Safety Data Sheet

Date of Issue: 01.07.2021 Date of Expiry: 01.07.2026

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : **ECP Limited**
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
Facsimile : +64 9 480 4385
Emergency phone number : 0800 243 622 (24 hours)

Product Name	**Hydrogen Peroxide 35%**
Product Code	**27508**
CAS No.	**77- 22 - 84**

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Acute toxicity, Oral (Category D), H302
Acute toxicity, Inhalation (Category E), H333
Acute toxicity, Dermal (Category E), H313
Skin irritation (Category A), H315
Serious eye damage (Category A), H318
Acute toxicity (Category E), Respiratory system, H335
Aquatic toxicity (Acute or Chronic) (Category D), H401

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word : **Danger**

Hazard statement(s)

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H373	May cause damage to organs through prolonged or repeated exposure by ingestion and by inhalation.
H401	Toxic to aquatic life.
H433	Harmful to terrestrial vertebrates.

Precautionary statement(s)

Prevention

P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P220	Keep/Store away from clothing/combustible materials.

P221 Take any precaution to avoid mixing with combustibles
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response

GENERAL

P101 If medical advice is needed, have product container or label at hand.
P310 Immediately call a POISON CENTER or doctor/physician.
P370+P378 In case of fire: Use water, water spray for extinction.

EYES

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SKIN

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.

INGESTION

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

INHALATION

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary statement – Storage

P405 Store locked up.

Precautionary statement – Disposal

P501 In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.
See Section 13 of the SDS for disposal details.

3: Composition/information on ingredients

Synonyms	:	Hydrogen peroxide solution Interox AG - Spray
Formula	:	H2O2
MWT	:	34.01 g/mol
Concentration	:	>= 30% - < 60%

4: First aid measures

Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion
Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin
Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes.
Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

Eye contact
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First Aid Facilities
Eyewash, safety shower and normal washroom facilities.

Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (0800 764 766)

5: Firefighting measures

Water, water spray
Unsuitable Extinguishing Media
Do not use water jet.

Hazards from Combustion Products
Non-combustible material.
Oxygen released in thermal decomposition may support combustion. Contact with combustible material may cause fire. Contact with flammables may cause fire or explosions. Risk of explosion if heated under confinement.

Specific Hazards Arising from The Chemical
Oxidising. Contact with combustible material may cause fire. Non-combustible, but may support the combustion of other materials.

Decomposition Temperature
≥60 °C
Remarks: self-accelerating decomposition temperature (SADT)
<60 °C
Remarks: slow decomposition

Precautions in connection with Fire
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode.
In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. Cool containers / tanks with water spray. This product should be prevented from entering drains and watercourses.

6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance

contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.
For personal protection see section 8.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

Reference to other sections
For disposal see section 13.

7: Handling and storage

Precautions for Safe Handling
Corrosive liquid. Attacks skin and eyes. Causes burns. Avoid breathing in vapours, mist or fumes. Wear suitable protective clothing,
gloves and eye/face protection when mixing and using. Use in designated areas with adequate ventilation. Keep containers tightly
closed. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and
before eating, drinking, smoking or using the toilet facilities.

Conditions for safe storage, including any incompatibilities
Corrosive liquid. Store in a cool, dry, well-ventilated area. Store away from oxidising agents and bases/acids. Keep containers closed when not in use, securely sealed and protected against physical damage. Do not confine the product in a circuit, between closed valves, or in a container without a vent. Inspect regularly for deficiencies such as damage or leaks. Provide a catch-tank in a bunded area. Store in original packages as approved by manufacturer. Ensure that storage conditions comply with applicable local and national regulations.
For information on the design of the storeroom reference should be made to Australian Standard AS 4326 The storage and handling of oxidizing agents. For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 The storage and handling of corrosive substances. Reference should also be made to all applicable local and national regulations.

Recommended Materials
Packaging Materials:
Aluminium 99.5%
Stainless steel 304L/316L
Approved grades of HDPE

8: Exposure controls/personal protection

8.1 Control parameters
Occupational Exposure Limits Table

Component	CAS No	Value	Control parameters	Basis
Hydrogen peroxide	7722-84-1	WES-TWA	1 ppm 1.4 mg/m^3	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
	Remarks	Carcinogen – suspected human carcinogen		

Biological Limit Values
No biological limits allocated.

Appropriate Engineering Controls
This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure, then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.
Recommended Filter type:
NO
P3
Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices;
and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.
Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as PVC, natural rubber, butyl rubber, nitrile rubber. Final choice of appropriate gloves will
vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.
Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Footwear
If splashes are likely to occur, wear: Boots

Body Protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.
Chemical resistant apron:
Suitable material
PVC
Natural Rubber
If splashes are likely to occur, wear:
Apron

9: Physical and chemical properties

Form	:	Liquid
Appearance	:	Colourless liquid
Colour	:	Colourless
Odour	:	Pungent
Decomposition Temperature	:	≥60 °C

		Remarks: self-accelerating decomposition temperature (SADT) <60 °C Remarks: slow decomposition
Melting Point	:	Not available
Freezing Point	:	-33 °C (H_2O_2 35%)
Boiling Point	:	108°C (H_2O_2 35%)
Solubility in Water	:	Completely miscible
Specific Gravity	:	1.1-1.2
pH	:	2.02 (21°C) (H_2O_2 50%)
Vapour Pressure	:	1mbar (H_2O_2 50%)
Vapour Density (Air=1)	:	1 (H_2O_2 50%)
Evaporation Rate	:	Not available
Odour Threshold	:	Not available
Viscosity	:	Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity
Volatile Component	:	Not available
Partition Coefficient: n-octanol/water	:	log Pow: -1.57 Method: calculated value
Surface tension	:	75.6mN/m (20°C) (H_2O_2 50%)
Flash Point	:	Not applicable
Flammability	:	Contact with combustible material may cause fire.
Auto-Ignition Temperature	:	Not available
Flammable Limits – Lower	:	Not applicable
Flammable Limits – Upper	:	Not applicable
Explosion Properties	:	With certain materials (see section 10)
Molecular Weight	:	34g/mol
Oxidising Properties	:	Oxidising
Kinematic Viscosity	:	Not available
Dynamic Viscosity	:	1.17mPa.s (20°C) (H_2O_2 50%)

Other Information
Molecular formula: H_2O_2

10: Stability and reactivity

Reactivity
Refer to Section 10: Possibility of hazardous reactions

Chemical Stability
Stable under normal conditions of storage and handling. Potential for exothermic hazard. Decomposes on heating.

Conditions to Avoid
Extremes of temperature and direct sunlight.
Contamination. To avoid thermal decomposition, do not overheat. Fire or intense heat may cause violent rupture of packages.
Contact with combustible material may cause fire. Contact with flammables may cause fire or explosions. Risk of explosion if heated under confinement.

Incompatible materials
Acids, bases, metals, heavy metal salts, powdered metal salts, reducing agents, organic materials and flammable materials.

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or irritating fumes including oxygen.

Possibility of hazardous reactions
Reacts with incompatible materials.

Hazardous Polymerization
Not available

11: Toxicological information

Toxicology Information
Available toxicity data is given below.

Acute Toxicity - Oral
LD50 (rat): 1.193-1.270mg/kg
(H2O2 35%)

Acute Toxicity - Inhalation
LC50 (rat): 2000mg/m³/4h
(Hydrogen peroxide)
RD (mice): 665 mg/m³
(H2O2 50%)
Remarks: Irritating to respiratory system

Acute Toxicity - Dermal
LD50 (rabbit): >2000mg/kg
(H2O2 35%)

Ingestion
Harmful if swallowed. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Inhalation
Inhalation of mist or vapour will result in respiratory irritation and possible harmful corrosive effects including burns, lesions of the nasal septum, pulmonary edema, and scarring of tissue.

Skin
Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant
tissue destruction.
Species: rabbit
Result: skin irritation
(H2O2 35%)

Eye
Causes serious eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.
Species: rabbit
Result: severe eye irritation
(H2O2 10%)

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
Not expected to be a skin sensitiser.
Species: guinea pig
Result: did not cause sensitization on laboratory animals

Germ cell mutagenicity
Not considered to be a mutagenic hazard.
Genetic toxicity in vitro
In vitro tests have shown mutagenic effects
Genetic toxicity in vivo
In vivo tests did not show mutagenic effects

Carcinogenicity
Not considered to be a carcinogenic hazard.
Hydrogen peroxide is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).
Route: oral
Exposure: prolonged exposure
Species: mouse
Target Organs: duodenum
Result: carcinogenic effect
Route: dermal
Exposure: prolonged exposure
Species: mouse
Result: animal testing did not show any carcinogenic effects

Reproductive Toxicity
Not considered to be toxic to reproduction.
Substance is totally bio transformed (metabolised)
Study scientifically unjustified

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure by ingestion and by inhalation.
Chronic toxicity
Route: oral
LOEL (mouse): 300ppm/90d
(pure substance)
Target Organs: gastrointestinal tract
Remark: LOAEL
Route: oral
NOEL (mouse): 100ppm/90d
(pure substance)
Remark: NOAEL
Route: inhalation (vapour)
LOEL (rat): 10ppm/28d
(pure substance)
Target Organs: respiratory system
Remark: LOAEL
Route: inhalation (vapour)
NOEL (rat): 2ppm/28d
(pure substance)
Remark: NOAEL

Aspiration Hazard
Not expected to be an aspiration hazard.

12: Ecological information

Ecotoxicity
Toxic to aquatic life. Harmful to terrestrial vertebrates.

Persistence and degradability
Abiotic degradation
Air
indirect photo-oxidation, t 1/2 24 h
Conditions: sensitizer: OH radicals
Water
redox reaction, t 1/2 120 h
Conditions: mineral and enzymatic catalysis, fresh water, salt water
Soil
redox reaction, t 1/2 12 h
Conditions: mineral and enzymatic catalysis
Biodegradation
aerobic, t 1/2 < 2 min
Conditions: biological treatment sludge
Remarks: readily biodegradable
aerobic, t 1/2 from 0.3-5d
Conditions: fresh water
Remarks: readily biodegradable
anaerobic
Conditions: soil/sediments
Remarks: Not applicable
aerobic, t 1/2 12 h
Conditions: soil
Remarks: readily biodegradable

Mobility
Air
Henry's law constant (H) = 0.75mPa.m³/mol
Conditions: 20°C
Remarks: non-significant volatility
Water
Remarks: considerable solubility and mobility
Soil/sediments
log KOC: 0.2
Remarks: non-significant evaporation and adsorption

Bioaccumulative Potential
log Pow: -1.57
Result: does not bioaccumulate

Other Adverse Effects
Not available

Environmental Protection
Do not discharge this material into waterways, drains and sewers.

Acute Toxicity - Fish
LC50 (Pimephales promelas: 16.4mg/l/96h
(Pure substance)
NOEC (Pimephales promelas): 4.3mg/l/96h
(Pure substance)

Acute Toxicity - Daphnia
EC50 (Daphnia pulex): 2.4 mg/l/48h (fresh water, semi-static test)

(Pure substance)
NOEC (Daphnia pulex): 1mg/l/48h (fresh water, semi-static test)
(Pure substance)

Other Information
Chronic toxicity
NOEC (Daphnia magna): 0.63mg/l/21d
Reproduction Test
(Pure substance)
EC50 (Skeletonema costatum): 2.6mg/l/72h (growth rate)
(Pure substance)
NOEC (Skeletonema costatum): 0.63mg/l/72h
(Pure substance)

13: Disposal considerations

Disposal considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

Product Disposal:
Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. The product should be rendered non-hazardous before being sent to a licensed landfill facility. Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed. Do not dispose into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected. In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Regulations 2001.
Further details regarding disposal can be obtained on the EPA New Zealand website under specific group standards.

Container Disposal:
The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service. Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous. In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	**UN Number**	2014	2014	2014
14.2	**UN Proper Shipping name**	HYDROGEN PEROXIDE,	HYDROGEN PEROXIDE,	Hydrogen peroxide, aqueous solution

		AQUEOUS SOLUTION	AQUEOUS SOLUTION	
14.3	**Transport Hazard Class**	5.1 (8)	5.1 (8)	5.1 (8)
14.4	**Packaging group**	II	II	II
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	Not Available		
14.7	**Hazchem Code**	2P		

15: Regulatory information

Regulatory information
Classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001, New Zealand.
HSNO (CCID) Name: Hydrogen peroxide, 20-60% aqueous solution

HSNO Approval Number
HSR001326

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

****END*******END*******END*******END*******END****