

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

#### 1.1. Product identifier

Product form	: Mixture
Trade name	: Vaprox® 59 Hydrogen Peroxide Sterilant
Product code	: PB031, PB032, PB033, PB034, PB035
SDS No	: A127
Product group	: Trade product

#### 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:

STERIS Corporation  
5960 Heisley Road, Mentor OH 44060, USA  
Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)  
US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

Supplier:

STERIS Ireland Limited  
IDA Business and Technology Park  
Tullamore  
County Offaly  
R35 X865  
Ireland.  
Product/Technical Information Phone No: +44 (0) 116 276 8636  
Email: asksteris\_msds@steris.com

#### 1.4. Emergency telephone number

Emergency number : +44 (0) 1895 622 639

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Ox. Liq. 2	H272
Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Corr. 1B	H314
STOT SE 3	H335
Aquatic Chronic 3	H412

Full text of H-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

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according to Regulation (EC) No. 453/2010

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

H272 - May intensify fire; oxidiser  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H332 - Harmful if inhaled  
H335 - May cause respiratory irritation  
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P220 - Store away from clothing and combustible materials  
P260 - Do not breathe mist, spray, vapours  
P264 - Wash hands thoroughly after handling  
P273 - Avoid release to environment  
P280 - Tragen Sie Augenschutz, Schutzhandschuhe und Schutzkleidung  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P321 - Specific treatment.  
P363 - Wash contaminated clothing before reuse.  
P403 + P223 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable local, national and international regulation

EUH phrases

: EUH210 - Safety data sheet available on request

### 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	59	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

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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. Immediately get medical attention. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Give water if the person is fully conscious. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries	: Hydrogen peroxide at these concentrations is a strong oxidant. Causes severe skin burns and eye damage
Symptoms/injuries after inhalation	: Harmful if inhaled. Possible inflammation of the respiratory tract. Medical observation is recommended for 24 to 48 hours after overexposure, as pulmonary edema may be delayed. May cause respiratory irritation
Symptoms/injuries after eye contact	: Eye contact with concentrated solutions may cause severe eye damage followed by loss of sight
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Severe irritation or burns to the mouth, throat, oesophagus, and stomach

### 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	: Hydrogen peroxide at these concentrations is a strong oxidant. On decomposition releases oxygen which may intensify fire. Containers may swell and burst during a fire due to internal pressure caused by heat
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### 5.3. Advice for firefighters

Precautionary measures fire	: On heating, there is a risk of bursting due to internal pressure build-up. Cool down the containers exposed to heat with a water spray
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
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#### 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 Early re-entry in the case of an emergency (when the concentration of hydrogen peroxide exceeds 1 ppm) requires wearing appropriate respirator.

### 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

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### 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
- Other information : Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire

### 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 vapour 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 vapour. Avoid breathing dust, mist or spray. Use only outdoors or in a well-ventilated area. Never return unused material to original container
- 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. Floors should be impervious, resistant to liquids and easy to clean
- Storage conditions : Keep only in the original container in a cool, dry, 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. Cyanide. Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity")
- Prohibitions on mixed storage : Do not store near reducing or oxidizing agents. Keep away from clothing and other combustible material.
- Storage area : Store in dry, cool, well-ventilated area
- Special rules on packaging : Correctly labelled

### 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)		
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1.4 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	1 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2.8 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	2 ppm
USA - ACGIH	ACGIH TWA (ppm)	1 ppm
USA - IDLH	US IDLH (ppm)	75 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1.4 mg/m <sup>3</sup>
USA - NIOSH	NIOSH REL (TWA) (ppm)	1 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1.4 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	1 ppm

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### 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 neoprene 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.

Early re-entry in the case of an emergency (when the concentration of hydrogen peroxide exceeds 1 ppm) requires wearing appropriate respirator.

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
Colour	: Colourless
Odour	: Odourless
Odour threshold	: No data available
pH	: <= 3.5
Relative evaporation rate (butyl acetate=1)	: >1
Melting point	: No data available
Freezing point	: -55°C
Boiling point	: 119°C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 85°C
Flammability (solid, gas)	: Non flammable
Vapour pressure	: 14.2 mm Hg @ 30°C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.24 g/ml Specific Gravity @ 20°C
Solubility	: Water: completely soluble
Log Pow	: -1.57 @ 20°C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 1.079 cP @ 25°C
Explosive properties	: No data available
Oxidising properties	: Oxidizer
Explosive limits	: No data available

### 9.2. Other information

No additional information available

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### 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 oxidizable 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. Harmful if inhaled

Vaprox® 59 Hydrogen Peroxide Sterilant	
ATE (oral)	500,000 mg/kg bodyweight
ATE (dust,mist)	1,500 mg/l/4h

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/m <sup>3</sup> (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 (vapours)	2,000 mg/l/4h
ATE (dust,mist)	2,000 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage pH: <= 3.5
Serious eye damage/irritation	: Serious eye damage, category 1, implicit 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

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

#### 12.3. Bioaccumulative potential

Vaprox® 59 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 : Do not reuse empty containers. Containers remain hazardous when empty. Consult the appropriate authorities about waste disposal. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment

### SECTION 14: Transport information

In accordance with ADR/RID/IMDG/IATA/ADN

Keep well ventilated and away from direct sunlight or heat sources.

#### 14.1. UN number

UN-No. : 2014  
UN-No.(IATA) : 2014  
UN-No. (IMDG) : 2014  
UN-No.(ADN) : 2014

#### 14.2. UN proper shipping name

Proper Shipping Name : HYDROGEN PEROXIDE, AQUEOUS SOLUTION  
Proper Shipping Name (IATA) : HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 59 %  
Transport document description : UN 2014 HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS 59% STABILIZED), 5.1 (8), II

#### 14.3. Transport hazard class(es)

Class (UN) : 5.1  
Classification code (UN) : OC1  
Class (IATA) : 5.1  
Class (IMDG) : 5.1  
Class (ADN) : 5.1

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Hazard labels (UN) : 5.1, 8



### 14.4. Packing group

Packing group (UN) : II

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

Hazard identification number (Kemler No.) : 58  
Classification code (UN) : OC1  
Orange plates :



Transport category (ADR) : 2  
Tunnel restriction code : E  
Limited quantities (ADR) : 1L  
Excepted quantities (ADR) : E2  
EAC code : 2P

#### 14.6.2. Transport by sea

**PB031(950mL), PB032 (18.93L), PB033 (113mL), PB034 (70mL)**

See above information (IMDG)

#### **PB035 (29mL)**

Conforms with IMDG 3.5. Shipping paper must state "dangerous goods in excepted quantities".

#### 14.6.3. Air transport

**PB031(950mL), PB032 (18.93L), PB033 (113mL), PB034 (70mL)**

Forbidden

Transport regulations (IATA) : Hydrogen peroxide (>40%) is forbidden on Passenger and Cargo Aircraft  
Instruction "passenger" (ICAO) : Hydrogen peroxide (>40%) is forbidden on Passenger and Cargo Aircraft

#### **PB035 (29mL)**

Air: Conforms with ICAO SP A75.

#### 14.6.4. Inland waterway transport

Vaprox 59 is not considered a marine pollutant.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions  
Contains no REACH candidate substance



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### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Revision Date : 08/14/2019.  
Sources of Key data : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
Other information : None

Full text of H- and EUH-phrases:

Acute Tox. 4 (Inhalation: mist)	Acute toxicity (Inhalation:mist), 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
Ox. Liq. 2	Oxidising Liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT SE 3	Specific target organ toxicity (single exposure), Category 3
H271	May cause fire or explosion; strong oxidiser
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

SDS EU (REACH Annex II)

*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.*