

# SAFETY DATA SHEET

Version 8.2  
Revision Date 06/04/2021  
Print Date 08/13/2021

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

### 1.1 Product identifiers

Product name : Hydrogen peroxide 35%

Product Number : 1.08600

Catalogue No. : 108600

Brand : Millipore

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

Identified uses : Pharmaceutical production, Cosmetic raw material

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Short-term (acute) aquatic hazard (Category 2), H401

Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.  
 H401 Toxic to aquatic life.  
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ eye protection/ face protection.  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component	Classification	Concentration
<b>Hydrogen Peroxide</b>		
CAS-No. 7722-84-1 EC-No. 231-765-0 Index-No. 008-003-00-9	Ox. Liq. 1; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; Aquatic Acute 2; Aquatic Chronic 3; H271, H302, H332, H314, H318, H335, H401, H412 Concentration limits: >= 70 %: Ox. Liq. 1, H271; 50 - < 70 %: Ox. Liq. 2, H272; >= 70 %: Skin Corr. 1A, H314; 50 - < 70 %: Skin Corr. 1B, H314; 35 - < 50 %: Skin Irrit. 2, H315; 8 - < 50 %: Eye Dam. 1, H318; 5 - < 8	>= 35 - < 50 %

	%: Eye Irrit. 2, H319; >= 35 %: STOT SE 3, H335;	
--	--	--

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### **If inhaled**

After inhalation: fresh air. Consult doctor if feeling unwell.

#### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### **In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### **If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

Not combustible.

Has a fire-promoting effect due to release of oxygen.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

For disposal see section 13.

---

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Advice on safe handling**

Observe label precautions.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valve). No metal containers.

Tightly closed. Protected from light. Away from combustible materials and sources of ignition and heat.

Recommended storage temperature see product label.

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Hydrogen Peroxide	7722-84-1	TWA	1 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Confirmed animal carcinogen with unknown relevance to humans		
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	1 ppm 1.4 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		PEL	1 ppm 1.4 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

## 8.2 Exposure controls

### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Latex gloves

Minimum layer thickness: 0.6 mm

Break through time: > 480 min

Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: KCL 741 Dermatril® L

#### Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387

and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains.

---

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |                                      |
|---|--------------------------------------|
| a) Appearance                                   | Form: liquid<br>Color: colorless     |
| b) Odor   | slight                               |
| c) Odor Threshold                               | No data available                    |
| d) pH   | ca.2 - 4 at 20 °C (68 °F)            |
| e) Melting point/freezing point                 | Melting point: ca.-24 °C (ca.-11 °F) |
| f) Initial boiling point and boiling range      | ca.110 °C ca.230 °F at 1,013 hPa     |
| g) Flash point                                  | ( )Not applicable                    |
| h) Evaporation rate                             | No data available                    |
| i) Flammability (solid, gas)                    | No data available                    |
| j) Upper/lower flammability or explosive limits | No data available                    |
| k) Vapor pressure                               | ca.20 hPa at 20 °C (68 °F)           |
| l) Vapor density                                | No data available                    |
| m) Relative density                             | No data available                    |
| n) Water solubility                             | soluble                              |
| o) Partition coefficient: n-octanol/water       | No data available                    |
| p) Autoignition temperature                     | No data available                    |
| q) Decomposition temperature                    | > 100 °C (> 212 °F) -                |
| r) Viscosity                                    | No data available                    |
| s) Explosive properties                         | No data available                    |
| t) Oxidizing properties                         | Oxidizing potential                  |

### **9.2 Other safety information**

No data available

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

heat-sensitive Sensitivity to light

Contains the following stabilizer(s):

Disodium pyrophosphate (0.015 %)

phosphoric acid (0.01 %)

Ammonium nitrate (0.006 %)

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Risk of ignition or formation of inflammable gases or vapours with:

hydrazine and derivatives

hydrides

combustible substances

Ether

anhydrides

Oxidizing agents

Organic Substances

peroxi compounds

permanganates

organic solvent

organic nitro compounds

Brass

Alkali metals

alkali salts

Alkaline earth metals

Metals

metallic oxides

Metallic salts

nonmetals

nonmetallic oxides

Aldehydes

Alcohols

Amines

Ammonia

Acids

strong alkalis

Acetaldehyde

Acetone

Activated charcoal

anilines

Lead

Powdered metals

acetic acid

Acetic anhydride

Potassium

iodides

potassium permanganate

Methanol

sodium

oils

phosphorus  
Oxides of phosphorus  
conc. sulfuric acid  
Heavy metals  
silver  
in powder form  
alkali hydroxides  
with  
Heavy metals  
vinyl acetate  
with  
Catalyst  
Exothermic reaction with:  
alkali hydroxides  
Metals  
Nitric acid  
zinc oxide  
Metallic salts  
phenol  
with  
metal catalysts

#### **10.4 Conditions to avoid**

Heating.

#### **10.5 Incompatible materials**

Lead, bronze, Iron, Copper, Brass, silver, Metals, metal alloys

#### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

---

### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

##### **Mixture**

##### **Acute toxicity**

LD50 Oral - Rat - 1,193 - 1,270 mg/kg

Acute toxicity estimate Inhalation - 4 h - 31.43 mg/l  
(Calculation method)

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg  
(US-EPA)

No data available

##### **Skin corrosion/irritation**

After long-term exposure to the chemical: Causes skin burns.

##### **Serious eye damage/eye irritation**

conjunctivitis

##### **Respiratory or skin sensitization**

Sensitisation test: - Guinea pig

Result: negative

Remarks: (External MSDS)

##### **Germ cell mutagenicity**

Millipore - 1.08600

Page 8 of 12



No data available

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

Mixture may cause respiratory irritation. - Respiratory system

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

Dizziness, Unconsciousness, Diarrhea, Nausea, Vomiting, Headache, Convulsions, muscle twitching, insomnia, shock, Irritation and corrosion, conjunctivitis

Risk of serious damage to eyes.

Systemic effects:

Headache

Dizziness

Nausea

Vomiting

Diarrhea

insomnia

muscle twitching

Convulsions

Unconsciousness

shock

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## **Components**

### **Hydrogen Peroxide**

#### **Acute toxicity**

Acute toxicity estimate Oral - 500.1 mg/kg

(Expert judgment)

Oral: No data available

Inhalation: Corrosive to respiratory system.

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg  
(US-EPA)

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

Method: OECD Test Guideline 474

Species: Mouse - male and female - Bone marrow

Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation. - Respiratory Tract

**Specific target organ toxicity - repeated exposure**

**Aspiration hazard**

No data available

---

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Mixture**

No data available

Toxicity to algae            IC50 - Chlorella vulgaris (Fresh water algae) - 2.5 mg/l - 72 h  
(OECD Test Guideline 201)

**12.2 Persistence and degradability**

Biodegradability            Remarks: No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

No interference with wastewater treatment plants are to be expected when used properly.

Discharge into the environment must be avoided.

No data available

## Components

### Hydrogen Peroxide

Toxicity to fish	semi-static test LC50 - Pimephales promelas (fathead minnow) - 16.4 mg/l - 96 h (US-EPA) semi-static test NOEC - Pimephales promelas (fathead minnow) - 5 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test LC50 - Daphnia pulex (Water flea) - 2.4 mg/l - 48 h (US-EPA) semi-static test NOEC - Daphnia pulex (Water flea) - 1 mg/l - 48 h (US-EPA)
Toxicity to algae	IC50 - Pseudokirchneriella subcapitata (green algae) - 5.7 mg/l - 72 h Remarks: (ECOTOX Database)  Growth rate NOEC - Skeletonema costatum (marine diatom) - 0.63 mg/l - 72 h Remarks: (External MSDS)
Toxicity to bacteria	static test EC50 - activated sludge - 466 mg/l - 30 min (OECD Test Guideline 209) static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

---

## SECTION 14: Transport information

### DOT (US)

UN number: 2014 Class: 5.1 (8) Packing group: II  
Proper shipping name: Hydrogen peroxide, aqueous solutions  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

UN number: 2014 Class: 5.1 (8) Packing group: II EMS-No: F-H, S-Q  
Proper shipping name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION

**IATA**

UN number: 2014 Class: 5.1 (8) Packing group: II  
Proper shipping name: Hydrogen peroxide, aqueous solution

---

**SECTION 15: Regulatory information****SARA 302 Components**

Hydrogen Peroxide

CAS-No.  
7722-84-1Revision Date  
2014-05-05**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

---

**SECTION 16: Other information**

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [mlsbranding@sial.com](mailto:mlsbranding@sial.com).

Version: 8.2

Revision Date: 06/04/2021

Print Date: 08/13/2021