

Safety Data Sheet

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Version 1

1. IDENTIFICATION

Product Identifier

Product Name Hydrogen Peroxide 34% Technical

Other means of identification

SDS # TCS-004

Product Code/CAS 7722-84-1

UN/ID No UN2014

Recommended use of the chemical and restrictions on use

Recommended Use Industrial Bleaching, processing, pollution abatement and general oxidation reactions

Details of the supplier of the safety data sheet

Distributor Address

Taylor Chemical L.T.D., dba.
SERVCO PO Box 64610
Lubbock, TX 79464
Ph: (806) 368-5660

Emergency Telephone Number

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Oxidizing Solids	Category 2

Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage
Harmful if swallowed
Harmful if inhaled
May cause respiratory irritation
May intensify fire; oxidizer



Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep/Store away from clothing/Incompatibles/combustible materials
 Take any precaution to avoid mixing with combustibles/Incompatibles
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Get medical attention
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a poison center or doctor/physician
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 IN CASE OF FIRE: Use water for extinction

Hazards not otherwise classified (HNOC)

No other hazards were identified

Other Information

Keep container in a cool place out of direct sunlight. Store only in vented containers. Do not store on wooden pallets. Do not return unused material to its original container. Avoid contamination - Contamination could cause decomposition and generation of oxygen which may result in high pressure and possible container rupture. Empty drums should be triple rinsed with water before discarding.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula

HO-OH

Chemical Name	CAS Number	Weight %
Hydrogen Peroxide	7722-84-1	34
Water	7732-18-5	66

Occupational exposure limits, if available, are listed in section 8

4. FIRST-AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Seek immediate medical attention/advice.
Skin Contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
Inhalation	Move to fresh air. If person is not breathing, contact emergency medical services, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion	Rinse mouth. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	Hydrogen Peroxide irritates respiratory system and, if inhaled, may cause inflammation and pulmonary edema. The effects may not be immediate. Overexposure symptoms are coughing, giddiness and sore throat. In case of accidental ingestion, necrosis may result from mucous membrane burns (mouth, esophagus and stomach). Oxygen rapid release may cause stomach swelling and hemorrhaging, which may product major, or even fatal, injury to organs if a large amount has been ingested. In case of skin contact, may cause burns, erythema, blisters or even necrosis.
Indication of immediate medical attention and special treatment needed, if necessary	Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or gastric tube may be required for the reduction of severe distension due to gas formation.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water. Do not use any other substance.
Specific Hazards Arising from the Chemical	In closed unventilated containers, risk of rupture due to the increased pressure decomposition. Contact with combustible material may cause fire
Hazardous Combustion Products	On decomposition product releases oxygen which may intensify fire.
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	Use water spray to cool fire exposed surfaces and protect personnel. Move containers from fire area if you can do it without risk. As in any fire, wear self-contained breathing apparatus and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal Precaution	Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Isolate and post spill area. Keep people away from and upwind of spill/leak. Eliminate all sources of ignition and remove combustible materials.
Other	Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.
Environmental Precautions	See Section 12 for additional Ecological Information.
Methods for Containment	Dike to collect large liquid spills. Stop leak and contain spill if this can be done safely. Small spillage: Dilute with large quantities of water.
Methods for Cleaning Up	Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium met bisulfite or sodium sulfite after diluting to about 5%.

7. HANDLING AND STORAGE

Handling	Use only in well-ventilated areas. Keep/Store away from clothing/ combustible materials. Wear personal protective equipment. Never return unused hydrogen peroxide to original container. Contamination may cause decomposition and generation of oxygen gas which could result in high pressures and possible container rupture. Empty drums should be triple rinsed with water before discarding. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic. Pipes and equipment should be passivated before first use. Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner.
Storage	Keep containers in cool areas out of direct sunlight and away from combustibles. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment. Containers must be vented. Keep/store only in original container. Store rooms or warehouses should be made of non-combustible materials with impermeable floors. In case of release, spillage should flow to safe area. Containers should be visually inspected on a regular basis to detect any abnormalities (swollen drums, increases in temperature, etc.).
Incompatible Products	Combustible materials. Copper alloys, galvanized iron. Strong reducing agents. Heavy metals. Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Use chemical splash-type monogoggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

Skin and Body Protection

For body protection wear impervious clothing such as an approved splash protective suit made of SBR rubber, PVC (PVC Outershell w/Polyester Substrate), Gore-Tex (Polyester trilaminate w/Gore-Tex), or a specialized HAZMAT Splash or Protective Suite (Level A, B, or C). For foot protection, wear approved boots made of NBR, PVC, Polyurethane, or neoprene. Overboots made of Latex or PVC, as well as firefighter boots or specialized HAZMAT boots are also permitted. DO NOT wear any form of boot or overboot made of nylon or nylon blends. DO NOT USE cotton, wool or leather as these materials react rapidly with higher concentrations of hydrogen peroxide. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles, can cause the material to ignite and result in a fire.

Hand Protection

For hand protection, wear approved gloves made of nitrile, PVC, or neoprene. DO NOT use cotton, wool or leather for these materials react RAPIDLY with higher concentrations of hydrogen peroxide. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

Respiratory Protection

If concentrations in excess of 10 ppm are expected, use NIOSH/DHHS approved self-contained breathing apparatus (SCBA) or other approved air-supplied respirator (ASR) equipment (e.g., a full-face airline respirator (ALR)). DO NOT use any form of air-purifying respirator (APR) or filtering facepiece (dust mask), especially those containing oxidizable sorbants such as activated carbon.

Hygiene measures

Avoid breathing vapors, mist or gas. Clean water should be available for washing in case of eye or skin contamination.

General information

Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

Control Parameters

Appropriate Engineering Controls

Engineering Measure

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation.

Exposure Guidelines

Ingredients with workplace control parameters.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³	Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m ³ Mexico: STEL 2 ppm Mexico: STEL 3 mg/m ³
Chemical Name	British Columbia	Quebec	Ontario TWA EV	Alberta
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	None
Appearance	Clear, colorless liquid	Odor Threshold	N/A
Color	Colorless		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	<=4		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	Not determined		
Flash Point	Not determined		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Not determined		
Upper Flammability Limits	Not determined		
Lower Flammability Limit	Not determined		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Specific Gravity	1.108	@ 25 °C (77 °F) (1=Water)	
Water Solubility	15%		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Strong Oxidizer		

10. STABILITY AND REACTIVITY

Reactivity

Reactive and oxidizing agent.

Chemical Stability

Stable under normal conditions. Decomposes on heating. Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Contact with organic substances may cause fire or explosion. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Excessive heat; Contamination; Exposure to UV-rays; pH variations.

Incompatible Materials

Combustible materials. Copper alloys, galvanized iron. Strong reducing agents. Heavy metals. Iron. Copper alloys. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

Hazardous Decomposition Products

Oxygen which supports combustion. Liable to produce overpressure in container.

11. TOXICOLOGICAL INFORMATION

<u>LD50 Oral</u>	50% solution: LD50 > 225 mg/kg bw (rat) 35 % solution: LD50 1193 mg/kg bw (rat) 70 % solution: LD50 1026 mg/kg bw (rat)
LD50 Dermal	35% solution: LD50 > 2000 mg/kg bw (rabbit) 70 % solution: LD50 9200 mg/kg bw (rabbit)
LC50 Inhalation	50% solution: LC50 > 170 mg/m ³ (rat) (4-hr) Hydrogen Peroxide vapors: LC0 9400 mg/m ³ (mouse) (5 - 15 minutes) Hydrogen Peroxide vapors: LC50 > 2160 mg/m ³ (mouse)
Serious eye damage/eye irritation Skin corrosion/irritation	Corrosive. Risk of serious damage to eyes. Corrosive to skin. Causes severe burns.
Sensitization	Did not cause sensitization on laboratory animals.
<u>Information on toxicological effects</u>	
Symptoms	Vapors, mists, or aerosols of hydrogen peroxide can cause upper airway irritation, inflammation of the nose, hoarseness, shortness of breath, and a sensation of burning or tightness in the chest. Prolonged exposure to concentrated vapor or to dilute solutions can cause irritation and temporary bleaching of skin and hair. Exposure to vapor, mist, or aerosol can cause stinging pain and tearing of eyes.
<u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u>	
Carcinogenicity	This product contains hydrogen peroxide. The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans). The American Conference of Governmental Industrial Hygienists (ACGIH) has concluded that hydrogen peroxide is a 'Confirmed Animal Carcinogen with Unknown Relevance to Humans' (A3).
Mutagenicity	This product is not recognized as mutagenic by Research Agencies In vivo tests did not show mutagenic effects
Reproductive toxicity	This product is not recognized as reprotox by Research Agencies. No toxicity to reproduction in animal studies.
STOT - single exposure STOT - repeated exposure	May cause respiratory irritation. Not classified.
Target organ effects	Eyes, Respiratory System, Skin.
Aspiration hazard	Aspiration risk: may cause lung damage if swallowed.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Effects

Hydrogen peroxide is naturally produced by sunlight (between 0.1 and 4 ppb in air and 0.01 to 0.1 mg/L in water). Not expected to have significant environmental effects.

Hydrogen Peroxide (7722-84-1)				
Active ingredients	Duration	Species	Value	Units
Hydrogen Peroxide	96 h LC50	Fish Pimephales promelas	16.4	Mg/L
Hydrogen Peroxide	72 h LC50	Fish Leuciscus idus	35	Mg/L
Hydrogen Peroxide	48 h EC50	Daphnia pulex	2.4	Mg/L
Hydrogen Peroxide	24 h EC50	Daphnia magna	7.7	Mg/L
Hydrogen Peroxide	72 h EC50	Algae Skeletonema costatum	1.38	Mg/L
Hydrogen Peroxide	21 d NOEC	Daphnia magna	.63	Mg/L

Persistence and degradability

Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in freshwater ranged from 8 hours to 20 days, in air from 10 - 20 hours, and in soils from minutes to hours depending upon microbiological activity and metal contamination

Bioaccumulation

Material may have some potential to bioaccumulate but will likely degrade in most environments before accumulation can occur.

Mobility

Will likely be mobile in the environment due to its water solubility but will likely degrade over time.

Other Adverse Effects

Decomposes into oxygen and water. No adverse effects.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with local regulations. Can be disposed as waste water, when in compliance with local regulations.

US EPA Waste Number

D001 D003

Contaminated Packaging

Dispose of in accordance with local regulations.
Drums - Empty as thoroughly as possible. Triple rinse drums before disposal. Avoid contamination; impurities accelerate decomposition. Never return product to original container.

14. TRANSPORT INFORMATION

Note

Protect from physical damage. Keep drums in upright position. Drums should not be stacked in transit. Do not store drums on wooden pallets.

DOT

UN/ID No UN 2014
 Proper Shipping Name Hydrogen Peroxide, Aqueous Solution
 Hazard Class 5.1
 Subsidiary Class 8
 Packing Group II

IATA

UN/ID No UN 2014
 Proper Shipping Name Hydrogen Peroxide, Aqueous Solution
 Hazard Class 5.1
 Subsidiary Class 8
 Packing Group II

IMDG/IMO

UN/ID No UN 2014
 Proper Shipping Name Hydrogen Peroxide, Aqueous Solution
 Hazard Class 5.1
 Subsidiary Class 8
 Packing Group II

ICAO/IATA

Hydrogen peroxide (>40%) is forbidden on Passenger and Cargo Aircraft. Air regulation permit shipment of Hydrogen Peroxide (<=40%) in non-vented containers for Air Cargo Only aircraft, as well as for Passenger and Cargo aircraft. HOWEVER, all Hydrogen Peroxide containers are vented and therefore, air shipments of H2O2 are not permitted. IATA air regulations state that venting of packages containing oxidizing substances is not permitted for air transport.

15. REGULATORY INFORMATION

US Federal Regulations**CERCLA**

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA RQ
Hydrogen Peroxide 7722-84-1		1000 lb.	

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard Yes
 Chronic health hazard No
 Fire hazard Yes
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

16. OTHER INFORMATION

NFPA H-3 F-0 S-1
HMIS H-3 F-0 P-1

Uniform Fire Code Oxidizer:
Class 2 Liquid

Disclaimer

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 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.

End of Safety Data Sheet