

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product identifier:**

**Product name:** Hydrogen Peroxide 20%

**Relevant identified uses of the substance or mixture and uses advised against:**

**Identified uses:** Bleaching agent for pulp. Raw Material. Water treatment. Laboratory reagent.

**Company name:**

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## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

**Classification (SI 2019 No. 720):**

**Physical hazards:** Not Classified

**Health hazards:** Eye Dam. 1 - H318

**Environmental hazards:** Not Classified

**Label elements:**

**Hazard pictograms:**



**Signal words:**

Danger

**Hazard statements:**

H318 Causes serious 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.

**Contains:**

Hydrogen Peroxide solution.

**Other hazards:**

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## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Mixtures:** Hydrogen Peroxide solution 20-30%

**CAS number:** 7722-84-1

**EC number:** 231-765-0

**Classification:** Ox. Liq. 1 - H271  
Acute Tox. 4 - H302  
Acute Tox. 4 - H332  
Skin Corr. 1A - H314  
Eye Dam. 1 - H318  
STOT SE 3 - H335  
Aquatic Chronic 3 - H412

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## 4. FIRST AID MEASURES (SYMPTOMS)

### Description of first aid measures:

**Inhalation:** Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if symptoms are severe or persist.

**Ingestion:** Rinse mouth thoroughly with water. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Get medical attention immediately.

**Skin contact:** It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if symptoms are severe or persist after washing.

**Eye contact:** Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes. Get medical attention immediately.

**Protection of first aiders:** First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

<b>General information:</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation:</b>	May cause respiratory irritation.
<b>Ingestion:</b>	May cause stomach pain or vomiting.
<b>Skin contact:</b>	May cause irritation. Discoloration of the skin. Redness.
<b>Eye contact:</b>	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

**Notes for the doctor:** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media:

**Suitable extinguishing media:** Water spray.

**Unsuitable extinguishing media:** Do not use the following: Foam. Carbon dioxide (CO<sub>2</sub>). Powder. Dry chemicals.

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

**Specific hazards:** Containers can burst violently or explode when heated, due to excessive pressure build-up.

**Hazardous combustion products:** Thermal decomposition or combustion products may include the following substances:  
Oxygen.

### Advice for firefighters:

**Protective actions during firefighting:** Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. May cause or intensify fire, oxidiser. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

### Special protective equipment for firefighters:

Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.

## 6. ACCIDENTAL RELEASE MEASURES

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

**Personal precautions:** No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Avoid inhalation of dust and vapours. No smoking, sparks, flames or other sources of ignition near spillage. Do not touch or walk into spilled material. Use suitable respiratory protection if ventilation is inadequate.

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**Environmental precautions:** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

**Methods and material for containment and cleaning up:**

**Methods for cleaning up:** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Absorb spillage with inert, damp, non-combustible material. Do not use sawdust or other combustible material. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

**Reference to other sections:** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:**

**Usage precautions:** Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Mechanical ventilation or local exhaust ventilation may be required. If ventilation is inadequate, suitable respiratory protection must be worn. Do not breathe vapour/spray. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product.

**Advice on general occupational hygiene:** Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash promptly if skin becomes contaminated. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

**Conditions for safe storage, including any incompatibilities:**

**Storage precautions:** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from oxidising materials, heat and flames. Keep away from combustible materials. Protect from light. Store away from incompatible materials (see Section 10).

**Specific end use(s):** The identified uses for this product are detailed in Section 1.2.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters:**

**Occupational exposure limits:** Hydrogen peroxide solution

**Long-term exposure limit (8-hour TWA):** WEL 1 ppm 1.4 mg/m<sup>3</sup>

**Short-term exposure limit (15-minute):** WEL 2 ppm 2.8 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit.

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Hydrogen peroxide solution (CAS: 7722-84-1)

**DNEL:** Workers - Inhalation; Short term local effects: 3 mg/m<sup>3</sup>  
Workers - Inhalation; Long term local effects: 1.4 mg/m<sup>3</sup>  
Consumer - Inhalation; Short term local effects: 1.93 mg/m<sup>3</sup>  
Consumer - Inhalation; Long term local effects: 0.21 mg/m<sup>3</sup>

**PNEC:** Fresh water; 0.0126 mg/l  
Marine water; 0.0126 mg/l  
Soil; 0.0023 mg/kg  
STP; 4.66 mg/l  
Sediment (Freshwater); 0.047 mg/kg  
Sediment (Marine water); 0.047 mg/kg  
Intermittent release; 0.0138 mg/l

### Exposure controls:

#### Protective equipment:



**Appropriate engineering controls:** Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

**Eye/face protection:** Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment that provides appropriate eye and face protection should be worn. If inhalation hazards exist, a full-face respirator may be required instead.

**Hand protection:** It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, wear gloves that are proven to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection:** Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

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**Hygiene measures:** Provide eyewash station and safety shower. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Warn cleaning personnel of any hazardous properties of the product.

**Respiratory protection:** Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Gas filter, type A2. Gas filter, type B.

**Environmental exposure controls:** Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basis physical and chemical properties:

**Appearance:** Clear liquid  
**Colour:** Colourless  
**pH:** pH (concentrated solution):  $\leq 3$   
**Bulk density:** - 1069 kg/m<sup>3</sup>  
**Solubility(ies):** Completely soluble in water

**Other information:**

### 10. STABILITY AND REACTIVITY

**Reactivity:** There are no known reactivity hazards associated with this product.

**Chemical stability:**

**Stability:** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

**Possibility of hazardous reactions:** No potentially hazardous reactions known.

**Conditions to avoid:** Avoid heat. Light.

**Incompatible materials:**

**Materials to avoid:** Organic Materials. Acetone. Alkalis. Some metals. Metal oxides. Reducing agents.

**Hazardous decomposition products:** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Oxygen.

[cont...]

**11. TOXICOLOGICAL INFORMATION****Information on toxicological effects:****Acute toxicity – oral:**

ATE oral (mg/kg): 2,155.0

**Acute toxicity – inhalation:**

ATE inhalation (dusts/mists mg/l): 7.5

Toxicological information on ingredients.

**Hydrogen Peroxide solution:****Acute toxicity – oral:**Acute toxicity oral (LD<sub>50</sub> mg/kg): 431.0

Species: Rat

ATE oral (mg/kg): 431.0

**Acute toxicity – dermal:**Notes (dermal LD<sub>50</sub>): LD<sub>50</sub> >2000 mg/kg, Dermal, Rabbit**Acute toxicity – inhalation:**

ATE inhalation (dusts/mists mg/l): 1.5

**Skin corrosion/irritation:**

Skin corrosion/irritation: Corrosive to skin. Causes severe burns.

**Serious eye damage/irritation:**

Serious eye damage/irritation: Causes serious eye damage.

**Respiratory sensitisation:**

Respiratory sensitisation: No data available.

**Skin sensitisation:**

Skin sensitisation: Conclusive data but not sufficient for classification.

**Germ cell mutagenicity:**

Genotoxicity - in vitro: Conclusive data but not sufficient for classification.

Genotoxicity - in vivo: Conclusive data but not sufficient for classification.

**Carcinogenicity:**

Carcinogenicity: Conclusive data but not sufficient for classification.

**Reproductive toxicity:**

Reproductive toxicity – fertility: Conclusive data but not sufficient for classification.

Reproductive toxicity – development: Conclusive data but not sufficient for classification.

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### Specific target organ toxicity - single exposure:

**STOT - single exposure:** STOT SE 3 - H335 Respiratory system irritation.

**Target organs:** Respiratory tract

### Specific target organ toxicity - repeated exposure:

**STOT - repeated exposure:** Conclusive data but not sufficient for classification. LOAEL 0.0029 mg/l, Inhalation, Rat NOAEL 26 mg/kg/day, Oral, Rat

**Aspiration hazard:** No data available.

## 12. ECOLOGICAL INFORMATION

### Toxicity:

Ecological information on ingredients.

#### Hydrogen Peroxide solution

##### Acute aquatic toxicity:

**Acute toxicity – fish:** LC<sub>50</sub>, 96 hour: 16.4 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity – aquatic invertebrates:** LC<sub>50</sub>, 48 hour: 2.4 mg/l, Daphnia pulex

**Acute toxicity – aquatic plants:** ErC<sub>50</sub>, 72 hour: 1.38 mg/l, skeletonema costatum

**Acute toxicity – microorganisms:** EC<sub>50</sub>, 0.5 hour: 466 mg/l, Activated sludge

##### Chronic aquatic toxicity:

**Chronic toxicity – aquatic invertebrates:** NOEC, 21 day: 0.63 mg/l, Daphnia magna

### Persistence and degradability:

Ecological information on ingredients.

#### Hydrogen Peroxide solution:

**Persistence and degradability:** Substance is inorganic.

### Bioaccumulative potential:

Ecological information on ingredients.

#### Hydrogen Peroxide solution

**Bioaccumulative potential:** Bioaccumulation is unlikely.

**Partition coefficient:** Kow: -1.57 Calculation method.

### Mobility in soil:

Ecological information on ingredients.

#### Hydrogen Peroxide solution

**Mobility:** Soluble in water.

**Surface tension:** Not determined.

### Results of PBT and vPvB assessment:

Ecological information on ingredients.

#### Hydrogen Peroxide solution

**Results of PBT and vPvB assessment:** This substance is not classified as PBT or vPvB according to current UK criteria.

### Other adverse effects:

[cont...]



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### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods:

##### General information:

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. Do not discharge into drains or watercourses or onto the ground.

##### Disposal methods:

Dispose of contents/container in accordance with local regulations.

### 14. TRANSPORT INFORMATION

#### UN number:

UN No. (ADR/RID):	2014
UN No. (IMDG):	2014
UN No. (ICAO):	2014
UN No. (ADN):	2014

#### UN proper shipping name:

Proper shipping name (ADR/RID):	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Proper shipping name (IMDG):	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Proper shipping name (ICAO):	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Proper shipping name (ADN):	HYDROGEN PEROXIDE, AQUEOUS SOLUTION

#### Transport hazard class(es):

ADR/RID class:	5.1
ADR/RID subsidiary risk:	8
ADR/RID classification code:	OC1
ADR/RID label:	5.1
IMDG class:	5.1
IMDG subsidiary risk:	8
ICAO class/division:	5.1
ICAO subsidiary risk:	8
ADN class:	5.1
ADN subsidiary risk:	8

[cont...]

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### Transport labels:



### Packing group:

ADR/RID packing group:	II
IMDG packing group:	II
ICAO packing group:	II
ADN packing group:	II

### Environmental hazards:

Environmentally hazardous substance/marine pollutant: No.

### Special precautions for user:

EmS:	F-H, S-Q
ADR transport category:	2
Emergency Action Code:	2P
Hazard Identification Number (ADR/RID):	58
Tunnel restriction code:	(E)

### Transport in bulk according to Annex II of MARPOL and the IBC Code:

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

## 15. REGULATORY INFORMATION

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

<b>National regulations:</b>	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. Control of Substances Hazardous to Health Regulations 2002 (as amended). EH40/2005 Workplace exposure limits. The Poisons Act 1972 (Explosives Precursors) (Amendment) Regulations 2018. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 (SI 2020 No. 1577) (as amended). GB CLP Regulation.
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**Chemical safety assessment:** No chemical safety assessment has been carried out.

**Note:** The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions. [cont...]

## 16. OTHER INFORMATION

### Abbreviations and acronyms used in the safety data sheet:

ATE: Acute Toxicity Estimate.  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.  
CAS: Chemical Abstracts Service.  
GHS: Globally Harmonized System.  
DNEL: Derived No Effect Level.  
IATA: International Air Transport Association.  
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.  
IMDG: International Maritime Dangerous Goods.  
Kow: Octanol-water partition coefficient.  
LC50: Lethal Concentration to 50 % of a test population.  
LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).  
PBT: Persistent, Bioaccumulative and Toxic substance.  
PNEC: Predicted No Effect Concentration.  
REACH: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577.  
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.  
SVHC: Substances of Very High Concern.  
vPvB: Very Persistent and Very Bioaccumulative.  
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.  
EC<sub>50</sub>: 50% of maximal Effective Concentration.  
LOAEL: Lowest Observed Adverse Effect Level.  
NOAEL: No Observed Adverse Effect Level.  
UN: United Nations.  
IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).

### Classification abbreviations and acronyms:

Acute Tox. = Acute toxicity  
Aquatic Chronic = Hazardous to the aquatic environment (chronic)  
Eye Dam. = Serious eye damage  
Ox. Liq. = Oxidising liquid  
Skin Corr. = Skin corrosion  
STOT SE = Specific target organ toxicity-single exposure

**Classification procedures according to SI 2019 No. 720:** Eye Dam. 1 - H318: Expert judgement.

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**Hazard statements in full:**

- H271 May cause fire or explosion; strong oxidiser.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.