

**SAFETY DATA SHEET**  
**TersOx™ Liquid**



Revision Date: 2021-07-30  
Version 1.2

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

Product Name: TersOx™ Liquid, Hydrogen Peroxide (32 to 35 %)

**Other means of identification**

CAS-No 7722-84-1

Formula                      H2O2

**Recommended use of the chemical and restrictions on use**

Product Use: Bleaching agent, Oxidizing agent, Cosmetics, Water treatment

**Details of the supplier and of the safety data sheet**

Supplier                      Tersus Environmental, LLC  
1116 Colonial Club Rd  
Wake Forest, NC 27587  
Phone: +1-919-453-5577  
Email: [info@tersusenv.com](mailto:info@tersusenv.com)

Contact Person              David F. Alden  
Phone: +1-919-453-5577 x2002  
Email: [david.alden@tersusenv.com](mailto:david.alden@tersusenv.com)

**Emergency telephone number**

For leak, fire, spill or accident emergencies, call:

- +1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM Eastern)
- +1-800-424-9300 (Chemtrec 24 Hour Service – Emergency Only)
- +1-919-638-7892 Gary M. Birk (Outside office hours)

**2. HAZARD IDENTIFICATION**

**Classification**

<b>Physical hazards</b>	Oxidizing liquids	Category 2
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 1

**Label elements****Signal word**            Danger**Hazard statement**    May intensify fire; oxidizer. Harmful if swallowed. Causes serious eye damage. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.**Precautionary statement****Prevention**            Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection. Wear protective gloves/eye protection/face protection.**Response**             If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If 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/doctor. In case of fire: Use appropriate media to extinguish.**Storage**                Store away from incompatible materials.**Disposal**                Dispose of contents/container in accordance with local/regional/national/international regulations.**Hazard(s) not otherwise classified (HNOC)** None known.**Supplemental information** None.**3. COMPOSITION/INFORMATION ON INGREDIENTS**Formula                    H<sub>2</sub>O<sub>2</sub>

Chemical Name	Identification Number (CAS-No.)	Concentration (%)
Hydrogen Peroxide	7722-82-1	32 to 35
Water	7732-18-5	65 to 68

Occupational exposure limits, if available, are listed in Section 8.

**4. FIRST AID MEASURES**

**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

Inhalation	treatment advice. 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 produce 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 orogastric tube may be required for the reduction of severe distension due to gas formation.
General information	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Water. Do not use any other substance.
<b>Specific Hazards Arising from the Chemical</b>	In closed unventilated containers, risk of rupture due to the increased pressure from decomposition. Contact with combustible material may cause fire.
<b>Hazardous Combustion Products</b>	On decomposition product releases oxygen which may intensify fire.
<b>Explosion data</b>	
• Sensitivity to Mechanical Impact	Not sensitive.
• Sensitivity to Static Discharge	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	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

<b>Personal Precautions</b>	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
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<b>Other</b>	combustible materials 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 can 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.
<b>Environmental Precautions</b>	Prevent undiluted spillage from entering sewers, basements or watercourses.
<b>Methods for Containment</b>	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.
<b>Methods for cleaning up</b>	Flush area with flooding quantities of water. Hydrogen peroxide may be decomposed by adding sodium metabisulfite or sodium sulfite after diluting to about 5%.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Keep/Store away from clothing/ combustible materials. Wear personal protective equipment. Reference to other sections. 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. Use only in well-ventilated areas. Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner.
<b>Storage</b>	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. Storerooms 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.).
<b>Incompatible Products</b>	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 CONTROL / PERSONAL PROTECTION

### Control parameters

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 <sup>3</sup>	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m <sup>3</sup> Mexico: STEL 2 ppm Mexico: STEL 3 mg/m <sup>3</sup>
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Hydrogen peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>

**Appropriate engineering controls****Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

**Skin Protection (Hands)**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Skin Protection (Other)**

Wear suitable protective clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**General hygiene considerations**

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

Appearance	Clear, colorless liquid
Physical State	Liquid
Color	Colorless
Odor	Pungent
Odor threshold	Not applicable
pH	Not applicable.
Melting point/freezing point	-33 °C
Boiling Point/Range	108 °C
Flash point	Not flammable
Evaporation Rate	> 1 (n-butyl acetate=1)
Flammability (solid, gas)	Not flammable
Flammability Limit in Air	Not applicable
Upper flammability limit:	Not applicable
Lower flammability limit:	Not applicable
Vapor pressure	24 mm Hg @ 30 °C
Vapor density	Not determined.
Density	1.13 g/cm <sup>3</sup> @ 20°C
Specific gravity	1.12
Water solubility	completely soluble

Solubility in other solvents	No information available
Partition coefficient log Kow	= -1.5 @ 20 °C
Autoignition temperature	Not combustible
Decomposition temperature	100 °C
Viscosity, kinematic	1.06 cP @ 20 °C
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	Strong oxidizer
Molecular weight	34.01 g/mol
Bulk density	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Greatly increases the burning rate of combustible materials.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Heat. Contact with incompatible materials.
<b>Incompatible materials</b>	Combustible material. Reducing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Harmful if swallowed.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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### Information on toxicological effects

<b>Acute toxicity</b>	Harmful if swallowed.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity Effects

Hydrogen peroxide is naturally produced by sunlight (between 0.1 and 4 ppb in air and 0.001 to 0.1 mg/L in water). Not expected to have significant environmental effects.

Active Ingredient	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	0.63	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

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous Waste Code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
<b>Contaminated Packaging</b>	Since emptied containers may retain product residue, follow

label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORTATION INFORMATION

### DOT

UN/ID no	2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard class	5.1
Subsidiary class	8
Packing Group	II

### TDG

UN/ID no	UN 2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard class	5.1
Subsidiary class	8
Packing Group	II

### ICAO/IATA

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. IATA air regulations state that venting of packages containing oxidizing substances is not permitted for air transport.

### IMDG/IMO

UN/ID no	UN 2014
Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Hazard class	5.1
Subsidiary Hazard Class	8
Packing Group	II

### OTHER INFORMATION

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



## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

#### **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

**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)

**CERCLA**

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA RQ
Hydrogen peroxide 7722-84-1		1,000 lbs.	

Hydrogen Peroxide RQ is for concentrations of > 52% only

**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.

**Food and Drug Administration (FDA)**

Total food additive

Direct food additive

GRAS food additive

**US State Regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Hydrogen peroxide (CAS 7722-84-1)

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

Hydrogen peroxide (CAS 7722-84-1)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Hydrogen peroxide (CAS 7722-84-1)

**US. Rhode Island RTK**

Hydrogen peroxide (CAS 7722-84-1)

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.

**International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
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	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. OTHER INFORMATION

NFPA	Health Hazards 3	Flammability 0	Stability 1	Special Hazards OX
HMIS	Health Hazards 3	Flammability 0	Physical hazard 1	Special precautions H

NFPA/HMIS Ratings Legend    Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0  
Special Hazards: OX = Oxidizer  
Protection = H (Safety goggles, gloves, apron, the use of supplied air or SCBA respirator is required in lieu of a vapor cartridge respirator)

Uniform Fire Code Oxidizer:    Class 2--Liquid

**Disclaimer:** This 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. All recommendations for the use of our products, whether given by us, orally or to be implied from data or lab tests results by us, are based on the current state of our knowledge at the time those recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding, such recommendation the user is responsible that the product as supplied by us is suitable to the process or purpose he intends to use it. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of this product. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, the user should assure that the intended use of the product will not infringe in any party's intellectual property right.



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End of Safety Data Sheet