

Hydrogen peroxide

Version number: GHS 1.0

Date of compilation: 2020-09-04

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

1.1 Product identifier

| | |
|---------------------------------|--------------------------|
| Identification of the substance | Hydrogen peroxide |
| Registration number (REACH) | 01-2119485845-22-xxxx |
| CAS number | 7722-84-1 |
| Alternative name(s) | peroxol |
| Article number | A0272345 |

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

| | |
|--------------------------|---|
| Relevant identified uses | General use |
| Uses advised against | Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. |

1.3 Details of the supplier of the safety data sheet

China Amines Co., Ltd
UNIT 1021, BEVERLEY COMMERCIAL CENTRE, 87-105 CHATHAM ROAD SOUTH, TSIM SHA TSUI, KOWLOON HONG KONG

Telephone: +86 18938922889

e-mail: info@chinaamines.com

Website: www.chinaamines.com

info@chinaamines.com

1.4 Emergency telephone number

Emergency information service +86 18938922889

| Poison centre | | | | |
|----------------|-----------------------|------------------|-----------------|---------|
| Country | Name | Postal code/city | Telephone | Telefax |
| United Kingdom | China Amines Co., Ltd | SE14 5ER London | +86 18938922889 | |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|-----------------------------------|----------|---------------------------|------------------|
| 2.13 | oxidising liquid | 1 | Ox. Liq. 1 | H271 |
| 3.10 | acute toxicity (oral) | 4 | Acute Tox. 4 | H302 |
| 3.11 | acute toxicity (inhal.) | 4 | Acute Tox. 4 | H332 |
| 3.2 | skin corrosion/irritation | 1A | Skin Corr. 1A | H314 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |

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| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|---|----------|---------------------------|------------------|
| 3.8R | specific target organ toxicity - single exposure (respiratory tract irritation) | 3 | STOT SE 3 | H335 |
| 4.1C | hazardous to the aquatic environment - chronic hazard | 3 | Aquatic Chronic 3 | H412 |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

GHS03, GHS05, GHS07



- Hazard statements

- H271 May cause fire or explosion; strong oxidiser.
- 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 statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- 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.
- P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
- P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|-------------------|-----------------------|
| Name of substance | Hydrogen peroxide |
| Identifiers | |
| REACH Reg. No | 01-2119485845-22-xxxx |
| CAS No | 7722-84-1 |
| EC No | 231-765-0 |

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| | |
|-------------------|-------------------------------|
| Index No | 008-003-00-9 |
| Molecular formula | H ₂ O ₂ |
| Molar mass | 34.01 g/mol |

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Explosive when mixed with combustible material. Oxidising property.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Collect spillage: kieselgur (diatomite), sand

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Take any precaution to avoid mixing with combustibles.

- Handling of incompatible substances or mixtures

- Keep away from

Organic absorbing material, Pulp/paper

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Flammability hazards

Keep valves and fittings free from oil and grease.

- Incompatible substances or mixtures

Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

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- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- Specific designs for storage rooms or vessels

Do not keep the container sealed.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) | | | | | | | | | | | |
|--|-------------------|-----------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-----------|
| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
| GB | hydrogen peroxide | 7722-84-1 | WEL | 1 | 1.4 | 2 | 2.8 | | | | EH40/2005 |

Notation

Ceiling-C

STEL

TWA

ceiling value is a limit value above which exposure should not occur

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours

time-weighted average (unless otherwise specified)

Human health values

| Relevant DNELs and other threshold levels | | | | |
|---|-----------------------|------------------------------------|-------------------|-------------------------|
| Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| DNEL | 1.4 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | 3 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |

Environmental values

| Relevant PNECs and other threshold levels | | | | |
|---|-----------------|-----------------------|------------------------------|------------------------------|
| Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| PNEC | 0.013 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | 0.013 mg/l | aquatic organisms | marine water | short-term (single instance) |
| PNEC | 4.66 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 0.047 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 0.047 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | 0.002 mg/kg | terrestrial organisms | soil | short-term (single instance) |

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8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|----------------|------------|
| Physical state | liquid |
| Colour | colourless |
| Odour | odourless |

Other safety parameters

| | |
|---|-----------------------|
| pH (value) | not determined |
| Melting point/freezing point | not determined |
| Initial boiling point and boiling range | not determined |
| Flash point | not determined |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Explosive limits | not determined |
| Vapour pressure | not determined |
| Density | not determined |

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| | |
|------------------|---|
| Vapour density | this information is not available |
| Relative density | information on this property is not available |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Viscosity | not determined |
| Explosive properties | none |
| Oxidising properties | |

9.2 Other information

| | |
|-----------------|-------|
| Solvent content | 100 % |
|-----------------|-------|

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Oxidising property.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

Hints to prevent fire or explosion

Keep valves and fittings free from oil and grease.

10.5 Incompatible materials

Combustible materials

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed. Harmful if inhaled.

GHS of the United Nations, annex 4: May be harmful in contact with skin.

- Acute toxicity estimate (ATE)

Oral 1,026 mg/kg
Inhalation: vapour 11 mg/l/4h

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

| Aquatic toxicity (chronic) | | | |
|----------------------------|----------|----------------|---------------|
| Endpoint | Value | Species | Exposure time |
| EC50 | 466 mg/l | microorganisms | 30 min |

Biodegradation

The substance is readily biodegradable. The relevant substances of the mixture are readily biodegradable.

12.2 Persistence and degradability

Data are not available.

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12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

| | |
|----------------------|---------------------------------------|
| Henry's law constant | 0.001 Pa m ³ /mol at 20 °C |
|----------------------|---------------------------------------|

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

| | |
|--|--|
| 14.1 UN number | 2015 |
| 14.2 UN proper shipping name | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED |
| 14.3 Transport hazard class(es) | |
| Class | 5.1 (oxidizing substances) |
| Subsidiary risk(s) | 8 (corrosive effects) |
| 14.4 Packing group | I (substance presenting high danger) |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | |
| | Provisions for dangerous goods (ADR) should be complied within the premises. |
| 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | The cargo is not intended to be carried in bulk. |

Information for each of the UN Model Regulations

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

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Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

| | |
|----------------------|---|
| UN number | 2015 |
| Proper shipping name | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED |
| Class | 5.1 |
| Classification code | OC1 |
| Packing group | I |
| Danger label(s) | 5.1+8 |



| | |
|-------------------------------|------|
| Special provisions (SP) | 640N |
| Excepted quantities (EQ) | E0 |
| Limited quantities (LQ) | 0 |
| Transport category (TC) | 1 |
| Tunnel restriction code (TRC) | B/E |
| Hazard identification No | 559 |
| Emergency Action Code | 2P |

International Maritime Dangerous Goods Code (IMDG)

| | |
|----------------------|---|
| UN number | 2015 |
| Proper shipping name | HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED |
| Class | 5.1 |
| Subsidiary risk(s) | 8 |
| Marine pollutant | - |
| Packing group | I |
| Danger label(s) | 5.1+8 |



| | |
|--------------------------|----------------|
| Special provisions (SP) | - |
| Excepted quantities (EQ) | E0 |
| Limited quantities (LQ) | 0 |
| EmS | F-H, S-Q |
| Stowage category | D |
| Segregation group | 16 - Peroxides |

International Civil Aviation Organization (ICAO-IATA/DGR)

| | |
|----------------------|---|
| UN number | 2015 |
| Proper shipping name | Hydrogen peroxide, aqueous solution, stabilized |
| Class | 5.1 |
| Subsidiary risk(s) | 8 |

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Deco-Paint Directive (2004/42/EC)

| | |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

Directive on industrial emissions (VOCs, 2010/75/EU)

| | |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

National inventories

| Country | Inventory | Status |
|---------|------------|---------------------|
| AU | AICS | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| EU | REACH Reg. | substance is listed |
| JP | CSCL-ENCS | substance is listed |
| KR | KECI | substance is listed |
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TR | CICR | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed |

Legend

| | |
|------------|---|
| AICS | Australian Inventory of Chemical Substances |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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SECTION 16: Other information

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-----------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |

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| Abbr. | Descriptions of used abbreviations |
|-------|--|
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text |
|------|--|
| 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. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.