

SAFETY DATA SHEET

Section 1. Identification

Product Identifier: trophon NanoNebulant, trophon Sonex-HL, Hydrogen Peroxide

Other means of identification: Proper Shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Product code: N05001 trophon NanoNebulant;
N05002 trophon Sonex-HL

Synonyms Hydrogen Dioxide; Peroxide

CAS-No 7722-84-1

EC-No. 231-765-0

Reach Registration Number 01-2119485845

Recommended use of the chemical and restrictions on use:

Disinfectant

Details of manufacturer or importer:

Nanosonics Limited
14 Mars Road, Lane Cove
NSW 2066, Australia
Telephone Number: +61 2 8063 1600
Emergency Telephone number 24 hours – Toll free: 1800 039 008; Landline: 03 9573 3112

New Zealand Distributor:

Bio Decon
5 Argus Place, Glenfield
Auckland 0627, New Zealand
Telephone Number: +64 9 442 4025
Emergency Telephone number 24 hours - Toll free: +800 2436 2255; Landline: +61 3 9573 3112

European entity/business name:

Nanosonics Europe GmbH
Poppenbuetteler Bogen 66
22399 Hamburg - Germany
Telephone Number: +49 40 46856885
Emergency Telephone number 24 hours - Toll free: +800 2436 2255; Landline: +61 3 9573 3112

Japanese Distributor:

Japan Third Party Co., LTD

7-22-17, Nishigotanda,
Shinagawa-ku, Tokyo
Telephone Number +81-3-6867-1180

Emergency Telephone number 24 hours - Toll free: +800 2436 2255; Landline: +61 3 9573 3112

USA Contact:

Nanosonics, Inc
7205 E. 87th Street
Indianapolis, Indiana 46256
Telephone Number: 1-844-876-7466

Emergency Telephone number 24 hours - Toll free: +800 2436 2255; Landline: (+1) 877 715 9305

Section 2: Hazards Identification

2.1. Classification of the substance or mixture

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; DANGEROUS GOODS.

Based on available information, classified as hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classified as Dangerous Goods by the criteria of the US Department of Transport, Rules and Regulations.

Classified as Dangerous Goods by the criteria of the Transportation of Dangerous Goods Regulations. Canada.

Prepared to also comply EU regulation on classification, labelling and packaging of substances and mixtures, referred to and known as the CLP Classification - Regulation (EC) No 1272/2008.

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) in the USA.

Classified as a hazardous material by the Mexican Regulation for the land transport of hazardous materials and waste.

Physical hazards

Oxidising liquids: Category 2

Health hazards

Acute toxicity - Oral: Category 4

Acute toxicity - Inhalation: Category 4

Skin Corrosion/Irritant: Category 1B

Serious Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity – Single Exposure: Category 3 (respiratory tract irritation)

Environmental hazards

Based on available data, the classification criteria are not met

Aquatic Chronic 3 (H412)

2.2. Hazard Symbols



Oxidiser

Corrosive

Irritant

Signal Word: Danger

Hazard Statements:

H272 May intensify fire; oxidiser

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation

Precautionary statements

Prevention

P210 Keep away from heat

P220 Store away from combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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.

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

P310 Immediately call a POISON CENTER or doctor/physician.

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

P370+P378 In case of fire: Use FLOODING QUANTITIES OF WATER for extinction.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

2.3. Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other information

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Section 3. Composition and information on ingredients

Chemical Identity	Synonym	CAS Number EC-No	Proportions (%w/w)	CLP Classification - Regulation (EC) No 1272/2008
Hydrogen Peroxide	Hydrogen Dioxide; Peroxide; Carbamide Peroxide	7722-84-1 231-765-0	34.9 - 37.0	Oxidising liquids: Cat 2 (H272) Acute toxicity - Oral: Cat 4 (H302) Acute toxicity - Inhal: Cat 4 (H332) Skin burns/Eye damage: Cat 1 (314) STOT– SE Cat 3 (335) Aquatic Chronic Cat 3 (H412)
Non-Hazardous ingredients (water)	-	7732-18-5	To 100%	-

Full text of Hazard Statements: see section 16

Section 4. First aid measures

4.1. Description of first aid measures

General Advice: If symptoms persist, call a physician.

Ingestion: Immediately give a glass of water. If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical assistance.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin Contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of soap and water. If irritation persists, call a physician.

Inhalation: If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately medical attention is required.

Self-Protection of the First Aider: Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

Causes severe eye damage. See section 11 for more detail information and symptoms.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively. Keep victim calm and warm - Obtain immediate medical care. Do not leave victim unattended. Risk of pulmonary edema. Ensure that attending medical personnel are aware of identity and nature of the product(s) involved and take precautions to protect themselves.

Symptoms include inflammation of the mouth, throat and oesophagus, gastrointestinal discomfort and diarrhoea

Section 5. Firefighting measures

5.1. Suitable extinguishing equipment

In case of fires involving substantial quantities of Hydrogen peroxide, use flooding quantities of water for extinction

Unsuitable extinguishing media - Do NOT use organic compounds, i.e. dry chemicals, Carbon dioxide (CO₂) or foam.

For fires involving small amounts of Hydrogen peroxide, adapt fire extinguishing measures to surroundings.

Explosion levels - (lower 40% - higher 100%).

Oxidizing Properties – Oxidizer.

Sensitivity to Mechanical Impact – Not sensitive.

Sensitivity to Static discharge - Not sensitive.

5.2. Specific Hazards arising from the chemical

Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, fabrics, leather etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.

Special protective equipment and precautions for firefighters - In the event of a fire, wear self-contained breathing apparatus. Use personal protective equipment. Evacuate personnel to safe areas. Keep unauthorised unprotected personnel away.

Wear self-contained breathing apparatus to approved Australian, European or USA, MSHA/NIOSH (approved or equivalent) standards for the country region in use.

Keep upwind and to higher ground.

Cool containers with water spray until well after fire is out - If impossible, withdraw from area and let fire burn. Use water spray to knock down vapours or divert vapour clouds. Dam fire control water for later disposal.

Hazchem Code: 2P

NFPA	Health	3	Flammability	0	Instability	1	Physical Hazards	OX
HMIS	Health	3	Flammability	0	Instability	1	Physical Hazards	H

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Special Hazards: OX = Oxidizer

Protection = H (Safety goggles, gloves, apron, the use of supplied air or SCBA respirator is required in lieu of a vapor cartridge respirator)

Uniform Fire Code Oxidizer: Class 2—Liquid

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment listed in Section 8.

Ensure adequate ventilation. Prevent exposure to heat. ELIMINATE all ignition sources. Do not contaminate – Keep combustibles (wood, paper, clothing, oil, etc.) away from spilled material. Do not use steel or aluminium tools or equipment.

6.2. Environmental precautions

Avoid release into the environment. If the product contaminates rivers, lakes or drains inform respective authorities. Due care must be exercised to avoid unnecessary pollution of watercourses.

6.3 Methods and materials for containment and cleaning up

Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Isolate defective containers immediately and place into a plastic waste receptacle. Use water spray to knock down vapours or divert vapour clouds. Dilute with plenty of water. Do not add chemical products. Never return spills to original packaging for re-use. Soak up with inert absorbent material. Dispose of in accordance with local regulations

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

Section 7. Handling and storage

7.1. Precautions for safe handling

Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle

in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing.

Use personal protective equipment as required (see SECTION 8); Remove contaminated clothing immediately and rinse with large amounts of water. Keep away from heat and sources of ignition – No smoking. Do not contaminate - Take any precaution to avoid mixing with combustibles/organic materials. Never return spilled product into its original container for reuse (risk of decomposition).

7.2 Conditions for safe storage, including any incompatibilities

Store in original containers. Suitable materials for containers, stainless steel, glass, Teflon.
 Unsuitable materials for containers: brass, copper, iron.

Oxidiser. Contact with combustible materials may cause fire. Keep away from sources of ignition and heat sources.

Do not keep the container sealed. Keep in a well – ventilated place. Store in cool place. Protect against light. Protect from contamination.

Keep away from food, drink and animal feeds. Keep away from combustible material.

7.3. Specific end use(s)

Disinfectant

Section 8. Exposure controls and personal protection

8.1. Control parameters

Component	The United Kingdom Australia/NZ	European Union	Ireland	USA
Hydrogen peroxide	TWA: 1 ppm 8 hr	No data available	TWA: 1 ppm 8 hr.	<u>(ACGIH TLV)</u>
	TWA: 1.4 mg/m ³ 8 hr		TWA: 1.5 mg/m ³ 8 hr.	TWA: 1 ppm
	STEL: 2 ppm 15 min		STEL: 3 mg/m ³ 15 min	
	STEL: 2.8 mg/m ³ 15 min		STEL: 2 ppm 15 min	<u>(OSHA PEL)</u>
	TWA 5 days 75ppm (NIOSH)			TWA: 1.4 mg/m ³ TWA: 1 ppm
				<u>NIOSH IDLH</u> IDLH: 75 PPM TWA: 1.4 mg/m ³ TWA: 1 ppm

Component	British Columbia	Quebec	Ontario TWAEV	Alberta	Mexico
Hydrogen peroxide (7722-84-1)	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m ³ Mexico: STEL 2 ppm Mexico: STEL 3 mg/m ³

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

List source(s): **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Note: As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants. TWA - The time-weighted average airborne concentration of a substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as clear defining points between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Biological monitoring: This product, as supplied, does not contain any hazardous materials with biological limits established by the region-specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) Workers

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral	--	--	--	--
Dermal	--	--	--	--

Inhalation 3 mg/m3 -- 1.4 mg/m3 --

Predicted No Effect Concentration (PNEC) - See values below.

Fresh water: 0.0126 mg/L
Fresh water sediment: 0.047 mg/kg
Marine water: 0.0126 mg/L
Marine water sediment: 0.047 mg/kg
Water Intermittent: 0.0138 mg/L
Microorganisms in sewage Treatment: 4,66 mg/L
Soil (Agriculture): 0.0019 mg/kg

Control banding: Data not available

8.2. Exposure controls

Engineering controls:

Provide 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.

Individual protection measures, for example personal protective equipment (PPE):

Eye and face protection

For normal handling of cartridges, when used with the trophon according to the manufacturers' instructions, no eye protection is normally required. If in a spill or bulk-handling situation, chemical resistant goggles must be worn. If risk of splashing, chemical proof goggles/face shield must be worn.

Skin protection

For normal handling of cartridges, when used with the trophon according to the manufacturer's instructions, body protection is not normally required, except for gloves. If in a spill, bulk-handling or direct chemical contact situation, a protective suit must be worn. If risk of splashing, PVC or rubber apron/boots must be worn.

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Butyl rubber	>8 h	0.35 mm	EN 374	Minimum requirement
Neoprene	>8 h	0.45 mm	--	--
Viton	>8 h	0.3 mm	--	--
Natural rubber	>8 h	0.5 mm	--	--
Nitrile rubber	>8 h	0.1-0.2 mm	--	--

Refer to supplier instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves and to ensure gloves are suitable for the task. Remove gloves with care avoiding skin contamination.

Respiratory protection

No personal respiratory protective equipment is normally required. However, if workplace exposure limit is exceeded, apply respiratory protective equipment.

Industrial scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particulates filter conforming to EN 143 Inorganic gases and vapours filter Type B Grey conforming to EN14387

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask: Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Product should be prevented from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Use only respiratory protection that conforms to the international/national standards.

Thermal hazards

Hydrogen peroxide will increase decomposition if exposed to heat

Other information.

Australian standards on PPE

Respiratory protection: AS/NZS 1715 and AS/NZS 1716.

Gloves: AS/NZS 2161.1.

Eye protection: AS/NZS 1336 and AS/NZS 1337

European standards for PPE

Goggles (European standard - EN 166)

Self-contained breathing apparatus to approved Australian, European or USA, MSHA/NIOSH (approved or equivalent) standards for the country region in use.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Refer to the 'Personal Protective Equipment (PPE) – Regulations (EU) 2016/425

US Standards for PPE

Reference publication - Personal Protective Equipment U.S. Department of Labour Occupational Safety and Health Administration OSHA 3151-12R 2004

Canadian standards on PPE

CSA Standard Z94.4-02 – Selection, Care and Use of Respirators

CSA Standard Z94.3-07 – Eye and Face Protectors
CSA Standard Z94.1 – Protective Headwear
CSA Standard Z195-09 – Protective Footwear
CSA Standard Z94.2.02 – Hearing Protection Devices (Performance Selection, Care and Use)

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Clear, colourless liquid.

Odour: Slightly pungent

Odour threshold: Data is not available

pH: 1-4

Melting point/freezing point: Liquid at ambient conditions

Boiling point and boiling range: Approx. 108°C / 226.4°F 760 mmHg (H₂O₂ 35%)

Flash point: Does not flash

Evaporation rate: Data is not available

Flammability (solid, gas): The product is not flammable

Upper/lower flammability or explosive limits: Not flammable

Vapour pressure: 12 mbar at room temperature

Vapour density: 1 (H₂O₂ 50%)

Relative density: 1.13 at 35% aqueous solution

Solubility: Soluble in water and polar organic solvents

Partition coefficient: n-octanol/water: Log Pow: -1.1

Auto-ignition temperature: Data is not available

Decomposition temperature: ≥ 60 °C (140°F) (Self-Accelerating decomposition temperature (SADT) (> 50%)); < 60 °C (140°F) (slow decomposition) (> 50%); 100 °C (212°F) in 25 kg package (SADT (35%)); 80 °C (176°F) in 1 m³ volume (SADT (35%)).

Viscosity: 1.07 mPa.s Temperature: 20°C (68°F) (H₂O₂ 27.5%)

Other physical/chemical parameters

Specific heat value: Data is not available

Saturated vapour concentration: 500 ppm at 30 °C (86°F) (35%)

Release of invisible flammable vapours and gases: Not flammable

Particle size (average and range): Data is not available

Size distribution: Data is not available

Shape and aspect ratio: Data is not available

Crystallinity: Data is not available

Dustiness: Data is not available

Surface area: Data is not available

Degree of aggregation or agglomeration, and dispersibility: Data is not available

Redox potential: Data is not available

Biodurability or biopersistence: Data is not available

Surface coating or chemistry: Data is not available

9.2. Other information

No other information available

Section 10. Stability and reactivity

10.1. Reactivity

Reactive with reducing agents, organic solvents, organic compounds and metals

10.2. Chemical stability

Stable under normal storage and handling conditions of temperature and pressure. Contains a stabilizer.

10.3. Possibility of hazardous reactions

Explosive at high temperatures and when in contact with organic solvents.

10.4. Conditions to avoid

Organic materials plus mechanical shock, light, ignition sources, dust generation, heat, combustible materials, reducing agents, alkaline materials, strong oxidants, rust, dust, pH > 4.0, contamination, depletion of stabilizers, lack of vents and incompatible materials.

10.5. Incompatible materials

Strong acids, strong bases, heavy metal salts, reducing agents and combustible material

10.6. Hazardous decomposition products

Oxygen, the release of other hazardous decomposition products is possible, hydrogen gas, water, heat, steam. Decomposition continuously occurs even at a slow rate when the compound is inhibited.

Section 11. Toxicological information

11.1. Information on toxicological effects

(a) Acute toxicity

Oral Category 4

Dermal Based on available data, the classification criteria are not met

Inhalation Based on available data, the classification criteria are not met

For USA

Product mixture Information

Oral LD50 Category 4. ATE = 300 - 2000 mg/kg.

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrogen peroxide	376 mg/kg (Rat) (90%)	>2000 mg/kg (Rabbit)	LC50 = 2000 mg/m ³ (Rat) 4 h
	910 mg/kg (Rat) (20-60%)		
	1518 mg/kg (Rat) (8-20% sol)		
	1682 mg/kg (Rat) (30% sol)		

Toxicological Synergistic - No information available

Sensitization - No information available

Carcinogenicity - The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Hydrogen peroxide	7722-84-1	Not listed	Not listed	A3	Not listed	A3

IARC: (International Agency for Research on Cancer) *IARC: (International Agency for Research on Cancer)*

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens *Mexico - Occupational Exposure Limits - Carcinogens*

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory Based on available data, the classification criteria are not met

Skin Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

"Confirmed Animal Carcinogen with Unknown Relevance to Humans (A3)".

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects, both acute and delayed

Information on early onset of symptoms related to exposure

Data not available

Delayed and interactive health effects from exposure

Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the lungs.

Exposure levels and health effects

Hydrogen peroxide has moderate acute toxicity from oral and inhalation exposure, and low acute toxicity from dermal exposure. The chemical is corrosive to the skin and eyes and is a respiratory irritant.

Section 12. Ecological Information

12.1. Toxicity

Acute aquatic hazard: No ecological problems are to be expected when the product is handled and used with due care and attention. When used properly, no impairments in the function of waste-water-treatment plants are to be expected. Toxic for aquatic organisms. In high concentrations: Toxic effect on fish and plankton.

Long-term aquatic hazard: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Ecotoxicity:

	Toxicity to fish:	Toxicity to and other aquatic invertebrates:	Toxicity to algae and other aquatic plants:
Hydrogen Peroxide	Pimephales promelas, LC50, 96h, 16.4 mg/l	Crustaceans, Daphnia pulex, EC50, 48h, 2.4 mg/l	Algae, various species, EC50, from 72 – 96h, from 3.7 – 160 mg/l
	Pimephales promelas, NOEC, 96h, 5 mg/l	Crustaceans, Daphnia pulex, NOEC, 48h, 1 mg/l	Algae, Nitzschia closterium, EC50, from 72 – 96, 0.85 mg/l

Microtox – Not listed

12.2. Persistence and degradability Readily biodegradable

Persistence: Persistence is unlikely, Decomposes, Soluble in water, based on information available.

Degradability: Not relevant for inorganic substances.

Degradation in sewage treatment plant: No inhibition of bacteria is expected if properly introduced into a biological treatment facility. Contains substances known to be hazardous to the environment or not degradable in waste-water treatment plants.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

log Pow -1.1. Hydrogen peroxide does not accumulate in cells of living organisms.

12.4. Mobility in soil

Hydrogen peroxide LOW (KOC = 14.3). The product is water soluble and may spread in water systems. Highly mobile in soils

12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13. Disposal consideration

13.1 Waste treatment methods

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible, material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional national and international Regulations.

Contact a specialist disposal company or the local waste regulator for advice.

US EPA Waste Number D001

Section 14. Transport Information

ROAD AND RAIL TRANSPORT

ADR - Classified as Dangerous Goods by the criteria of the European Agreement Concerning the International Carriage of Dangerous Goods by Road

ADG - Classified as Dangerous Goods by the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail. (ADG Code).

DOT - Classified as Dangerous Goods by the criteria of the US Department of Transport, Rules and Regulations.

TDG - Classified as Dangerous Goods by the criteria of the Transportation of Dangerous Goods Regulations. Canada

Classified as a hazardous material by the Mexican Regulation for the land transport of hazardous materials and waste.



UN No:	2014
Proper Shipping Name:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)
Dangerous Goods Class:	5.1
Subsidiary Risk(s):	8
Packing Group number:	II
Hazchem Code:	2P
Emergency Response Guide No:	31

Special precautions for user: Dangerous Goods of Class 5.1 Oxidising Agents are incompatible in a placard load with any of the following: - Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and combustible liquids.

Additional information: Data is not available.

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea. This material under the IMDG Code is classified as a Marine Pollutant (P).



UN No:	2014
Proper Shipping Name:	HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)
Dangerous Goods Class:	5.1
Subsidiary Risk(s):	8
Packing Group number:	II

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air. (Air -STRICKLY NO AIR FRIEGHT)



UN No: 2014

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

Dangerous Goods Class: 5.1

Subsidiary Risk(s): 8

Packing Group number: II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed.

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS- No	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Hydrogen peroxide	7722-84-1	231-765-0	—		X	X	-	X	X	X	X	KE-2-204
Water	7732-18-5	231-791-2	-		X	X	-	X	-	X	X	KE-35400

TSCA inventory notification – Active/Inactive: ACTIVE

TSCA -EPA Regulatory Flags – No information available

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export - Not applicable

National/International Regulations

U.S. Federal Regulations (Hydrogen peroxide)

SARA 313 - This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) - This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Clean Air Act - Not applicable

OSHA - Occupational Safety and Health Administration

CERCLA - This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Specifically, Regulated Chemical: No information available

Highly Hazardous Chemical: TQ:7500 LB

California Proposition 65 This product does not contain any Proposition 65 chemicals

Hazardous Substances RQs – No information available

CERCLA EHS RQs – 1000 lb

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Hydrogen peroxide	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant: N

DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Hydrogen peroxide - (DHS Chemical Facility Anti- Terrorism Standard): Theft STQs -400lbs (concentration >= 35%)

Other International Regulations

Mexico - Grade No information available

Hydrogen peroxide: Germany - Water Classification (VwVws) - WGK1. Germany -TA-Luft -N/A Class

Also refer to - Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

This material is not subject to the following international agreements:

- Montreal Protocol (Ozone depleting substances)
- The Stockholm Convention (Persistent Organic Pollutants)
- The Rotterdam Convention (Prior Informed Consent)
- Basel Convention (Hazardous Waste)
- International Convention for the Prevention of Pollution from Ships (MARPOL).

This material/constituents(s) is covered by the following requirements in Australia

- the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act 1989 (Cwlth) (as amended). **Poisons Schedule number S6.**
- All components of this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).
-

Section 16. Other Information

Full text of H-Statements referred to under sections 2 and 3

H272 May intensify fire; oxidiser

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation

H412 Harmful to aquatic life with long lasting effects

Legend

Key literature references and sources for data

Suppliers safety data sheet, Chem advisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards on basis of test data

Health Hazards Calculation method

Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards. First aid for chemical exposure, including the use of eye wash and safety showers.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Date of preparation: 2 June 2019

Reason for issue: Format change and redesign to include US format requirements

Prepared by ChemVit Consulting Pty Ltd

Source of data

This SDS has been prepared in accordance the Safe Work Australia Preparation of safety data sheets for hazardous chemicals Code of Practice prepared under the Work Health and Safety Act and Work Health and Safety Regulations.

Code of Practice: Labelling of workplace hazardous chemicals

'Standard for the Uniform Scheduling of Medicines and Poisons No. 23'

Hazard Classification

Australian Inventory of Chemical Substances (AICS) (NICNAS)
Chemical Assessment Reports (NICNAS)
Workplace Exposure Standards for Airborne Contaminants
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
(United Nations) Global Portal to Information on Chemical Substances (OECD).
OECD means the Organisation for Economic Cooperation and Development.
Hazardous Chemical Information System
European Chemicals Agency (ECHA)

Other references

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7.5, 2017.
Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.

Key abbreviations or acronyms used

CAS - Chemical Abstracts Service	vPvB - very Persistent, very Bioaccumulative
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances	ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List	IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
PICCS - Philippines Inventory of Chemicals and Chemical Substances	MARPOL - International Convention for the Prevention of Pollution from Ships
ENCS - Japanese Existing and New Chemical Substances	OECD - Organisation for Economic Co-operation and Development
IECSC - Chinese Inventory of Existing Chemical Substances	ATE - Acute Toxicity Estimate
AICS - Australian Inventory of Chemical Substances	BCF - Bioconcentration factor
KECL - Korean Existing and Evaluated Chemical Substances	VOC - Volatile Organic Compounds
NZIoC - New Zealand Inventory of Chemicals	IDLH Immediately Dangerous to Life and Health.
WEL - Workplace Exposure Limit	UN United Nations.
TWA - Time Weighted Average	STEL Short Term Exposure Limit.

NIOSH National Institute for Occupational Safety and Health.

NOHSC National Occupational Health and Safety Commission.

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level

PNEC - Predicted No Effect Concentration

RPE - Respiratory Protective Equipment

LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%

EC50 - Effective Concentration 50%

NOEC - No Observed Effect Concentration

POW - Partition coefficient Octanol: Water

PBT - Persistent, Bioaccumulative, Toxic

TLV Threshold Limit Value.

< Less Than.

> Greater Than.

atm Atmosphere.

cm² Square Centimetres.

deg C (°C) Degrees Celsius.

g Grams g/cm³ Grams per Cubic Centimetre.

g/l Grams per Litre.

ppb Parts per Billion.

ppm Parts per Million.

psi Pounds per Square Inch.

Disclaimer

This information was prepared in good faith from the best information available at that time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions

If you are an employer it is your duty to tell your employees, and any person/s that may be affected, of any hazards described in this data sheet and of any precautions that should be taken.

In all cases please ensure you have the current version.

END OF SDS