Vaprox® Hydrogen Peroxide Sterilant

Safety Data Sheet

according [redacted] 77, No. 58 /Monday, March 28, 2012/Rules and Regulation

Date of issue: 07/20/2018 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : Vaprox® Hydrogen Peroxide Sterilant

Product code : PB006, PB008, PB027, PB030 (SDS No. A122)

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Product for industrial use only

Use of the substance/mixture : Antimicrobial agent

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

[redacted]
5960 Heisley Road, Mentor OH 44060, USA
Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)
US Emergency Telephone No.1-31[redacted] (STERIS); 1-800-424-9300 (CHEMTREC)
Email: [redacted]@steris.com

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US Classification

Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Dam. 1	H318
Ox. Liq. 3	H272
STOT SE 3	H335

Full text of H-phrases: see Section 16.

2.2. Label elements – This label is regulated by the EPA under FIFRA. Refer to Section 15.

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS03 GHS05 GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H272 - May intensify fire; oxidizer
H302 – Harmful if swallowed.
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H335 – May cause respiratory irritation.

Precautionary statements (GHS-US) :
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 – Avoid breathing mist, spray, vapors.
P273 – Avoid release to the environment.
P280 – Wear eye protection, protective clothing, protective gloves.
P301+312 – IF SWALLOWED: Call a POISON CONTROL CENTER or doctor if you feel unwell.
P302+P352 – IF ON SKIN: Wash with plenty of water.
P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+351+338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 – Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrogen peroxide	(CAS No) 7722-84-1 (EC no) 231-765-0 (EC index no) 008-003-00-9	35	Ox. Liq. 1, H271 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412

Full text of H-phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. In all cases of doubt, or when symptoms persist, seek medical attention.

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Immediately get medical attention.

First-aid measures after skin contact : Remove contaminated clothing immediately. Immediately flush skin with plenty of water for at least 15 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Immediately get medical attention. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : If victim completely conscious/alert give water or milk if the person is fully conscious. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

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

Symptoms/injuries after inhalation : May cause respiratory irritation. Possible inflammation of the respiratory tract. Medical observationis recommended for 24 to 48 hours after overexposure, as pulmonary edema may be delayed.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Flood with plenty of water. Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Organic compounds. As hydrogen peroxide may react with a variety of organic materials and can form explosive mixtures, shock sensitive compounds, and initiate fire. Foam is not effective as oxygen and heat continue to be generated under the foam blanket. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : On decomposition releases oxygen which may intensify fire. Containers may swell and burst during a fire due to internal pressure caused by heat.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protective equipment for firefighters : Use self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Oxygen evolution decomposition may burst sealed containers and accelerate the burning rates of other combustible materials. Damp material in contact with paper, wood, cloth, etc. may cause spontaneous combustion of the organic material.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation. Do not breathe fumes, vapors. Avoid contact with skin, eyes and clothes. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective gloves and eye/face protection. For further information refer to Section 8: Exposure-controls/personal protection.

Emergency procedures : Stop leak if safe to do so. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Do not absorb in sawdust, paper, cloth or other combustible absorbents. Comply with applicable local, national and international regulation. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Read label before use. Avoid all eye and skin contact and do not breathe vapor and mist. keep away from incompatible materials. Do not wear leather soled shoes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust, mist or spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Take care for general good hygiene and housekeeping. Wash hands thoroughly after handling. Contaminated clothing should be washed thoroughly in order to eliminate a delayed potential fire hazard. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed.

Incompatible materials : Strong alkalis. Strong oxidizing agents. Organic materials. Reducing agents. Metal salts. Alkali metals. Wood. Paper. Copper and its alloys. Metals

Prohibitions on mixed storage : Keep away from incompatible materials.

Storage area : Store in dry, cool, well-ventilated area.

Pesticide storage : Do not contaminate water, food, feed by storage or disposal. Store containers upright. Do not freeze. Do not expose to cyanide, hexavalent chromium compounds, other oxidizers, reducers, combustible materials or flammable vapors. Shade from radiant heat and direct sunlight. Stow away from powdered metals and permanganates.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrogen peroxide (7722-84-1)		
USA - ACGIH	ACGIH TWA (ppm)	1 ppm
USA - IDLH	US IDLH (ppm)	75 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	1,4 mg/m³

Hydrogen peroxide (7722-84-1)		
USA - NIOSH	NIOSH REL (TWA) (ppm)	1 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m³)	1,4 mg/m³
USA - OSHA	OSHA PEL (TWA) (ppm)	1 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Local exhaust ventilation is recommended to maintain vapor level below the threshold limit value (TLV).

Personal protective equipment : Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Protective clothing. Gloves. Protective goggles. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves. Use gloves constructed of chemical resistant materials such as nitrile, neoprene, rubber or vinyl if frequent or prolonged contact is expected.

Eye protection : Wear protective eyewear. Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Do not wear contact lenses.

Skin and body protection : Wear suitable protective clothing. Rubber apron, boots.

Respiratory protection : Work in well-ventilated zones or use proper respiratory protection. Wear appropriate mask. Protection factors vary depending upon the type of respirator used.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear

Color : Colorless

Odor : Odorless

Odor threshold : No data available

pH : <= 3,5

Relative evaporation rate (butyl acetate=1) : >1 (BuAc+1)

elting point : No data available

Freezing point : -33 °C (-27 °F)

Boiling point : 108°C

Flash point : Not flammable

Auto-ignition temperature : Not flammable

Decomposition temperature : >85°C

Flammability (solid, gas) : Non flammable

Vapor pressure : 23.3 mm Hg @ 30°C

Relative vapor density at 20 °C : No data available

Relative density : No data available

Density : 1.1 – 1.13 g/ml Specific Gravity

Solubility : Water: completely soluble

Log Pow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : 0.994 cP @ 25°C

Explosive properties : No data available

Oxidising properties : Oxidizer

Explosive limits : No data available.

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur. Contamination may cause rapid decomposition, oxygen gas release and dangerous pressures.

10.4. Conditions to avoid

Extremely high or low temperatures. Direct sunlight. Protect from all contamination.

10.5. Incompatible materials

Cyanides. Strong acids. Strong alkalis. Strong oxidizers. Reducing agent. Organic materials. Readily oxidizible materials such as paper, wood, sulfur and aluminum. Alkali metals. Metals. Metal salts. Copper and its alloys. Hexavalent chromium compounds. Potassium permanganate.

10.6. Hazardous decomposition products

Toxic fumes may be released. Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Vaprox® Hydrogen Peroxide Sterilant	
LD50 oral rat	1193 mg/kg
LD50 dermal rabbit	> 2000
ATE (oral)	1193,000 mg/kg bodyweight

Hydrogen peroxide (7722-84-1)	
LD50 oral rat	801 mg/kg
LD50 dermal rat	4060 mg/kg
LD50 dermal rabbit	2000 mg/kg
LC50 inhalation rat (mg/l)	2 g/m³ (Exposure time: 4 h)
ATE (oral)	801,000 mg/kg bodyweight
ATE (dermal)	2000,000 mg/kg bodyweight
ATE (gases)	4500,000 ppmv/4h
ATE (vapors)	2,000 mg/l/4h
ATE (dust,mist)	2,000 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
pH: <= 3.5

Serious eye damage/irritation : Causes serious eye damage.
pH: <= 3.5

Respiratory or skin sensitisation : Not classified
Based on available data, the classification criteria are not met.

Germ cell mutagenicity : Not classified
Based on available data, the classification criteria are not met.

Carcinogenicity : Not classified
Based on available data, the classification criteria are not met.

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) : May cause respiratory irritation

Specific target organ toxicity (repeated exposure) : Not classified
Based on available data, the classification criteria are not met.

Aspiration hazard : Not classified
Based on available data, the classification criteria are not met.

Potential Adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

Hydrogen peroxide (7722-84-1)	
LC50 fishes 1	16.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	7.7 mg/l (Exposure time: 24 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	2.5 mg/l (Exposure time: 72 h - Species: Chlorella vulgaris)
LC50 fish 2	18 - 56 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [Static])
EC50 Daphnia 2	18 - 32 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Vaprox® Hydrogen Peroxide Sterilant	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Vaprox® Hydrogen Peroxide Sterilant	
Bioaccumulative potential	Not established.

Hydrogen peroxide (7722-84-1)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

No additional information available.

12.6. Other adverse effects

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : PESTICIDE DISPOSAL: Rinse containers with 20 parts water and then empty into sink with running water. Hydrogen Peroxide is classified as a DOT oxiizer and a hazardous waste under U.S. EPA hazardous waste regulations and it is a violation of federal law to improperly dispose of pesticides.

Additional information : CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

Do not contaminate food, feed, or water by storage or disposal.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN 2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 5.1 (8), II

Proper Shipping Name : HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS

UN-No.(DOT) : 2014

UN-No.(DOT) : UN2014

[redacted] (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

5.1

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II

Additional information

Other information : Product containers are vented; therefore, cannot be shipped by air.

Road transport

Class: ADR/RID : UN 2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 5.1 (8), II

Sea transport

Class: IMDG : UN 2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 5.1 (8), II

Air transport

Class: ICAO/IATA : Product containers are vented; therefore, cannot be shipped by air.

SECTION 15: Regulatory information

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

EPA FIFRA Pesticide Product Notice	This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
EPA FIFA Signal Word	Danger
EPA FIFRA Hazard Statements	Keep Out of Reach of Children
EPA FIFRA Precautionary Statements	Hazards to Humans and Domestic Animals
	Corrosive
	Causes irreversible eye damage or skin burns.
	May be fatal if inhaled.
	Harmful if swallowed or absorbed through skin.
	Do not get in eyes, on skin or on clothing.
	Do not breathe spray mist

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision Date : 07/20/2018

Other information : None.

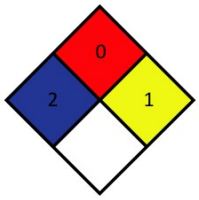
Full text H-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Ox. Liq. 1	Oxidising Liquids, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity (single exposure), Category 3
H271	May cause fire or explosion; strong oxidizer
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



Steris Corporation SDS

The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to provide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.