

# Material Safety Data Sheet

## HYDROGEN PEROXIDE

**Infosafe No.** AJ1XJ      **Issue Date** February 2005      **Status** ISSUED by APSSC

**Classified as hazardous according to criteria of NOHSC**

### COMPANY DETAILS

**Company Name** APS, A Division of Nuplex Industries (Aust) Pty Ltd (ABN 25 000 045 572)  
**Address** 8 Abbott Road SEVEN HILLS  
NSW 2147

**Emergency Tel.** 1800 022 037 (24H)  
**Tel/Fax** Tel: (02) 9839 4000 Fax: (02) 9674 6225  
**Other Information** New Zealand: Asia Pacific Specialty Chemicals (NZ) Limited  
119 Carbine Road  
Mt Wellington, Auckland 6  
Emergency Tel: 0800 154 666 (24H)  
Telephone: (09) 276 4019  
Fax: (09) 276 7231

### IDENTIFICATION

**Product Code** AR 00000260  
**Product Name** HYDROGEN PEROXIDE

**Proper Shipping Name** HYDROGEN PEROXIDE, AQUEOUS SOLUTION  
**Other Names** Not Available  
**UN Number** 2014  
**DG Class** 5.1  
**Sub. Risk** 8  
**Packing Group** II  
**Hazchem Code** 2P

**Poisons Schedule** S6  
S6 ; New Zealand:S3

**Product Use** Bleaching wood pulp, textiles, used in food, wines, plasticizers and electroplating, antiseptic.

### Physical Data

**Appearance** Clear, water-like liquid with a slightly sharp odour.  
**Melting Point** -33°C  
**Boiling Point** 108°C  
**Vapour Pressure** 23 mmHg at 30°C  
**Specific**

<b>Gravity</b>	Approx 1.1 (water = 1)
<b>Flash Point</b>	Not applicable
<b>Flamm. Limit</b>	
<b>LEL</b>	Not available
<b>Flamm. Limit</b>	
<b>UEL</b>	Not available
<b>Solubility in Water</b>	Miscible in all proportions.

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## Other Properties

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<b>Form</b>	Liquid
<b>Stability</b>	Unstable.
<b>Haz.</b>	
<b>Polymerization</b>	Will not occur.
<b>Materials to Avoid</b>	Keep away from cyanides, hexavalent chrome compounds, heavy metals, nitric acid, glycerin, hydrazine, alcohol, organics, carbon, oil, resins and other combustible materials. Contamination of hydrogen peroxide from any source, including metals, may cause rapid decomposition, with generation of large quantities of oxygen gas and high pressures. Rapid decomposition may cause containers to rupture explosively. Contact with wood or paper may produce spontaneous combustion. Liquid may attack some plastics, rubber and coatings. Hydrogen peroxide is rapidly decomposed by alkalies and finely divided metals.
<b>Formula</b>	H <sub>2</sub> O <sub>2</sub>
<b>Molecular Weight</b>	34.01
<b>Other Information</b>	Data applies to concentrated solution.

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## Ingredients

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<b>Ingredients</b>	<b>Name</b>	<b>CAS</b>	<b>Proportion</b>
	Water	7732-18-5	40-80 %
	Hydrogen peroxide	7722-84-1	20-60 %
	May contain <1% stabiliser		

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## HEALTH HAZARD INFORMATION

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### Health Effects

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<b>Acute - Swallowed</b>	Harmful if swallowed. Ingestion will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach. Decomposes in the bowel before absorption yielding large volumes of oxygen, which may cause bowel to rupture. Symptoms may include nausea, vomiting, perforation with severe abdominal pain and bleeding, breathing difficulties, shock, convulsions, collapse and possibly lead to death.
<b>Acute - Eye</b>	Will cause severe irritation and chemical burns in contact with the eyes which can result in redness, stinging, pain, tearing, serious lesions and lead to permanent corneal injury ie. blindness.
<b>Acute - Skin</b>	Will cause severe irritation and chemical burns in contact with the skin, resulting in redness, itching, swelling, blistering, severe lesions and possible permanent tissue damage (scarring). Repeated contact with diluted solutions may also lead to dermatitis.
<b>Acute - Inhaled</b>	Inhalation of low concentration mist or spray causes mild ocular and respiratory irritation. Higher concentrations can cause severe mucus membrane irritation

and inflammation, pulmonary edema, and systemic poisoning with shock, coma and seizures. May cause bronchitis and pneumonia.

## Hazards

### Identification

#### Chronic

Prolonged or repeated contact with this material will result in skin irritation and possibly lead to dermatitis. Repeated or prolonged exposure may also lead to permanent tissue scarring, pulmonary oedema, pneumonitis and emphysema. May also aggravate existing respiratory disorders.

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## First Aid

#### Swallowed

If swallowed, do NOT induce vomiting. Immediately give a glass of water. Urgent hospital treatment is likely to be needed. For advice, contact a Poisons Information Centre (Phone 131 126) at once.

#### Eye

If in eyes, hold eyelids apart and flush the eye continuously with running water. Take care not to rinse contaminated water into the non-affected eye. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

#### Skin

Immediately remove all contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. Ensure contaminated clothing is washed before re-use or discard. SEEK MEDICAL ATTENTION.

#### Inhaled

Remove the source of contamination or move the victim to fresh air - avoid becoming a casualty. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. SEEK MEDICAL ATTENTION.

#### First Aid

#### Facilities

Eye wash station, safety shower and normal washroom facilities.

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## Advice to Doctor

#### Advice to Doctor

Treat symptomatically. For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand Phone 0800 POISON (0800-764-766)).

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## Other Health Hazard Information

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## PRECAUTIONS FOR USE

Exposure Limits	Name	STEL (mgm3)	STEL (ppm)	TWA (mgm3)	TWA (ppm)	FootNote
	Hydrogen peroxide			1.4	1	

#### Eng. Controls

Ensure sufficient ventilation to maintain airborne concentrations below exposure limits. Local exhaust ventilation is recommended.

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## Personal Protection

#### Respirator Type (AS 1716)

If engineering controls are not effective in controlling airborne exposure then a supplied air respirator should be used. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716.

#### Eye Protection

Safety glasses with side shields, goggles or full faceshield should be worn as described in Australian Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

#### Glove Type

Impervious gloves (e.g. neoprene or nitrile rubber) recommended. Final choice of appropriate glove type will vary according to individual circumstances, including methods of handling or engineering controls as determined by

**Clothing** appropriate risk assessments. Refer to AS/NZS 2161 Occupational protective gloves - Selection, use and maintenance.  
Suitable protective clothing should be worn e.g. cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended.

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## Flammability

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**Fire Hazards** The product is non-combustible. However, contact with combustible materials may result in fire. When involved in a fire causes combustibles to burn fiercely.

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## SAFE HANDLING INFORMATION

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### Storage and Transport

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**Storage Precautions** Store in a cool, dry, well-ventilated area, out of heat source and direct sunlight. Store away from incompatible materials such as alkalis, reducing agents. Do not store together with flammable substances and organic solvents. Keep product in its original container which are specially permitted for hydrogen peroxide. Do not confine product in confined spaces - risk of overpressure and burst due to decomposition in confined spaces. Use adequate venting devices on all packages, containers and tanks. Store and transport in upright position only. Keep containers closed when not in use and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do not store or consume food, drink or smoke in areas where they may become contaminated with this material.

### Transport

#### AUSTRALIA:

This material is a Class 5.1 - Oxidising Agent according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. This material is incompatible in a placard load with any of the following:

- Class 1, Explosive
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 3, Flammable liquids
- Class 4.1, Flammable Solids
- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous When wet
- Class 5.2, Organic peroxides
- Class 6.1, Toxic substances and Class 6.2 Infectious Substances (where the substances are fire risk substances)
- Class 7, Radioactive materials unless specifically exempted.
- Class 8, Corrosives
- Class 9, Miscellaneous substances (where the miscellaneous dangerous goods are fire risk substances), and
- Combustible Liquids.

#### NEW ZEALAND:

This material is classified as a Class 5.1 Oxidising Substance according to NZS 5433:1999 Transport of Dangerous Goods on Land. This material must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosive
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 3, Flammable liquids
- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous When wet
- Class 5.2, Organic peroxides
- Class 6.2, Infectious substances

- Class 8, Corrosives

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.1, Flammable Solids

- Class 6.1, Toxic Substances

- Class 7, Radioactive Materials unless specifically exempted

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Flammable Liquids (Class 3),

- Class 4.1, Flammable Solids

- Class 4.2, Spontaneously Combustible Substances

- Class 4.3, Dangerous When Wet Substances

- Class 5.2, Organic Peroxides

- Class 6.1, Toxic Substances

- Class 6.2, Infectious Substances

- Class 8, Corrosive Substances

### Handling

Corrosive. Avoid skin and eye contact. Proper personal protective clothing and equipment should be used to minimise exposure. Keep product in its original container which are specially permitted for hydrogen peroxide. Build up of mists or vapours in the atmosphere must be prevented. Do not use near welding or other ignition sources. Do not inhale vapours. 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. Provide a catch tank and an impermeable corrosion resistant floor with drainage to a neutralisation tank within a bunded area. When dealing with large quantities, repeated or prolonged exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material, maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or going to the toilet.

### Other Storage Info.

Hydrogen peroxide is readily decomposed by dirt, undistilled water and heavy metal ions, liberating oxygen. Slow decomposition of peroxide in strong sealed containers can build up sufficient pressure to burst containers explosively. Gross contamination can cause violent decomposition of concentrated solutions. At concentrations greater than 30%, mixtures with a wide range of organic compounds, can be detonated by heat or impact to explode. Vented containers must be stored upright. Loosen caps slowly to release any pressure.

### Proper Shipping Name

HYDROGEN PEROXIDE, AQUEOUS SOLUTION

### EPG Number

5.1.005

### IERG Number

31

### Packaging Method

3.8.5.1RT7,RT8

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## Spills and Disposal

### Accidental Release Measures

Remove all sources of heat. Increase ventilation. Wear Self-Contained Breathing Apparatus (S.C.B.A.) and full protective clothing to minimise skin and eye exposure. Clear area of all unprotected personnel. 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 diver vapour clouds. Prevent entry into waterways, drains or confined areas. Place inert, non-combustible absorbent such as vermiculite, or sand onto material. Collect the material using clean, non-sparking tools and place into a suitable labelled container for subsequent disposal. For large spills notify Emergency Services. If large quantities of this material enter the

waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

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

## Fire/Explosion Hazard

**Fire/Explos. Hazard** The product is non-combustible. However, contact with combustible materials may result in fire. When involved in a fire causes combustibles to burn fiercely. Risk of explosion, friction, fire or ignition with concentrated solutions. Heating can cause expansion or decomposition leading to violent rupture of containers. Releases oxygen upon decomposition, assisting decomposition of other materials.

### Hazardous

**Decomposition or Byproducts** Releases oxygen gas, which will increase explosive limits and burning rates of flammable vapours and may lead to rupturing of containers.

**Fire Fighting Precautions** Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

**Extinguishing Media** Use flooding quantities of water from a protected position. If safe to do so, remove undamaged containers from fire area. 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. ALWAYS stay away from tank ends.

**Hazchem Code** 2P

### Unsuitable

### Extinguishing

**Media** Do not use dry chemicals, CO2 or foam.

### Conditions to

### Avoid

Excessive heat, direct light or contamination of any kind.

## OTHER INFORMATION

**Toxicology Risk Statement** LD50/Oral/Rat = 1193 mg/kg (35% solution)

R8 Contact with combustible material may cause fire.

R22 Harmful if swallowed.

R34 Causes burns.

**Safety Statement** S3 Keep in a cool place.

S17 Keep away from combustible material.

S28 After contact with skin, wash immediately with plenty of water.

S45 In case of accident or if you feel unwell seek medical advice immediately

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

### Regulatory Information

Australia:

Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).

Poison Schedule: Scheduled 6

New Zealand:

Poison Schedule: Scheduled 3

### Hazard

### Category

Harmful, Corrosive, Oxidising

### Empirical

### Formula &

### Structural

### Formula

H2O2

### Acute Toxicity

### - Algae

LC50, 48h > 1.7 mg/L

**Acute Toxicity****- Fish** LC50(Golden orfe, 96h) = 16 mg/L**Persistence /****Degradability** Breaks down in sunlight.**Mobility** Not available**Acute Toxicity****- Daphnia** LC50, 48h = 2.4 mg/L**SDS History** MSDS Review: February 2005

Supersedes: October 2002

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**CONTACT POINT**

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**Contact**

Australia: Business Hours: Mr Paul Verren

Telephone: (02) 9839 4024

Emergency Tel: 1800 022 037

New Zealand: Business Hours: Mr Lloyd Williams

Telephone: (09) 276 4019

Emergency Tel: 0800 154 666

IMPORTANT ADVICE: This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Nuplex Industries (Aust) Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

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**End of MSDS**

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