PRODUCT NAME: Hydrogen Peroxide

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SYNONYM(S) HYDROGEN PEROXIDE
USE(S) SANITISING / CLEANING
MSDS DATE: 04 July 2011

2. HAZARDS IDENTIFICATION
CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA
RISK PHRASES
R34 Causes burns.
R68/21/22 Harmful: possible risk of irreversible effects in contact with skin and if swallowed.
R8 Contact with combustible material may cause fire.
SAFETY PHRASES
S1/2 Keep locked up and out of reach of children.
S3 Keep in a cool place.
S36/39 Wear suitable protective clothing and eye/face protection.
S45 In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible).

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE
UN No. 2014 DG Class 5.1 Subsidiary Risk(s) None Allocated
Pkg Group II Hazchem Code 2P EPG 5A1

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>FORMULA</th>
<th>CAS NO.</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td>H2-O2</td>
<td>7722-84-1</td>
<td>30 – 60%</td>
</tr>
<tr>
<td>ADDITIVES</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

**EYE**
Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information Centre, a doctor, or for at least 15 minutes. Keep patient calm.

**INHALATION**
Leave area of exposure immediately. If assisting a victim avoid becoming a casualty, wear an Air-line respirator where an inhalation risk exists. Remove victim from exposure area & keep warm. If victim is not breathing apply artificial respiration & seek urgent medical attention.

**SKIN**
Remove contaminated clothing and gently flush affected areas with water. Product may penetrate skin and cause severe deep burns. Seek immediate medical attention. Launder clothing before reuse.

**INGESTION**
DO NOT induce vomiting. Immediately wash out mouth with water, and then give water to drink. Seek medical attention.

**ADVICE TO DOCTOR**
Treat symptomatically

5. FIRE FIGHTING MEASURES

**FLAMMABILITY**
Non-flammable - oxidising agent. May evolve oxygen, increasing fire intensity. Containers may explode if heated. May ignite combustible materials.

**FIRE & EXPLOSION**
Non-flammable - potentially explosive - fire promoting oxidising agent. May ignite in contact with incompatible materials. Containers may explode in fire. Evacuate area and contact emergency services. Wear full protective equipment (see spill above) including Self Contained Breathing Apparatus (SCBA) when combating fire. Use water-fog to cool intact containers

**EXTINGUISHING**
Water spray or fog, for large quantities. Prevent contamination of drains or waterways, absorb runoff with sand or similar.

**HAZCHEM CODE**
2P
6. ACCIDENTAL RELEASE MEASURES

**SPILLAGE**
If spilt (bulk) wear PVC/nitrile/rubber gloves, an Air-line respirator (where an inhalation risk exists) and coveralls. Ventilate area and collect where possible. Cover with vermiculite or similar (not organic or combustible materials) and place in sealable containers for disposal. Small amounts may be flushed with excess water to sewer.

7. STORAGE AND HANDLING

**STORAGE**
Store in cool, dry, well-ventilated area, removed from organic materials, reducing agents, metals, metal oxides, acids, sulphides, heat/ignition sources and foodstuffs. Contamination with incompatibles may cause fires/explosions. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

**HANDLING**
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL EQUIPMENT

**EXPOSURE STANDARDS**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Reference</th>
<th>TWA Ppm</th>
<th>TWA Mg/m³</th>
<th>STEL Ppm</th>
<th>STEL Mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>NOHSC (AUS)</td>
<td>1</td>
<td>1.4</td>
<td>--</td>
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</tr>
</tbody>
</table>

**BIOLOGICAL LIMIT VALUES**
No biological limit allocated.

**ENGINEERING CONTROLS**
Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical explosion proof extraction ventilation is recommended.

**PPE**
Wear splash-proof goggles, rubber or PVC gloves, coveralls and a face-shield. Where an inhalation risk exists, wear an Air-line respirator.

9. PHYSICAL & CHEMICAL PROPERTIES

**APPEARANCE:** COLOURLESS LIQUID

**ODOUR:** PUNGENT ODOUR

**pH:** 1 to 4

**VAPOUR PRESSURE:** 1 mbar @ 30°C

**VAPOUR DENSITY:** 1 (Air = 1)

**BOILING POINT:** 115°C

**MELTING POINT:** -52°C

**EVAPORATION RATE:** NOT AVAILABLE

**DENSITY:** > 60°C

**SOLUBILITY (WATER):** SOLUBLE

**SPECIFIC GRAVITY:** 1.2

**% VOLATILES:** NOT AVAILABLE

**FLAMMABILITY:** NON FLAMMABLE

**FLASH POINT:** NOT RELEVANT

**UPPER EXPLOSION LIMIT:** NOT AVAILABLE

**LOWER EXPLOSION LIMIT:** NOT AVAILABLE

**AUTOGNIITION:** NOT AVAILABLE

**Viscosity:** 1.17 mPas @ 20°C

10. STABILITY & REACTIVITY

**Chemical Stability**
Potential for exothermic hazard.

**Conditions to Avoid**
Avoid heat, sparks, open flames and other ignition sources.

**Material to Avoid**
Oxidising agent. Incompatible with most metals (e.g. aluminum oxides) metal oxides, reducing agents (e.g. hydrazine hydride), sulphides and acids. May ignite organic/combustible material (e.g. coal and paper). May explode if heated. Also incompatible with alakls (e.g. hydroxides), metal salts and organic materials.

**Decomposition**
May evolve toxic gases if heated to decomposition.

**Hazardous Reactions**
Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

**HEALTH HAZARD SUMMARY**
Use safe work practices to avoid eye or skin contact and vapour inhalation. Exposure may result in severe and permanent eye, skin and respiratory damage. Upon dilution the potential for corrosive and toxic effects will be reduced.

**EYE**
Exposure may result in pain, conjunctivitis, corneal burns and ulceration with possible permanent damage. Effects may be delayed.

**INHALATION**
Over exposure may result in mucous membrane irritation, coughing, and later a burning sensation of the upper respiratory tract. At high levels; ulceration, breathing difficulties, chemical pneumonitis and pulmonary oedema.

**SKIN**
Contact may result in itching, pain, redness, rash and dermatitis. Prolonged contact may result in burns.

**INGESTION**
Ingestion may result in burns to the mouth and throat, nausea, vomiting, ulceration of the gastrointestinal tract, oedema, rapid pulse, shock, unconsciousness, convulsions and death.

**TOXICITY DATA**

**HYDROGEN PEROXIDE (7722-84-1)**

LC50 (Inhalation): 2000 mg/m³/4 hours (rat)

LD50 (Ingestion): 2000 mg/kg (mouse)

LD50 (Skin): 1200 mg/kg (mouse)
12. ECOLOGICAL INFORMATION

ENVIRONMENT
Gaseous hydrogen peroxide is recognized to be a key component and product of the earth’s lower atmospheric photochemical reactions, both in a clean and polluted atmosphere. Hydrogen peroxide released to the atmosphere will degrade quite rapidly. Hydrogen peroxide is not expected to accumulate in the food chain.

Persistence /Degradability
This product is readily biodegradable

13. DISPOSAL CONSIDERATION

WASTE DISPOSAL
Absorb with double volume of 90:10 mixture of sand-soda ash mixture. Mix thoroughly. Using a plastic scoop, slowly add to a large beaker of sodium sulphite solution (3-4 litres), stirring. Neutralise with dilute sulphuric acid. Once settled, decant sulphate solution and discard of residue to an approved landfill site. Small amounts can be diluted with excess water and flushed to sewer.

LEGISLATION
Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

SHIPPING NAME: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20 % but not more than 60 % hydrogen peroxide (stabilized as necessary)

UN No. 2014
DG CLASS 5.1
SUBSIDARY RISK(S) None Allocated
Pkg GROUP II
HAZCHEM CODE 2P
EPG 5A1

15. REGULATORY INFORMATION

POISON SCHEDULE
A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS
All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

ADDITIONAL INFORMATION:
EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

ABBREVIATIONS:
ADB - Air-Dry Basis.
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
IARC - International Agency for Research on Cancer.
M - moles per litre, a unit of concentration.
mg/m3 - Milligrams per cubic metre.
NOS - Not Otherwise Specified.
PH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
TWA/ES - Time Weighted Average or Exposure Standard.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE: It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

This document has been compiled by the manufacturer of the product and serves as the manufacturer’s Material Safety Data Sheet (‘MSDS’). It is based on information concerning the product which has been provided to Ecowash Solutions obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue.

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