: Not sensitising. Method: literature

Repeated dose toxicity:

Mouse(female): Testing period: 90 d. Subsequent observation period: 6 weeks.

Target organ/effect: Changes of parameters of the blood, body weight development negative.

Irritative effect: Gastrointestinal tract. Method: OECD TG 408. Drinking water analysis.

Mouse(male): Testing period: 90 d. Subsequent observation period: 6 weeks.

Target organ/effect: Changes of parameters of the blood, body weight development negative.

Irritative effect: Gastrointestinal tract. Method: OECD TG 408. Drinking water analysis

Gentoxicity in vitro

Microorganisms, cell cultures. Mutagenic/genotoxic effects. Method: literature. In the presence of metabolic systems

no mutagenic effects were observed.

Gentoxicity in vivo

Micronucleus test mouse intraperitoneal (i.p.: Negative. Method: OECD TG 474

Micronucleus test mouse Oral: Negative. Method: literature

Unscheduled DNA synthesis -test (UDS) rat: Negative. Method: literature

### Carcinogenicity assessment

Clues to possible carcinogenic effects in animal experiments: Up to date there is no evidence of increased tumour risk.

Hydrogen peroxide is not a carcinogenic substance according to MAK, IARC, NTP, OSHA, ACGIH.

### **Eyelrritant**

Hydrogen peroxide concentrations above 10% are corrosive to the eye and may cause corneal ulceration even days after exposure. The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.

### **Ingestion**

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram

may be fatal or may produce serious damage to the health of the individual.

Hydrogen peroxide may cause blistering and bleeding from the throat and stomach. When swallowed, it may release

large quantities of oxygen which could hyper-distend the stomach and gut and may

cause internal bleeding, mouth and throat burns and rupture of the gut. There may also be fever, nausea, foaming at

the mouth, vomiting, chest and stomach pain, loss of consciousness,

and movement disorders and death. Large amounts can also cause cessation of breath,

dizziness, headache, tremors weakness or numbness in the extremities and convulsions. Hydrogen peroxide concentrate is corrosive and must not be taken undiluted.

The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.

### **Inhalation**

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

Inhalation of quantities of liquid mist may be extremely hazardous, even lethal

due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.

Inhaling excessive levels of mist may result in headache, dizziness, vomiting, diarrhoea, irritability, sleeplessness and fluid in the lungs, and cause extreme

irritation of the nose and chest, cough, discomfort, shortness of breath and inflammation of the nose and throat.

Whole-body effects of hydrogen peroxide

poisoning include tremor, numbness of the limbs, convulsions, coma and shock. Hydrogen peroxide has poor warning properties

### **SkinIrritant**

Skin contact will result in rapid drying, bleaching, leading to chemical burns on prolonged contact



Reactions may not occur on exposure but response may be delayed with symptoms only appearing many hours later. Open cuts, abraded or irritated skin should not be exposed to this material

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material can produce chemical burns following direct contact with the skin.

### **Chronic**

#### **Other**

Hydrogen peroxide as a human food additive is generally regarded as safe when used in certain limitations. In experimental animals, oral administration of hydrogen peroxide causes dental, liver, kidney, stomach, and intestinal damage. Inhalation exposure to hydrogen peroxide caused skin irritation and sneezing in dogs, and high mortality in mice.

Hydrogen peroxide added to food is affirmed to be generally regarded as safe (GRAS) by the U.S. FDA when used to treat certain foods in specified limitations [FDA 21 CFR 184.1366 (4/1/93)].

Hydrogen peroxide may be used as a component of articles for use in packaging, handling, transporting, or holding food in accordance with prescribed conditions [FDA 21 CFR 175.105 (4/1/93)].

Dose-related growth retardation, induction of dental caries, and pathological changes in the periodontium were observed in young male rats receiving 1.5% hydrogen peroxide as their drinking fluid (equivalent to approximately 2.1 g/kg/day)<sup>2</sup> for 8 weeks.

Effects observed in mice treated for 35 weeks with 0.15% hydrogen peroxide as their drinking fluid (equivalent to approximately 0.29 g/kg/day)<sup>3</sup> included degeneration of hepatic and renal tubular epithelial tissues, necrosis, inflammation, irregularities of tissue structure of the stomach wall, and hypertrophy of the small intestine wall.

Concentrations in excess of 1% (equivalent to approximately 1.9 g/kg/day)<sup>4</sup> resulted in pronounced weight loss and death within two weeks. In a sequential study of mice treated with 0.4% hydrogen peroxide in drinking water (equivalent to approximately 0.76 g/kg/day)<sup>5</sup>, gastric erosion was observed at 30 days and was present consistently throughout the 108 week study period.

Dogs exposed 6 hours/day, 5 days/week for 6 months at an average vapour concentration of 7 ppm (9.73 mg/3 ) of 90% hydrogen peroxide, developed skin irritation, sneezing, lacrimation, and bleaching of the hair. Autopsy disclosed pulmonary irritation and greatly thickened skin, but no hair follicle destruction. No significant changes in blood or urinary parameters were observed .

Following eight 6-hour exposures to hydrogen peroxide at a concentration of 79 mg/m<sup>3</sup> (56.88 ppm), 7/9 mice died.

Following exposure to hydrogen peroxide at 93 mg/m<sup>3</sup>, 6 hours/day, 5 days/week

for 30 exposures, 1/10 rats died. Repeated or prolonged exposure to acids may result in the erosion

of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs.

**Carcinogen Category**No Data Available

## 12. Ecological Information

Acute Aquatic Toxicity	Not Applicable
Chronic Aquatic Toxicity	Not Applicable

### Ecological Information for Ingredient 1

None specified.

## 13. Disposal considerations

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.

## 14. Transport Information

Considered as a 'Dangerous Good' by the Australian Code for transport of Dangerous Goods by Road and Rail.

UN Number	2014
Proper shipping name or Technical Name	Hydrogen peroxide, aqueous solutions with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary) or Hydrogen peroxide, aqueous solutions with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)
Transport hazard class	1/07/1900
Packing Group	I
Environmental hazards for Transport Purposes	Not classified as having an acute aquatic toxicity.
UFAC Code	TANZ 13CCD
Special Precautions for user	None specified
Additional Information	None specified
Hazchem or Emergency Action Code	2RE

## 15. Regulatory Information

No information in this section.

## 16. Other information

Date of Preparation:

12 February 2022

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