Material Safety Data Sheet

Hydrogen Peroxide

Section 1. Identification

Product Name:	Hydrogen Peroxide	**Product Code:**	HYDRO
Recommended Use:	Used as an oxidant in bleaching paper pulp, cotton/synthetic blends & wool fabrics. Used in wastewater & sewage treatment plants to reduce sulphide corrosion & odours & to supply supplemental dissolved oxygen.		
Supplier:	True Blue Chemicals		
Street Address:	2/1 Endeavour Road Caringbah NSW 2229	**Post Address:**	PO Box 334 Caringbah NSW 1495
Phone No:	02 9540 1911	**Fax No:**	02 9540 1983
Internet:	www.truebluechemicals.com.au		

Emergency Phone No - 13 11 26 - Poisons Information Centre

Section 2. Hazards Identification

Classified as hazardous according to the Office of Australian Safety & Compensation Council (ASCC) criteria

Dangerous according to the Australian Code for the Transport of Dangerous Goods

Risk Phrases

R8: Contact with combustible material may cause fire

R34: Causes burns

Safety Phrases

S1/2: Keep locked up & out ofreach of children

S3: Keep in a cool place

S28: After contact with skin, wash immediately with plenty of soap suds

S36/39: Wear suitable protective clothing & eye/face Protection

S45: In case of accident, or if you feel unwell, seek medical advice immediately (show product label if possible)

Section 3. Composition Information

Ingredient Name	CAS No	Proportions
Non Hazardous	Not applicable	50%
Hydrogen Peroxide	7722-84-1	50%

Section 4. First Aid

Swallowed:	DO NOT induce vomiting. Danger of penetration of the lungs when swallowed or vomited due to gas evolution & foam formation. Rinse mouth with water, give plenty of water to drink provided person is conscious & alert. Seek immediate medical attention.
Eyes:	Immediately flush eyes with plenty of water holding eyelids open. Seek immediate medical treatment at an ophthalmologist.
Skin:	Remove contaminated clothing. Rinse affected area with plenty of water. Consult a physician.
Inhalation:	Remove victim from exposure to fresh air. If rapid recovery does not occur, call a physician immediately.
Advice to Doctor:	Therapy as for chemical burn. Following inhalation formation of a toxic lung oedema is possible if product continues to be inhaled despite acute irritative effect; eg: if it is not possible to leave the danger area. Prophylaxis of a toxical lung oedema with inhalative steroids (dexamethason aerosol dosing spray, f.ex.auxilosone). If substance has been swallowed risk of gaseous embolisms! In case of excessive strain on the stomach due to gas evolution inert siphon tube. Early endoscopy in order to assess mucosa lesions in the oesophagus & stomach which may appear. If necessary suck away left over substance. Do not administer activated charcoal due to risk of release of large amounts of gas from hydrogen peroxide.
Additional Information:	Aggravated medical conditions caused by exposure to this product – individuals with pre-existing diseases of the skin, eye or lungs may have increased susceptibility to the toxicity of excessive exposures.

Section 5. Fire Fighting Measures

Extinguishing Media:
In case of fire, appropriate extinguishing media include water spray & carbon dioxide. Do not use extinguishing media for organic compounds.

Hazards from Combustion Products:
Product is fire-stimulating. Contact with flammable substances may cause inflammation. The product itself does not burn. In the event of a fire, product may decompose yielding oxygen. Risk of over pressure & burst due to decomposition in confined spaces & pipes. Release of oxygen may support combustion. Avoid contact with incompatible materials such as impurities, decomposition catalysts, metals, metallic salts, alkalis, hydrochloric acid, reducing agents, flammable substances & organic solvents. Mixtures with organic materials; eg solvents, can display explosive properties.

Special Protective Precautions and Equipment for Firefighters:
Firefighters should wear a self contained breathing apparatus & full protective clothing along with protective equipment.

Flammability Conditions:
Product is non-flammable liquid. Decomposition will release oxygen which will increase the explosive limits & burning rate of flammable vapours.

Additional Information: **Hazchem Code** – 2P

Section 6. Accidental Release Measures

Emergency Procedure:
Personnel involved in the clean up should wear full protective clothing. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it is corrosive & may be slippery. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority Isolate defective containers. Shut off leak if safe to do so. Place defective containers in waste receptacle made of plastic, not metal. Do NOT seal defective container of waste receptacle airtight as there is danger of bursting due to product decomposition.

Method s & Materials for Containment & Clean Up:
To handle a small quantity of spilt product, dilute with copious amounts of water to <3%. Drain to an approved chemical sewer, waste treatment system or municipal sewer.

In case of large spill, or where there is insufficient water available for dilution, contain the spill & leave to decompose naturally until <3% is reached.

Section 7. Handling and Storage

Precautions for Safe Handling:
Ensure an eye bath & safety shower are available & ready for use. Observe good personal hygiene practices & recommended procedures. Wash thoroughly after handling.

Conditions for Safe Storage including Incompatibles:
Store in a cool, dry, well ventilated area with jointless concrete acid proof floor. Only use containers which are specially permitted for hydrogen peroxide. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Do not confine product in unvented vessels or between closed valves due to risk of overpressure & burst due to decomposition in confined spaces. Store away from incompatible materials including alkalis, reductants, metallic salts, flammable substances, organic solvents & sources of ignition. Take precautionary measure against static charges by bonding & grounding all equipment. This product has a UN classification of 2014 and a Dangerous Goods Class 5.1 (oxidizing).

Container Type:
For transport, storage & tank installations only use suitable materials which include 304l & 316l stainless steel, aluminium minimum 99.5% passivated, aluminium magnesium alloys, passivated polyethylene & polypropylene. Do NOT use iron, mild steel, copper, bronze, brass, tin & zinc.

Section 8. Exposure Controls and Personal Protection

National Exposure Standards: Source – National Exposure Standards for Atmospheric Contaminants in the Occupational Environment (NOHSC:1003).

Ingredient Name	CAS No	ES-TWA	ACGIH TLV	OSHA-TWA
Hydrogen Peroxide	7722-84-1	1ppm – 1.4mg/m^3	1ppm	1ppm – 1.5 mg/m^3

Biological Limit Values: Not available.

Engineering Controls: A system of local &/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Protective Equipment:

Respiratory Protection: If engineering controls are inadequate or open handling is unavoidable wear NIOSH approved respirator (ABLK2P3).

Eye/Face Protection: Chemical splash goggles & full face shield.

Skin Protection: Neoprene, butyl rubber or vinyl gloves. Neoprene or PVC acid proof suit when appropriate to avoid exposure to peroxide, & neoprene boots. Do NOT use leather boots as they can catch fire within minutes after contact with peroxide.

Section 9. Physical and Chemical Properties

Appearance:	Clear liquid	**Colour:**	Colourless
Odour:	Slighlty pungent	**Vapour Pressure:**	99Pa (30ºC) mm Hg (1 atmosphere)
Vapour Density:	Not applicable		
Melting Point:	-52ºC	**Boiling Point** (ºC)**:**	114ºC
Specific Gravity:	1.196	**Solubility in Water:**	Miscible
pH:	>1.3	**Flash Point** (ºC)**:**	Not applicable

Section 10. Stability and Reactivity

Chemical Stability: Stable under directed conditions of use & storage. Product is very reactive. Product is a strong oxidizing agent. Commercial products are stabilized to reduce risk of decomposition due to contamination.

Conditions to Avoid: Avoid excessive heat, direct sunlight, static discharges & high temperatures.

Incompatible Materials: Incompatible with impurities, decomposition catalysts, metals, metallic salts, alkalis, hydrochloric acid, reducing agents, organic solvents & sources of ignition.

Hazardous Decomposition Products: Under conditions of thermal decomposition, product will emit steam & oxygen.

Hazardous Reactions: Product is a strong oxidizing agent. Product is very reactive. Danger of decomposition if exposed to heat. When coming in contact with product, impurities, decomposition catalysts, metallic salts, alkalis & reducing agents, may lead to self-accelerated, exothermic decomposition & the formation of oxygen. Risk of overexposure & burst due to decomposition in confined spaces. Release of oxygen may support combustion. Mixtures with organic materials (solvents) can display explosive properties.

Section 11. Toxicological Information

Health Effects - Acute

Swallowed: Swallowing can lead to bleeding of the mucosa in the mouth, oesophagus & stomach. The rapid releasing of oxygen can cause distension & bleeding of the mucosa in the stomach & lead to severe damage of the internal organs, expecially in the event of greater intake of the product.

Eye: Extreme irritation up to cauterization. Can cause severe conjunctivitis, cornea damage or irreversible eye damage. Symptoms may occur with delay.

Skin: Causes caustic burns. With increasing contact length, local erythema or extreme irritation (whitening) up to blistering (caustic burn) can occur.

Inhaled: Inhalation of vapour/aerosols can lead to irritation of the respiratory tract. Symptoms may occur with delay after any exposure.

Toxicity Data

Hydrogen Peroxide 35%	LD_{50} 805mg/kg (oral, rat) OECD Test Guideline 401
Hydrogen Peroxide 35%	LD_{50} 1193mg/kg (oral, rat) Literature
Hydrogen Peroxide 60%	LD_{50} 801mg/kg (oral, rat) Literature
Hydrogen Peroxide 50%	LC_{50} >0.17mg/L (inhale, rat) Literature
Hydrogen Peroxide 50%	LD_{50} >6500mg/kg (skin, rabbit) Literature.
Skin Irritation Rabbit:	Strong corrosive
Eye Irritation Rabbit:	Corrosive
Repeated Dose Toxicity:	Mouse 90d changes of parameters of the blood, body weight development negative, irritative effect on gastro-intestinal tract (OECD)
Genetoxicity in Vitro:	microorganisms, cell cultures – no mutagenic effects
Genetoxicity in Vivo:	micronucleus test mouse intraperitoneal – negative
Carcinogenicity:	Hydrogen peroxide is not a carcinogenic substance according to MAK, IARC, NTP, OSHA & ACGIH

Section 12. Ecological Information

Ecotoxicity:	No data
Persistence & Degradability:	50% degradation within approximately 20 hours: medium: air. The product can be degraded by abiotic (chemical or photolytic) processes. Under ambient conditions quick hydrolysis & reduction of decomposition occurs.
Mobility:	Not available
Environmental Fate: (exposure)	Avoid contaminating drains, sewers & waterways.
Bioaccumulative Potential:	None. Hydrogen peroxide quickly decomposes to oxygen & water.

Section 13. Disposal Considerations

Disposal Method: Dispose of in accordance with all local, state & federal regulations.

Special Precautions: Land fill or incineration should be done in accordance with the Hazardous Substances (Disposal) Regulations 2001.

Section 14. Transport Information

UN Number	2014
UN Proper Shipping Name	Hydrogen Peroxide, Aqueous Solutions, 20 – 60% Hydrogen Peroxide
Class & Subsidiary Risk	5.1; 8
Packing Group	II
Special User Precautions	Oxidising, corrosive
Hazchem Code	2P

Hydrogen Peroxide

Section 15. Regulatory Information

Poisons Schedule (SUSDP): schedule 6 – POISON
EPG: 31
AICS Name: Hydrogen Peroxide (H202)
NZ Toxic Substance: 3
Additional Information: No data

Section 16. Other Information

Prepared By: Sue Bartlett, Quality Assurance Manager
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