

CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

SAFETY DATA SHEET

HYDROGEN PEROXIDE

1. IDENTIFICATION

Product identifier: Hydrogen Peroxide

Product Code Number: 1403

Company Identification:

Corco Chemical Corporation

299 Cedar Lane

Fairless Hills, PA 19030

Phone: 215-295-5006

Fax: 215-295-0781

**24 Hour Emergency Telephone
Number:**

CHEMTREC (U.S.): 1-800-424-9300

CHEMTREC (Outside U.S. 1-703-527-3887

Trade Name:

Hydrogen Peroxide

Synonyms:

Hydrogen Dioxide Solution

Chemical Formula:

H₂O₂

Product Use:

Process chemical, Laboratory and
scientific research and development

2. HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture:

Oxidizing liquids

Category 1

Acute toxicity, Oral

Category 4

Acute toxicity, Inhalation

Category 5

Skin corrosion

Category 1A

Serious eye damage

Category 1

Acute aquatic toxicity

Category 3

Emergency Overview

Strong oxidizer. Contact with other material may cause fire or explosive decomposition. Causes eye burns. May cause blindness. Harmful if swallowed. Causes skin irritation. May cause respiratory tract irritation.

Label elements:



Signal word **Danger**

Hazard Statements: Corrosive to the eyes. Can cause burns of eyes. Causes skin irritation. May cause irritation of respiratory tract. Effects due to ingestion may include: gastrointestinal symptoms, ulceration, burns, accumulation of fluid in the lungs which may be delayed for several hours. (severity of effects depends on extent of exposure) .

Precautionary Statements: Store away from clothing and combustible materials. Wear protective protective clothing, gloves, eye protection and face protection. **I F IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Immediately call a **POISON CENTER** or doctor / physician.

Storage: Store in a well-ventilated place. Keep container tightly closed. store locked up.

3. Composition/information on ingredients

CAS Number: 7722-84-1

EC Number: 231-765-0

Index Number: 008-003-00-9

Molecular Weight: 34.01 g/mol

<u>Ingredient</u>	<u>CAS Number</u>	<u>EC Number</u>	<u>Percent</u>	<u>Hazardous</u>	<u>Chemical Characterization</u>
Hydrogen Peroxide	7722-84-1	231-765-0	20 30%	Yes	Substance
Water	7732-18-5	231-791-2	60 70%	No	Mixture

4. First-aid measures

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion: If swallowed, DO NOT induce vomiting. Get medical attention immediately. Call a Poison Control Center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Notes to physician: Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours after exposure for the onset of delayed respiratory symptoms.

5. Fire-fighting measures

Fire: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Increases the flammability of combustible, organic and readily oxidizable materials.

Explosion: Contact with oxidizable substances may cause extremely violent combustion. Drying of concentrated Hydrogen Peroxide on clothing or other combustible materials may cause fire or explosion. Sealed containers may rupture when heated.

Fire Extinguishing Media: Water spray may be used to keep fire exposed containers cool. Water spray will also reduce fume and irritant gases.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Fire fighting equipment should be thoroughly decontaminated after use.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures:

CAUTION! Caustic material. In case of spill or leak – Prevent further leakage or spillage if you can do so without risk. Causes fires with organic material. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Contain and recover liquid when possible. Do not return spilled material to original container.

Larger Spills: Dilute with a large amount of water and hold in a pond or dyked area until the peroxide decomposes followed by discharge into a suitable treatment system. May be neutralized with sodium metabisulfite or sodium sulfite after diluting to 5 - 10% peroxide. Do not flush undiluted material to sewer. Do not let undiluted product enter drains. This oxidizing material can increase the flammability of adjacent combustible materials. Empty containers should be rinsed with water before discarding.

Ventilate the area. Collect spillage with non-combustible absorbent material such as clean sand, diatomaceous earth or non-acidic clay and place in suitable properly labeled containers for prompt disposal

Ventilate the area. Eliminate all ignition sources. Avoid generation of vapors. C Contain and collect spillage with non-combustible absorbent material such as clean sand, earth, diatomaceous earth or non-acidic clay and place into suitable properly labeled containers for prompt disposal in accordance with local, state and federal requirements.

7. Handling and storage

General information on handling: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid breathing vapor or mist. Wash thoroughly after handling. Use only with adequate ventilation. Avoid contamination. Keep from contact with clothing and other combustible materials. Store in tightly closed container. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Store in a cool (< 35C,) well-ventilated dark area separated from combustible substances, reducing agents, strong bases, organics. Do not store on wooden shelves or floors.

8. Exposure controls/personal protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL): 1 ppm (TWA)

ACGIH Threshold Limit Value (TLV): 1 ppm (TWA), A3: Animal carcinogen

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust

ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, wear a supplied air, full face piece respirator, air-lined hood, or full face piece self-contained breathing apparatus. This substance has unknown warning properties.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and chemical properties

Appearance:	Clear, colorless liquid
Odor:	Slight acrid odor /pungent
Odor Threshold:	Not determined
pH:	1.5
% Volatiles by volume @ 21C (70F):	100
Melting Point:	-25C (-13F)
Boiling Point / Boiling Range:	108C (226F)
Flash Point:	Not applicable
Evaporation Rate (BuAC=1):	< 1
Flammability:	Not applicable
Upper / Lower Flammability or Explosive Limits:	Not applicable
Vapor Pressure (mm Hg):	25 @ 30C (86F)
Vapor Density (Air=1):	1.17
Relative Density:	1.110 g/cm ³
Solubility:	Infinitely soluble
Partition Coefficient: n-octanol / water:	No data available
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	No data available
Viscosity:	Slightly more viscous than water
Freezing Point:	-62F (-52C)

10. Stability and reactivity

Reactivity and / or Chemical Stability: Normally stable if uncontaminated, but slowly decomposes to release Oxygen. Unstable with heat, may result in dangerous pressures. A strong oxidizer, reacts violently upon contact with many organic

substances, particularly textile and paper. Avoid light and keep in a closed but vented container to prevent evaporation (concentration) and contamination.

Possibility of Hazardous Reactions and Conditions to Avoid: Excessive heat, light, incompatibles, and contact with combustible or organic materials.

Incompatible Materials: Heat, reducing agents, organic materials, dirt, alkalis, rust, and many metals. Spontaneous combustion may occur on standing in contact with readily flammable materials.

Hazardous Decomposition Products: Decomposes to Water and Oxygen with rapid heat release. Use vented containers. The solution can decompose violently upon heating. Material decomposes with the potential to produce a rupture of unvented closed containers.

11. Toxicological information

Potential Health Effects:

Inhalation: Vapors are corrosive and irritating to the respiratory tract. Inhalation of mist may burn the mucous membrane of the nose and throat. In severe cases, exposures may result in pulmonary edema and death.

Ingestion: Corrosive and irritating to the mouth, throat, and abdomen. Large doses may cause symptoms of abdominal pain, vomiting, and diarrhea as well as blistering or tissue destruction. Stomach distention (due to rapid liberation of Oxygen,) and risk of stomach perforation, convulsions, pulmonary edema, coma, possible cerebral edema (fluid on the brain,) and death are possible.

Skin Contact: Corrosive! Can cause redness, pain, and severe skin burns.

Eye Contact: Corrosive! Vapors are very corrosive and irritating to the eyes.

Symptoms include pain, redness and blurred vision. Splashes can cause permanent tissue destruction.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: Vapors are very corrosive and irritating to the eyes. Symptoms include pain, redness and blurred vision. Splashes can cause permanent tissue destruction.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:)
No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:)
No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Hydrogen Peroxide (7722-84-1)	No	No	3
Water (7732-18-5)	No	No	None

Acute Toxicity:

Oral LC50: 1518 mg/kg (rat)

12. Ecological information

Ecotoxicity: Toxic to aquatic life. / EC50 Algae: 2.5 mg/l 72 hrs / EC50 Daphnia: 2.4 mg/l 48 hrs / LC50 Fish: 16.4 mg/l 96 hrs

Persistence and Degradability: Expected to be readily biodegradable.

Bioaccumulative Potential: No bioaccumulation expected.

Mobility in Soil: This material is a mobile liquid.

Biodegradation: (0.02d) 99%

Octanol water partition coefficient: log pow = 1.57 (calculated)

Other adverse effects: No information found.

13. Disposal considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transportation Information

UN Number: UN2014

**UN Proper Shipping Name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION
(WITH 20-40% HYDROGEN PEROXIDE)
Packing Group: II**

DOT / IMDG / IATA



**Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 5.1, 8**

**Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 5.1, 8**

Marine Pollutant: No

**Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 5.1, 8**

15. Regulatory information

**US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.
All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - Yes

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous substance

No

Other federal regulations:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List

HYDROGEN PEROXIDE (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

HYDROGEN PEROXIDE (CAS 7722-84-1)

US. Rhode Island RTK

HYDROGEN PEROXIDE (CAS 7722-84-1)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT):

Listed substance

Not listed.

International Inventories:

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes

Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines (PICCS)	Philippine Inventory of Chemicals and Chemical Substances	Yes
United States & Puerto Rico (TSCA) Inventory	Toxic Substances Control Act	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information

Disclaimer - The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a 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.

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