

## Chemical Safety Data Sheet MSDS / SDS

## Hydrogen peroxide

Revision Date:2026-03-21 Revision Number:1

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

## Product identifier

Product name : Hydrogen peroxide  
CBnumber : CB3854293  
CAS : 7722-84-1  
EINECS Number : 231-765-0  
Synonyms : H<sub>2</sub>O<sub>2</sub>;dihydrogen peroxide

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

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

Continuerinsing.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

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

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

P273 Avoid release to the environment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

## Hazard statements

H412 Harmful to aquatic life with long lasting effects

H335 May cause respiratory irritation

H318 Causes serious eye damage

H315 Causes skin irritation

H302 Harmful if swallowed

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## SECTION 3: Composition/information on ingredients

### Substance

Product name : Hydrogen peroxide  
Synonyms : H<sub>2</sub>O<sub>2</sub>;dihydrogen peroxide  
CAS : 7722-84-1  
EC number : 231-765-0  
MF : H<sub>2</sub>O<sub>2</sub>  
MW : 34.01

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air.

#### 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. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### 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) and/or in section 11

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

No data available

### 4.4 Notes to physician

No data available

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## 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.

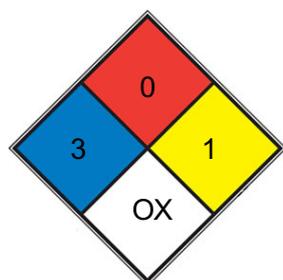
Ambient fire may liberate hazardous vapours.

## 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

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

## NFPA 704



**HEALTH 3** Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

**FIRE 0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

**REACT 1** Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

**SPEC. HAZ. OX**

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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. Chemizorb®).

Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

For disposal see section 13.

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# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed.

Light sensitive.

### Storage class

Storage class (TRGS 510): 12: Non Combustible Liquids

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# SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

### Ingredients with workplace control parameters

## 8.2 Exposure controls

### Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

#### Skin protection

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: (KCL 740 / Aldrich Z677272, Size M)

#### 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.

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

a) Physical state	clear, liquid
b) Color	colorless
c) Odor	Slightly pungent, irritating odor
d) Melting point/freezing point	0.0 °C
e) Initial boiling point and boiling range	100.0 °C
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	107°C
i) Autoignition temperature	Not applicable
j) Decomposition temperature	No data available
k) pH	6.0 - 8.0 at 25 °C
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	completely miscible at 20 °C soluble
n) Partition coefficient n-octanol/water	No data available
o) Vapor pressure	31.1 hPa at 30 °C
p) Density	1.000 g/cm <sup>3</sup>
Relative density	1.13 g/mL at 20 °C
q) Relative vapor density	1.1 (vs air)
r) Particle characteristics	No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	none
Solubility	diethyl ether: soluble
Dielectric constant	84.2 (0°C)

### 9.2 Other safety information

No data available

## SECTION 10: Stability and reactivity

### 10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.2 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### 10.3 Conditions to avoid

Light.

no information available

### 10.4 Incompatible materials

Iron and iron salts., Powdered metals, Copper, Iron, Zinc, Nickel

### 10.5 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture Acute toxicity

Oral: No data available

Acute toxicity estimate Inhalation - 4 h - > 40 mg/l - vapor(Calculation method)

Dermal: No data available

#### Skin corrosion/irritation

Classified based on available data. For more details, see section 2

#### Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

#### Germ cell mutagenicity

Classified based on available data. For more details, see section 2

#### Carcinogenicity

Classified based on available data. For more details, see section 2

#### Reproductive toxicity

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

#### Aspiration hazard

Classified based on available data. For more details, see section 2

### 11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

#### Components Hydrogen Peroxide

##### Acute toxicity

LD50 Oral - Rat - female - 693.7 mg/kg (OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 4 h - 11.1 mg/l - vapor (Expert judgment)

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

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

Remarks: Causes severe burns.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

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

Remarks: Causes serious eye damage.

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

Classified based on available data. For more details, see section 2

#### **Germ cell mutagenicity**

Method: OECD Test Guideline 474

Species: Mouse - male and female - Bone marrow

Result: negative

#### **Carcinogenicity**

Classified based on available data. For more details, see section 2

#### **Reproductive toxicity**

Classified based on available data. For more details, see section 2

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

Inhalation - May cause respiratory irritation. - Respiratory Tract

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

Classified based on available data. For more details, see section 2

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## SECTION 12: Ecological information

### **12.1 Toxicity**

#### **Mixture**

No data available

### **12.2 Persistence and degradability**

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 Endocrine disrupting properties**

No data available

## 12.7 Other adverse effects

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)

Toxicity to daphnia semi-static test LC50 - Daphnia pulex (Water flea) - 2.4 mg/l - and other aquatic 48 h invertebrates (US-EPA)

Toxicity to algae static test ErC50 - Skeletonema costatum (marine diatom) - 1.38 mg/l - 72 h

Remarks: (ECHA) static test NOEC - Skeletonema costatum (marine diatom) - 0.63 mg/l - 72 h

Remarks: (ECHA)

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)

Toxicity to daphnia flow-through test NOEC - Daphnia magna (Water flea) - 0.63 and other aquatic mg/l - 21 d invertebrates(Chronic Remarks: (ECHA) toxicity)

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA-DGR: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA-DGR: -

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

#### **14.6 Special precautions for user**

#### **14.7 Incompatible materials**

Iron and iron salts., Powdered metals, Copper, Iron, Zinc, Nickel

Further information: Not classified as dangerous in the meaning of transport regulations.

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## **SECTION 15: Regulatory information**

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

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## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

#### **Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.