

Safety data sheet according to U.S.A. Federal Hazcom 2012

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

1.1. Product identifier

Code: H3402
Product name: Hydrogen Peroxide 3% w/w

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

Intended use: For laboratory use only.

1.3. Details of the supplier of the safety data sheet

Name: EXAXOL CHEMICAL CORPORATION
Full address: 14325 60 TH ST N
District and Country: 33760 CLEARWATER - FLORIDA
US
Tel. 1-727-524-7732
Fax 1-727-532-8221

e-mail address

info@exaxol.com

1.4. Emergency telephone number

For urgent inquiries refer to: 1-800-255-3924
ChemTel Inc.

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement.

Skin corrosion, category 1A
Serious eye damage, category 1

Causes severe skin burns and eye damage.
Causes serious eye damage.



Signal words: Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

Prevention:

- P260** Do not breathe dust / fume / gas / mist / vapours / spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:

- 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 / 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.
P321 Specific treatment (see label).
P363 Wash contaminated clothing before reuse.

Storage:

- P405** Store locked up.

Disposal:

- P501** Dispose of contents / container to an approved waste disposal plant.

2.2. Other hazards.

The product is not classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

| Identification. | Conc. %. | Classification: |
|-----------------------------------|----------|---|
| WATER | | |
| CAS. 7732-18-5 | 50 - 100 | |
| HYDROGEN PEROXIDE SOLUTION | | |
| CAS. 7722-84-1 | 9 - 20 | Oxidising liquid, category 1 H271, Acute toxicity, category 4 H302, Acute toxicity, category 4 H332, Skin corrosion, category 1A H314, Specific target organ toxicity - single exposure, category 3 H335 |

Note: Upper limit is not included into the range.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide and chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water.

Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

If large quantities of the product are involved in a fire, they can make it considerably worse. Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION

In the case of fire, use jets of water to cool the containers to prevent the risk of explosions (product decomposition and excess pressure) and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Remove all containers containing the product from the fire, if it is safe to do so.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.**7.1. Precautions for safe handling.**

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.**8.1. Control parameters.**

Regulatory References:

| | | |
|-----|--------------|--|
| USA | NIOSH-REL | NIOSH publication No. 2005-149, 3th printing, 2007. |
| USA | OSHA-PEL | Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000. |
| USA | CAL/OSHA-PEL | California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs). |
| | TLV-ACGIH | ACGIH 2014 |

HYDROGEN PEROXIDE SOLUTION**Threshold Limit Value.**

H3402 - Hydrogen Peroxide 3% w/w

| Type | Country | TWA/8h | | STEL/15min | |
|-----------|---------|--------|-----|------------|-----|
| | | mg/m3 | ppm | mg/m3 | ppm |
| TLV-ACGIH | - | 1.4 | 1 | | |
| OSHA | USA | 1.4 | 1 | | |
| CAL/OSHA | USA | 1.4 | 1 | | |
| NIOSH | USA | 1.4 | 1 | | |

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must comply with current regulations.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category III professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear a hood visor or protective visor combined with airtight goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84 and OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

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

| | |
|----------------------------------|----------------|
| Appearance | Not available. |
| Colour | Not available. |
| Odour | Not available. |
| Odour threshold. | Not available. |
| pH. | Not available. |
| Melting point / freezing point. | Not available. |
| Initial boiling point. | Not available. |
| Boiling range. | Not available. |
| Flash point. | > 93 °C. |
| Evaporation Rate | Not available. |
| Flammability of solids and gases | Not available. |

| | |
|--|----------------|
| Lower inflammability limit. | Not available. |
| Upper inflammability limit. | Not available. |
| Lower explosive limit. | Not available. |
| Upper explosive limit. | Not available. |
| Vapour pressure. | Not available. |
| Vapour density | Not available. |
| Relative density. | 1.012 Kg/l |
| Solubility | Not available. |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature. | Not available. |
| Decomposition temperature. | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not available. |
| Oxidising properties | Not available. |

9.2. Other information.

Information not available.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

HYDROGEN PEROXIDE SOLUTION: decomposes rapidly with risk of explosion due to the effect of light, heat and contact with alkaline metals.

10.2. Chemical stability.

Information not available.

10.3. Possibility of hazardous reactions.

The product may react violently with water.

10.4. Conditions to avoid.

Avoid overheating. Prevent moisture or water from penetrating inside the containers.

HYDROGEN PEROXIDE SOLUTION: exposure to light, heat and alkaline substances.

10.5. Incompatible materials.

HYDROGEN PEROXIDE SOLUTION: flammable substances, acetone, ethanol, glycerol, organic sulphides, hydrated bases, oxidisable materials, iron, copper, bronze, chromium, zinc, lead, silver, manganese and acetic acid.

10.6. Hazardous decomposition products.

Information not available.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful. Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. The vapors and/or powders are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours.

Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness.

If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.

This product may cause serious ocular lesions, cornea opacity, iris lesions, irreversible eye coloration.

HYDROGEN PEROXIDE SOLUTION

LD50 (Oral).1193 mg/kg Rat
at the concentration of 35%

Carcinogenicity Assessment:7722-84-1HYDROGEN PEROXIDE SOLUTION

ACGIH:: A3

IARC:3

SECTION 12. Ecological information.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

12.1. Toxicity.

Information not available.

12.2. Persistence and degradability.

HYDROGEN PEROXIDE SOLUTION: easily biodegradable.

HYDROGEN PEROXIDE SOLUTION

Solubility in water. 100000 mg/l

Rapidly biodegradable.

12.3. Bioaccumulative potential.

HYDROGEN PEROXIDE SOLUTION

Partition coefficient: n-octanol/water. -1.57

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to dangerous goods transport regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

14.1. UN number.

ADR / RID, IMDG,
IATA:

UN: 2984

14.2. UN proper shipping name.

ADR / RID: HYDROGEN
PEROXIDE,
AQUEOUS
SOLUTION
IMDG: HYDROGEN
PEROXIDE,
AQUEOUS
SOLUTION
IATA:

14.3. Transport hazard class(es).

ADR / RID: Class: 5.1 Label: 5.1

IMDG: Class: 5.1 Label: 5.1

IATA: Class: 5.1 Label: 5.1



14.4. Packing group.

ADR / RID, IMDG,
IATA:

III

14.5. Environmental hazards.

ADR / RID: NO

14.6. Special precautions for user.

| | | | |
|------------|-----------------------|-------------------------------|-----------------------------------|
| ADR / RID: | Nr. Kemler: 50 | Limited Quantity 5 L | Tunnel restriction code (E) |
| | Special Provision: - | | |
| IMDG: | EMS: F-H, S-Q | Limited Quantity 5 L | |
| IATA: | Cargo: | Maximum quantity: 30 L | Packaging instructions: 555 |
| | Pass.: | Maximum quantity: 2,5 L | Packaging instructions: 551 |
| | Special Instructions: | - | |

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

SECTION 15. Regulatory information.**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.**U.S. Federal Regulations.TSCA:

All components are listed on TSCA Inventory.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act –
Priority Pollutants:

No component(s) listed.

Clean Water Act –
Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

No component(s) listed.

EPCRA 302 EHS TPQ:

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EPCRA 304 EHS RQ:

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CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations.

Massachusetts:

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Minnesota:

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New Jersey:

7722-84-1 HYDROGEN PEROXIDE SOLUTION

New York:

7722-84-1 HYDROGEN PEROXIDE SOLUTION

Pennsylvania:

7722-84-1

HYDROGEN PEROXIDE SOLUTION

California:

7722-84-1

HYDROGEN PEROXIDE SOLUTION

Proposition 65:International Regulations:Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Canadian WHMIS:

Information not available.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|----------------------|--|
| Ox. Liq. 1 | Oxidising liquid, category 1 |
| Ox. Liq. 2 | Oxidising liquid, category 2 |
| Acute Tox. 4 | Acute toxicity, category 4 |
| Skin Corr. 1A | Skin corrosion, category 1A |
| Skin Corr. 1B | Skin corrosion, category 1B |
| Skin Corr. 1C | Skin corrosion, category 1C |
| Eye Dam. 1 | Serious eye damage, category 1 |
| Eye Irrit. 2 | Eye irritation, category 2 |
| Skin Irrit. 2 | Skin irritation, category 2 |
| STOT SE 3 | Specific target organ toxicity - single exposure, category 3 |
| H271 | May cause fire or explosion; strong oxidiser. |
| H272 | May intensify fire; oxidiser. |
| H302 | Harmful if swallowed. |
| H332 | Harmful if inhaled. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H315 | Causes skin irritation. |
| H335 | May cause respiratory irritation. |

LEGEND:

EXAXOL CHEMICAL CORPORATION

Revision nr. 1

Dated 1/11/2017

H3402 - Hydrogen Peroxide 3% w/w

Printed on 11/1/2017

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- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAA 112 © RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112©)
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: EC Regulation 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112© of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.