Material Safety Data Sheet
HYDROGEN PEROXIDE

1. Identification

PRODUCT NAME:	HYDROGEN PEROXIDE
OTHER NAMES	PEROX 50
RECOMMENDED USE	Bleach for cotton/synthetics & wool.
COMPANY:	Cleveland Cleaning Supplies Pty Ltd
	ABN: 61 001 175 748
ADDRESS:	23 Forrester Street
	Kingsgrove NSW 2208
	Australia
BUSINESS TELEPHONE:	(02) 9503 0100
	1300 760 765 (Australia wide)
BUSINESS HOURS ONLY:	7AM – 5PM (E.S.T.)
FAX:	(02) 9503 0199
EMAIL:	sales@cleveland.com.au
EMERGENCY TELEPHONE:	000
POISONS INFORMATION CENTRE PHONE	13 11 26
FOR EMERGENCY RESPONSE:	000

2. Hazard identification

Hazardous according to criteria of NOHSC/ ASCC
Dangerous According to the Australian Code for the Transport of Dangerous Goods
OXIDIZING; CORROSIVE

RISK PHRASES	R8	Contact with combustible material may cause fire.
	R34	Causes burns.
SAFETY PHRASES	S1/2	Keep locked up and out of the reach of children.
	S3	Keep in a cool place.
	S28	After contact with skin, wash immediately with plenty of water.
	S36/39	Wear suitable protective clothing and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

3. Composition/information on ingredients

Chemical Entity	CAS No.	Proportions (%)
HYDROGEN PEROXIDE	7722-84-1	20 - 60
WATER	7732-18-5	40 – 80

4. First aid measures

Description of necessary measures according to routes of exposure

SWALLOWED DO NOT induce vomiting. Danger of peneration of the lungs when swallowed or vomited, due to gas evolution and foam formation. Rinse mouth with water and give plenty of water to drink provided person is conscious and alert. Seek immediate medical attention.

EYE 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.

INHALED 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 (e.g if it is not possible to leave the danger area). Prophylaxis of a toxical lung oedema with inhalative steroids (Dexamethasone 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 and stomach which may appear. If necessary, such away left over substance. Do

not administer activated charcoal, since risk of release of large amounts of gas from hydrogen peroxide.

ADDITIONAL INFORMATION

Aggravated medical conditions caused by exposure
Individuals with pre-existing diseases of the skin, eye or lungs may have increased susceptibility to the toxicity of excessive exposures.

5. Fire fighting measures

EXTINGUISHING MEDIA — In case of fire, appropriate extinguishing media include water spray and 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 and burst due to decomposition in confined spaces and 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 and organic solvents. Mixtures with organic materials (e.g solvents) can display explosive properties.

SPECIAL PROTECTIVE PRECAUTIONS AND EQUIPMENT FOR FIRE FIGHTERS

Fire fighters should wear a self contained breathing apparatus and full protective clothing along with protective equipment.

FLAMMABILITY CONDITIONS

Product is a non-flammable liquid. Decomposition will release oxygen which will increase the explosive limits and burning rate of flammable vapours.

ADDITIONAL INFORMATION

HAZCHEM CODE : 2P

6. Accidental release measures

EMERGENCY PROCEDURES

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 and 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 containers of waste receptacles airtight (danger of bursting due to product decomposition).

METHODS AND MATERIALS FOR CONTAINMENT AND 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 larger spill or where there is insufficient water available for dilution, contain the spill and leave to decompose naturally until <3% is reached.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY 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 and burst due to decomposition in confined spaces. Store away from incompatible materials including alkalis, reductants, metallic salts, flammable substances, organic solvents and sources of ignition. Take precautionary measures against static charges by bonding and grounding all equipment. This product has a UN classification of 2014 and a Dangerous Goods Class 5.1 (oxidizing).

CONTAINER TYPE — For transport, storage and tank installations, only use suitable materials which include 304L and 316L stainless steel, aluminium min. 99.5% passivity, aluminium

magnesium alloys, passivated, polyethylene and polypropylene. Do NOT use iron, mild steel, copper, bronze, brass, tin and zinc.

8. Exposure controls / personal protection

NATIONAL EXPOSURE STANDARDS

No exposure standards have been established for this material.
Exposure standards recommended by A.S.C.C. Australia for some ingredients are as follows:

	CAS NO:	TWA:
HYDROGEN PEROXIDE	7722-84-1	1ppm 1.4mg/m^3

BIOLOGICAL LIMIT VALUES

No information available on biological limits for this product.

ENGINEERING CONTROLS

A system of local and/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 PROTECTION

RESPIRATOR: If engineering controls are inadequate or open handling is unavoidable, wear an NIOSH approved respirator (ABEK2P3). EYES: Chemical splash goggles and full face shield. HANDS: Neoprene, butyl rubber or vinyl gloves. CLOTHING: Wear a neoprene or PVC acid-proof suit when appropriate to avoid exposure to peroxide and neoprene boots. Do NOT use leather boots as they can catch fire within minutes after contact with peroxide.

9. Physical and chemical properties

APPEARANCE	clear, colourless liquid	
FORMULA	H2O2	
ODOUR	slightly pungent odour	
VAPOUR PRESSURE	99Pa (30'C) mm Hg (1 atmosphere)	
VAPOUR PRESSURE	Not Applicable	
BOILING POINT	114'C deg C	
MELTING POINT	-52'C deg C	
SOLUBILITY IN WATER	Miscible	
SPECIFIC GRAVITY	1.196 (for liquid concentrate)	water = 1.000
FLASH POINT	Non Flammable	
FLAMMABILITY LIMITS	Not applicable	
PH	1.0-3.0	

10. Stability and reactivity

CHEMICAL STABILITY: Product is stable under directed conditions of use and 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 and high temperatures.

INCOMPA TIBLE MATERIALS: Incompatible with impurities, decomposition catalysts, metals, metallic salts, alkalis, hydrochloric acid, reducing agents, organic solvents and sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS : Under conditions of thermal decomposition, product will emit steam and 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 the product, impurities, decomposition catalysts, metallic salts, alkalis and reducing agents may lead to self-accelerated, exothermic decomposition and the formation of oxygen. Risk of overpressure and burst due to decomposition in confined spaces. Release of oxygen may support combustion. Mixtures with organic materials (solvents) can display explosive properties.

11. Toxicological information

TOXICITY DATA

Oral LD50 Rat: 805mg/Kg (OECD Test Guideline 401) Oral LD50 Rat: 1193mg/Kg (Literature) Hydrogen Peroxide 35% as test substance. Oral LD50 Rat: 801mg/Kg (Literature) Hydrogen Peroxide 60% as test substance. Inhale LC50 Rat: >0.17mg/L (Literature) Hydrogen Peroxide 50% as test substance Skin LD50 Rabbit: >6500mg/Kg (Literature). Carcinogenicity: Hydrogen Peroxide is not a carcinogenic substance according to MAK, IARC, NTP, OSHA and ACGIH.

HEALTH EFFECTS - ACUTE

SWALLOWED	Swallowing can lead to bleeding of the mucosa in the mouth, oesophagus and stomach. The rapid releasing of oxygen can cause distension and bleeding of the mucosa in the stomach and lead to severe damage of the internal organs, especially in the event of greater intake of the product.
EYE	Extreme irritation up to cauterisation. 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.

12. Ecological information

ECOTOXICITY: No Data

PERSISTENCE AND DEGRADABILITY:
50% degradation within approx. 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: No information available on mobility for this product.

ADDITIONAL INFORMATION

ENVIRONMENTAL FATE (EXPOSURE): Avoid contaminating drains, sewers or waterways.

BIOACCUMULATIVE POTENTIAL : None. Hydrogen peroxide quickly decomposes to oxygen and water.

13. Disposal considerations

Dispose of in accordance with all local, state, and federal regulations.

14. Transport information

UN CLASS	2014
PROPER SHIPPING NAME	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 20-60% HYDROGEN PEROXIDE
DG CLASS	5.1
SUBSIDARY RISK	8
PACKAGING GROUP	Bleach for cotton/synthetics & wool.

15. Regulatory information

POISONS SCHEDULE 6

16. Other information

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END OF REPORT