

Hydrogen Peroxide 1%

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

- Store locked up

Disposal

- Dispose of contents/container to an approved waste disposal plant

Other Information

Other hazards

- Harmful to aquatic life with long lasting effects

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	Weight-% *
Water	7732-18-5	231-791-2	
Hydrogen peroxide	7722-84-1	231-765-0	1

4. FIRST AID MEASURES

General advice

- If symptoms persist, call a physician
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not get in eyes, on skin, or on clothing
- Immediate medical attention is required

Eye contact

- Keep eyes wide open while rinsing
- Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes
- If symptoms persist, call a physician
- Immediate medical attention is required
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

Skin contact

- Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes
- Consult a physician if necessary

Inhalation

- Remove to fresh air
- Call a physician
- If breathing is irregular or stopped, administer artificial respiration
- Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation
- If not breathing, give artificial respiration
- If breathing is labored, administer oxygen
- Call a physician or poison control center immediately

Ingestion

- Do NOT induce vomiting
- Drink plenty of water
- Rinse mouth
- If symptoms persist, call a physician
- Immediate medical attention is required
- Remove from exposure, lie down
- Clean mouth with water and drink afterwards plenty of water
- Never give anything by mouth to an unconscious person
- Call a physician or poison control center immediately

Note to physician

• Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood

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pressure may occur with moist rales, frothy sputum, and high pulse pressure

- Treat symptomatically

Self-protection for first aid personnel

- Use personal protective equipment as required

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

- Dry chemical, CO₂, water spray or alcohol-resistant foam
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media

- No information available

Specific hazards arising from the chemical

- The product causes burns of eyes, skin and mucous membranes
- Thermal decomposition can lead to release of irritating and toxic gases and vapors
- In the event of fire and/or explosion, do not breathe fumes

Protective equipment and precautions for firefighters

- Wear self contained breathing apparatus for fire fighting if necessary

Flammable properties

- No information available

Explosive properties

- No information available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

- Use personal protective equipment as required
- Evacuate personnel to safe areas
- Avoid contact with skin, eyes or clothing
- Keep people away from and upwind of spill/leak

Environmental precautions

- For small spills, absorb material with clay absorbent or other compatible material. Dispose of the waste material according to local, state and governmental requirements.
- For large spills, contain the material using barriers of absorbent pigs, clay absorbent or earth dams.

Methods for cleaning up

- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Cover powder spill with plastic sheet or tarp to minimize spreading
- Pick up and transfer to properly labeled containers
- Dam up
- Take up mechanically, placing in appropriate containers for disposal
- After cleaning, flush away traces with water

Other Information

- No information available

7. HANDLING AND STORAGE

Advice on safe handling

- Avoid contact with skin, eyes or clothing
- Use personal protective equipment as required
- Wash contaminated clothing before reuse
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- In case of insufficient ventilation, wear suitable respiratory equipment
- Use only with adequate ventilation and in closed systems

Storage Conditions

- Keep container tightly closed in a dry and well-ventilated place
- Keep out of the reach of children
- Keep containers tightly closed in a dry, cool and well-ventilated place
- Keep in properly labeled containers

Incompatible materials

Incompatible with strong acids and bases, Incompatible with oxidizing agents

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

Exposure Guidelines

Engineering Controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

- Respiratory protection**
- A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.
- Eye/Face protection**
- Tight sealing safety goggles
 - Face protection shield
- Skin and body protection**
- Wear suitable protective clothing
 - Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact
- General Hygiene Considerations**
- When using do not eat, drink or smoke
 - Wash contaminated clothing before reuse
 - Keep away from food, drink and animal feeding stuffs
 - Contaminated work clothing should not be allowed out of the workplace
 - Regular cleaning of equipment, work area and clothing is recommended
 - Avoid contact with skin, eyes or clothing
 - Take off all contaminated clothing and wash it before reuse
 - Wear suitable gloves and eye/face protection

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	clear
Color	colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	2-4	
Melting point/Freezing Point	-26 °C / -15 °F	
Boiling point / boiling range	No information available	°C
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit (%)	No information available	
Lower flammability limit (%)	No information available	
Vapor pressure	28 mm Hg	
Vapor density	No information available	
Specific Gravity	1.04	
Water solubility	completely soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	

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Dynamic viscosity No information available
 Explosive properties No information available
 Oxidizing properties No information available

Other Information

Softening point °C No information available
 Molecular weight No information available
 VOC Content (%) No information available
 Density No information available
 Bulk density 8.68 Pounds per gallon (lb/gal)

10. STABILITY AND REACTIVITY

Stability • Stable under recommended storage conditions
Conditions to avoid • Exposure to air or moisture over prolonged periods
Incompatible materials Incompatible with strong acids and bases, Incompatible with oxidizing agents
Hazardous Decomposition Products • Thermal decomposition can lead to release of irritating and toxic gases and vapors
Possibility of Hazardous Reactions • None under normal processing and storage

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Principle Routes of Exposure Inhalation, Skin contact, Eye contact
Inhalation May cause irritation of respiratory tract. Avoid breathing vapors or mists.
Ingestion May be harmful if swallowed.
Skin contact May cause skin irritation and/or dermatitis.
Eye contact Contact with eyes may cause irritation.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)		
Hydrogen peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h

Information on toxicological effects

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydrogen peroxide 7722-84-1	A3	Group 3		

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Not classifiable as a human carcinogen

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw

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necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

Target Organ Effects Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 18626 mg/kg
LC50 (Dust/Mist) 25 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Harmful to aquatic life with long lasting effects
0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Hydrogen peroxide 7722-84-1	2.5: 72 h Chlorella vulgaris mg/L EC50	10.0 - 32.0: 96 h Oncorhynchus mykiss mg/L LC50 static 18 - 56: 96 h Lepomis macrochirus mg/L LC50 static 16.4: 96 h Pimephales promelas mg/L LC50	18 - 32: 48 h Daphnia magna mg/L EC50 Static 7.7: 24 h Daphnia magna mg/L EC50

Persistence and degradability No information available
Bioaccumulation No information available

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Disposal of wastes • This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261)
Contaminated packaging • Do not reuse container
US EPA Waste Number • D001
• D002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Hydrogen peroxide 7722-84-1	Toxic Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION

DOT

Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
Hazard Class 5.1
UN/ID No. UN2984
Packing Group III
Technical Name Description WITH NOT LESS THAN 8 PERCENT BUT NOT MORE THAN 20 PERCENT HYDROGEN PEROXIDE STABILIZED AS NECESSARY
Description UN2984, Hydrogen peroxide, aqueous solutions, 5.1, III
Special Provisions A1, IB2, IP5, T4, TP1, TP6, TP24, TP37
Emergency Response Guide Number 140

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Transport Canada

UN/ID No. UN2984
Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard Class 5.1
Packing Group III
Description UN2984, Hydrogen peroxide, aqueous solution, 5.1, III

IATA

UN/ID No. UN2984
Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard Class 5.1
Packing Group III
ERG Code 5L
Special Provisions A803

IMDG

UN/ID No. UN2984
Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard Class 5.1
Packing Group III
EmS-No. F-H, S-Q
Special Provisions 65

15. REGULATORY INFORMATION

US Federal Regulations

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). 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

U.S. - TSCA (Toxic Substances Control Act) - Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs)

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)

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)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ (lbs)(dry)
Hydrogen peroxide 7722-84-1		1000 lb	

Canada

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR

US State Regulations

**Hydrogen Peroxide 12%
California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know
Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5			X
Hydrogen peroxide 7722-84-1	X	X	X

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 3	Flammability 0	Instability 1	Physical and Chemical Properties
<u>HMIS</u>	Health hazards 3	Flammability 0	Physical hazards 1	Personal protection H

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Version	1
Revision Note	*** Updated value on SDS.

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End of Safety Data Sheet