



## Hydrogen peroxide

31642-1L

Version 1.3

Revision Date 24.01.2021

Serious eye damage Category 1  
H318 Causes serious eye damage.

### 2.2. Label elements

#### REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.  
H318 Causes serious eye damage.

Precautionary statements : P260 Do not breathe dust/ fume/ gas/ mist/  
vapours/ spray.  
P280 Wear protective gloves/protective  
clothing/eye protection/face protection.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do  
NOT induce vomiting.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water  
for several minutes. Remove contact  
lenses, if present and easy to do.  
Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical  
advice/ attention.

Hazardous components : hydrogen peroxide solution  
which must be listed on the  
label

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

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Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
hydrogen peroxide solution	7722-84-1 008-003-00-9 231-765-0	Ox. Liq. 1; H271 Acute Tox. 4; H302; Oral Acute Tox. 4; H332; Inhalation Skin Corr. 1A; H314 STOT SE 3; H335; Respiratory system Aquatic Chronic 3; H412	>= 25 % - < 35 %	Skin Corr. 1A; H314:>= 70 % Skin Corr. 1B; H314:50 - < 70 % Skin Irrit. 2; H315:35 - < 50 % Eye Dam. 1; H318:8 - < 50 % Ox. Liq. 2; H272:50 - < 70 % Eye Irrit. 2; H319:5 - < 8 % STOT SE 3; H335:>= 35 % Ox. Liq. 1; H271:>= 70 % Aquatic Chronic 3; H412:>= 63 % STOT SE 3; H335:>= 35 % Ox. Liq. 1; H271:>= 70 % Eye Dam. 1; H318:8 - < 50 % Skin Irrit. 2; H315:35 - < 50 % Skin Corr. 1A; H314:>= 70 % Ox. Liq. 2; H272:50 - < 70 % Eye Irrit. 2; H319:5 - < 8 % Skin Corr. 1B; H314:50 - < 70 %

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.  
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

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Immediately take off contaminated clothing and rinse body with plenty of water.

*Inhalation:*

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Remove to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

*Skin contact:*

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

*Eye contact:*

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. Call a physician immediately.

*Ingestion:*

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

No data available

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

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

Contact with combustible material may cause fire.  
In fires, the product supports combustion.  
Oxidizing Substance

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### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 6: Accidental release measures

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

Wear personal protective equipment. Unprotected persons must be kept away. Evacuate personnel to safe areas. Ensure adequate ventilation.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

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

Soak up with inert absorbent material.  
Do not pick up with the help of saw-dust or other combustible substances.  
Pick for disposal in tightly closed containers

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Avoid contact with skin and eyes.

*Advice on protection against fire and explosion:*

Keep away from combustible material. Fire or intense heat may cause violent rupture of packages. Normal measures for preventive fire protection.

*Hygiene measures:*

Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Separate rooms are required for washing, showering and changing clothes. Wash hands before breaks and at the end of workday. When using do not eat or drink.

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

*Requirements for storage areas and containers:*

Store in original container. Keep in a dry, cool and well-ventilated place. Do not keep the container sealed. Keep away from heat. Keep away from direct sunlight.

*Advice on common storage:*

Do not store with combustible materials.

### 7.3. Specific end use(s)

no additional data available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

*Occupational exposure limits:*

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
hydrogen peroxide solution	EH40 WEL STEL	2,8 mg/m <sup>3</sup> 2 ppm		
hydrogen peroxide solution	EH40 WEL TWA	1,4 mg/m <sup>3</sup> 1 ppm		

STEL - Short term exposure limit

TWA - Time weighted average

### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
hydrogen peroxide solution	Workers / Long-term systemic effects		1,4 mg/m <sup>3</sup>	Inhalation	
hydrogen peroxide solution	Workers / Acute systemic effects		3 mg/m <sup>3</sup>	Inhalation	
hydrogen peroxide solution	Consumers / Long-term		0,21 mg/m <sup>3</sup>	Inhalation	

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	systemic effects				
hydrogen peroxide solution	Consumers / Acute systemic effects		1,93 mg/m3	Inhalation	

Component	Environmental compartment / Value	Remarks
hydrogen peroxide solution	Fresh water: 0,0126 mg/l	
hydrogen peroxide solution	Marine water: 0,0126 mg/l	
hydrogen peroxide solution	Sewage treatment plant: 4,66 mg/l	
hydrogen peroxide solution	Fresh water sediment: 0,47 mg/kg	
hydrogen peroxide solution	Marine sediment: 0,47 mg/kg	
hydrogen peroxide solution	Soil: 0,0023 mg/l	

### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Ensure that eyewash stations and safety showers are close to the workstation location.

Do not breathe vapours or spray mist.

#### Engineering measures

Emergency sprinkling nozzle

Local exhaust

#### Personal protective equipment

*Respiratory protection:*

In the case of vapour formation use a respirator with an approved filter.

*Hand protection:*

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 1 mm

Combi-Latex 395

Gloves must be inspected prior to use.

Replace when worn.

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Remarks: Supplementary note: The specifications are based on information and tests from similar substances by analogy.  
Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.  
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.  
Manufacturer´s directions for use should be observed because of great diversity of types .  
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

*Eye protection:*  
Safety goggles

*Skin and body protection:*  
Impervious clothing

### Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

## SECTION 9: Physical and chemical properties

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

Physical state	: liquid
Colour	: colourless
Odour	: stinging
molecular weight	: 34,01 g/mol
Melting point/range	: -26 °C
Boiling point/boiling range	: Decomposes on heating.
Flammability	: Not applicable
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Flash point	: Not applicable



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Ignition temperature	:	Not applicable
pH	:	2,0 - 4,0 at 20 °C
Auto-ignition temperature	:	not auto-flammable
Viscosity, kinematic	:	No data available
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	93 hPa at 50 °C
Vapour pressure	:	18 hPa at 20 °C
Density	:	ca. 1,11 g/cm <sup>3</sup> at 20 °C
Bulk density	:	Not applicable
Relative vapour density	:	No data available

### 9.2 Other Information

Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

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No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Keep away from heat.  
Keep away from reducing agents.  
Keep away from combustible material.

### 10.5. Incompatible materials

Powdered metals  
Reducing agents  
Contamination  
Rust  
Reactions with various metals.  
Reactions with organic substances.  
Reactions with combustible substances.  
Reactions with metals in powder form.  
As oxidising agent, attacks organic substances such as wood, paper, fats.

### 10.6. Hazardous decomposition products

Oxygen

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Acute oral toxicity:*

LD50

Species: Rat

Value: 1.190 mg/kg

Test substance: hydrogen peroxide, 35%

*Acute dermal toxicity:*

LD50

Species: Rat

Value: 4.060 mg/kg

Test substance: hydrogen peroxide, 35%

*Acute inhalation toxicity:*

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### LC50

Species: Rat

Value: > 1,7 mg/l

Exposure time: 4 h

Test substance: hydrogen peroxide, 35%

An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

### *Skin irritation:*

Classification based on Annex VI of regulation 1272/2008/EC.

### *Eye irritation:*

Classification based on Annex VI of regulation 1272/2008/EC.

### *Respiratory or skin sensitisation:*

Species: Guinea pig

Classification: non-sensitizing

### *Carcinogenicity:*

Note: No data available

Test Method: Micronucleus test

Method: OECD Test Guideline 474

Test substance: hydrogen peroxide, 35%

Result: negative

### *Reproductive toxicity:*

Remarks: No data available

### *Aspiration hazard:*

No data available

## 11.2. Information on other hazards

Endocrine disrupting properties

No data available

### *Other information:*

No data available

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## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

LC50

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Species: *Oncorhynchus mykiss* (rainbow trout)  
Value: 31,3 mg/l  
Exposure time: 24 h  
Test substance: hydrogen peroxide, 35%

LC50  
Species: *Pimephales promelas* (fathead minnow)  
Value: 16,4 mg/l  
Exposure time: 96 h  
Test substance: hydrogen peroxide, 35%

*Toxicity to aquatic plants:*  
EC50  
Species: *Chlorella vulgaris* (Fresh water algae)  
Value: 2,5 mg/l  
Exposure time: 48 h  
Test substance: hydrogen peroxide, 35%

*Toxicity to Microorganisms:*  
EC50  
Species: *Pseudomonas putida*  
Value: 11 mg/l  
Exposure time: 17 h  
Test substance: hydrogen peroxide, 35%

*Toxicity to aquatic invertebrates:*  
EC50  
Species: *Daphnia pulex* (Water flea)  
Value: 2,4 mg/l  
Exposure time: 48 h  
Test substance: hydrogen peroxide, 35%  
EC50  
Species: *Daphnia magna* (Water flea)  
Value: 7,7 mg/l  
Exposure time: 24 h  
Test substance: hydrogen peroxide, 35%

### 12.2. Persistence and degradability

*Biodegradability:*

The methods for determining biodegradability are not applicable to inorganic substances.

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### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:  
EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

For personal protection see section 8.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID:2014

IMDG:2014

IATA:2014

### 14.2 UN proper shipping name

ADR/RID:HYDROGEN PEROXIDE, AQUEOUS SOLUTION

IMDG:HYDROGEN PEROXIDE, AQUEOUS SOLUTION

IATA:Hydrogen peroxide, aqueous solution

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### 14.3 Transport hazard class(es)

ADR/RID: 5.1 (8)

IMDG: 5.1 (8)

IATA: 5.1 (8)

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

Marine pollutant: no

### 14.6 Special precautions for user

IMDG Code segregation group 16 - peroxides

### 14.7 Maritime transport in bulk according to IMO instruments

No data available

## SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : P5c: FLAMMABLE LIQUIDS	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors		Contains components listed in

### Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	808250143

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Finland	9471977	Romania	+40 21 318 3606
France	+33(0)145425959	Slovakia (NTIC)	+421 2 54 774 166
Greece	+30 210 779 3777	Slovenia	+386 1 400 6051
Hungary	(+36-80)201-199	Spain	+34915620420
Iceland	5432222	Sweden	112 (begär Giftinformation);+46104566786
Ireland	+353(1)8092166	Switzerland	145
Italy	0382 24444	United Kingdom	(+44) 844 892 0111
Germany	Berlin : 030/19240		
	Bonn : 0228/19240		
	Erfurt : 0361/730730		
	Freiburg : 0761/19240		
	Göttingen : 0551/19240		
	Homburg : 06841/19240		
	Mainz : 06131/19240		
	Munich : 089/19240		
Latvia	+37167042473		

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)

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On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

### Text of H-statements referred to under heading 3

hydrogen peroxide solution : H271 May cause fire or explosion; strong oxidizer.  
H302 Harmful if swallowed.  
H332 Harmful if inhaled.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H412 Harmful to aquatic life with long lasting effects.

### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

#### Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other



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materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.  
This information should not constitute a guarantee for any specific product properties.

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