

**Safety Data Sheet**  
 acc. to OSHA HCS

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Printing date 04/20/2018  
 Reviewed on 04/20/2018  
 Version number: 3

## 1 Identification

- **Product identifier**
- **Trade name:** Hydrogen Peroxide 10 %
- **Article number:** 125513
- **Application of the substance / the mixture** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 AppliChem GmbH  
 Ottoweg 4  
 D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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 Fax.: +49 (0)6151 935711  
 msds@applichem.com

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 Acute Tox. 4 H302 Harmful if swallowed.  
 Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
 Eye Dam. 1 H318 Causes serious eye damage.
- **Label elements**
- **GHS label elements**  
 The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  
  
  
 GHS05 GHS07
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
 hydrogen peroxide solution
- **Hazard statements**  
 H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 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/doctor.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3  
 Fire = 3  
 Reactivity = 0

The substance possesses oxidizing properties.

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution

· **Dangerous components:**

7722-84-1	hydrogen peroxide solution	>5-≤20%
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### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Involve doctor immediately.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash off with plenty of water.  
Immediately remove any clothing soiled by the product.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
make victim drink water (maximum of 2 drinking glasses)  
Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
Non-combustible.  
Has a fire-promoting effect due to release of oxygen.
- **Advice for firefighters**
- **Protective equipment:**  
In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.  
Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Contain escaping vapours with water.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid substance contact.

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- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Clean up affected area.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

• **PAC-1:**

7722-84-1	hydrogen peroxide solution	10 ppm
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• **PAC-2:**

7722-84-1	hydrogen peroxide solution	50 ppm
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• **PAC-3:**

7722-84-1	hydrogen peroxide solution	100 ppm
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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Protect from light.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** The product is not flammable.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valva).
- **Information about storage in one common storage facility:**  
Store away from flammable substances.
- **Further information about storage conditions:**  
Open receptacle only under localized extractor facilities.  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep container sealed.
- **Recommended storage temperature:** +15 - +25°C
- **Storage class:** 5.1 B
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

• **Components with limit values that require monitoring at the workplace:**

**7722-84-1 hydrogen peroxide solution**


PEL	Long-term value: 1.4 mg/m <sup>3</sup> , 1 ppm
REL	Long-term value: 1.4 mg/m <sup>3</sup> , 1 ppm
TLV	Long-term value: 1.4 mg/m <sup>3</sup> , 1 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.
- **Breathing equipment:**  
Suitable respiratory protective device recommended when dusts are generated.  
Filter NO
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.6$  mm  
Natural rubber, NR  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 30$  min
- **Eye protection:**  
 Tightly sealed goggles
- **Body protection:**  
Use protective suit.  
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Color:	Colorless
- **Odor:** slightly pungent
- **Odor threshold:** Not determined.
- **pH-value at 20 °C (68 °F):** 2 - 4
- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
- **Flash point:** Not applicable.

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· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Decomposition temperature:</b>	>100 °C (>212 °F)
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	1.9 hPa (1.4 mm Hg)
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Solvent content:</b>	
Water:	80.5 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gl
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No dangerous reactions known.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
Heating  
light.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Risk of explosion with:/Risk of ignition or formation of inflammable gases or vapors with: alkali metals, alkali salts, alkali hydroxides, alkaline earth metals, metals in powder form, metallic oxides, metallic salts, nonmetals, nonmetallic oxides, aldehydes, alcohols, amines, ammonia, hydrazine and derivatives, hydrides, combustible substances, ethers, acids, anhydrides, oxidizing agent, organic substances, peroxi compounds, impurities/dust, permanganates, organic solvents, organic nitro compounds, brass.
- **Hazardous decomposition products:** In the event of fire: See chapter 5
- **Additional information:** light sensitive

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## 11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification:

Components	Type	Value	Species
<b>7722-84-1 hydrogen peroxide solution</b>			
Oral	LD50	2,000 mg/kg (rat)	
Dermal	LD50	4,060 mg/kg (rat)	
Inhalative	LC50/4 h	2,000 mg/l (rat)	

- **Primary irritant effect:**
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Carcinogenic categories**

<b>IARC (International Agency for Research on Cancer)</b>		
7722-84-1	hydrogen peroxide solution	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- Toxicity
- Aquatic toxicity:

Type of test	Effective concentration	Method	Assessment
<b>7722-84-1 hydrogen peroxide solution</b>			
EC50	35 mg/l (fish)		

- **Persistence and degradability** The product is easily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |   |                                      |
|---|--------------------------------------|
| · <b>UN-Number</b>  | UN2984                               |
| · <b>DOT, ADR, IMDG, IATA</b>   |                                      |
| · <b>UN proper shipping name</b>  | Hydrogen peroxide, aqueous solutions |
| · <b>DOT, ADR</b>   | HYDROGEN PEROXIDE, AQUEOUS SOLUTION  |
| · <b>IMDG, IATA</b>   |                                      |
| · <b>Transport hazard class(es)</b>   |                                      |
| · <b>DOT</b>  |                                      |
|  |                                      |
| · <b>Class</b>  | 5.1 Oxidizing substances             |
| · <b>Label</b>  | 5.1                                  |
| · <b>ADR</b>  |                                      |
|  |                                      |
| · <b>Class</b>  | 5.1 (O1) Oxidizing substances        |
| · <b>Label</b>  | 5.1                                  |
| · <b>IMDG, IATA</b>   |                                      |
|  |                                      |
| · <b>Class</b>  | 5.1 Oxidizing substances             |
| · <b>Label</b>  | 5.1                                  |
| · <b>Packing group</b>  | III                                  |
| · <b>DOT, ADR, IMDG, IATA</b>   |                                      |
| · <b>Environmental hazards:</b>   |                                      |
| · <b>Marine pollutant:</b>  | No                                   |
| · <b>Special precautions for user</b>   | Warning: Oxidizing substances        |
| · <b>Danger code (Kemler):</b>  | 50                                   |
| · <b>EMS Number:</b>  | F-H,S-Q                              |
| · <b>Stowage Category</b>   | A                                    |

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· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 2984 HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS, 5.1, III

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

### · **Section 355 (extremely hazardous substances):**

7722-84-1 | hydrogen peroxide solution

### · **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

### · **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

### · **Proposition 65**

#### · **Chemicals known to cause cancer:**

None of the ingredients is listed.

#### · **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

#### · **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

#### · **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

### · **Carcinogenicity categories**

#### · **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

#### · **TLV (Threshold Limit Value established by ACGIH)**

7722-84-1 | hydrogen peroxide solution

A3

#### · **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

### · **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

hydrogen peroxide solution

· **Hazard statements**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

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

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/doctor.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Dept. Compliance

· **Date of preparation / last revision** 04/20/2018 / 2

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **\* Data compared to the previous version altered.**

US