

MATERIAL SAFETY DATA SHEET

Revision Date Aug 01, 2018

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

1.1 Product identifier

Product name	HYDROGEN PEROXIDE SOLUTION 50%
CAS-No.	7722-84-1
Product code	AR1275, CG1275

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

Identified uses	Chemical for analysis and production.
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Oxidizing liquids (Category 2), H272
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin corrosion (Category 1B), H314
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Chronic aquatic toxicity (Category 3), H412
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H272	May intensify fire; oxidizer.
H302 + H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe vapours/ spray.

P264	Wash hand 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	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

2.3 Other hazards None

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixture

Hydrogen peroxide

Synonyms Dioxidane, Hydrogen superoxide, Oxidanyl.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
7722-84-1	231-765-0	008-003-00-9	H ₂ O ₂	34.01 g/mol	50

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
Hydrogen peroxide		
CAS-No 7722-84-1 EC-No 231-765-0 EC-Index-No -	50%	Oxidizing liquids (Category 2), H272 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Skin corrosion (Category 1B), H314 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Chronic aquatic toxicity (Category 3), H412

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	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.

Skin contact	Remove contaminated clothing and wash affected skin with soap and water. Obtain medical attention.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	After swallowing: make victim drink water (two glasses at the most), avoid vomiting, risk of perforation. Immediately call in physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

Not Available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Extinguish with water spray only. In the event of fire, cool tanks with water spray.

5.2 Special hazards arising from the substance or mixture

Non-combustible liquid but an oxidizing agent.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak. For personal protective equipment see **Section 8**.

6.2 Environmental precautions

Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of good ventilation in the working area. Do not leave container open. Avoid contact with organic substances. Avoid contact with skin and eyes. Do not inhale substance.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, sources of ignition, water, moisture and incompatible materials. Recommended storage temperature is below +35 °C. Light sensitive. Handle and open container with care.

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****Derived No Effect Level (DNEL)**

Application Area	Health Effects	Exposure	Value
Worker	Long-term Local effects	Inhalation	1.4 mg/m ³

Predicted No Effect Concentration (PNEC)

Not Available

8.2 Exposure controls**Appropriate engineering controls**

The product should only be used in ventilation hoods and fans.

Individual protection measures (Personal protective equipment, PPE)**Eye/face protection**

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation and wear suitable respiratory equipment. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance: Form	Liquid
: Color	Colorless
Odour	Not Available
Odour Threshold	Not Available
pH	Not Available
Melting point/range	~ -52°C
Boiling point/range	114°C at 1013 hPa
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available

upper	Not Available
Vapor Pressure	24 hPa at 30°C
Relative Vapor Density	Not Available
Density	1.195 g/ml at 20°C
Water solubility	Soluble at 20°C
Partition coefficient (n-octanol/water)	Not Available
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Explosive
Oxidizing properties	May intensify fire; oxidizer. The substance or mixture is classified as oxidizing with the category 2.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not Available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

The substance can react dangerously with organic substances, alkali hydroxides, cotton fibers (self-ignition), permanganate, chromium, phosphorus, nitric acid.

10.4 Conditions to avoid

Light and heating.

10.5 Incompatible materials

Organic substances, alkali hydroxides, cotton fibers (self-ignition), permanganate, chromium, phosphorus, nitric acid, brass, copper, copper alloys, powdered metals, iron and iron salt.

10.6 Hazardous decomposition products

Not Available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

LC₀ (inhalation, rat): 0.17 mg/l / 4 h

LD₅₀ (oral, rat): >225 mg/kg

Acute oral toxicity

Carious lesions and pathological changes in the periodontium; decrease of body weight gain.

Acute inhalation toxicity

Sign of nasal irritation and nasal discharge after 2 weeks of exposure; lung and tracheal congestion during weeks 5 to 7; no significant microscopic change in the tissue.

Skin corrosion/irritation

Irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Not Available

Carcinogenicity

Not Available

Reproductive toxicity

Not Available

Teratogenicity

Not Available

Specific target organ toxicity (STOT) - single exposure

Not Available

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information

The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information**Mixture****12.1 Toxicity**

Toxicity to fish	LC ₅₀ Carassius Sp.: 42 mg/l /48h
Toxicity to daphnia and other aquatic invertebrates	EC ₅₀ Daphnia magna: 7.7 mg/l/24h
Toxicity to algae	EC ₅₀ Anabaena A4 (blue-green algae): 1.6 mg/l/140h
Toxicity to bacteria	EC ₁₀₀ Salmonella typhimurium: 1000 mg/l/15h

12.2 Persistence and degradability

Biodegradability Readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water) Not Available

12.4 Mobility in soil

Not Available

12.5 Other adverse effects

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information

Land Transport (ADR/RID)

UN Number	2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1(8)
Packing group	II
Environmental hazards	No
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1(8)
Packing group	II
Marine pollutant	No
Special precautions for user	Yes
EmS	F-H S-Q

Air transport (IATA)

UN Number	2014
UN proper shipping name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport hazard class(es)	5.1(8)
Packing group	II
Environmental hazards	No
Special precautions for user	No

River transport (AND/ADNR)

(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

H272	May intensify fire; oxidizer.
H302 + H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Recommended restrictions

Take notice of labels and safety data sheets for the working.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany,

Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to .

Revision Date

01/08/2018

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 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 materials or in any process unless specified in the text.