Safety Data Sheet

Section 01 Identification

Product Identifier	Hydrogen Peroxide 3.5% Std
Other Means of Identification	Not available
Product Use and Restrictions on Use	Industrial bleaching, processing, pollution abatement, aseptic packaging and other food related applications, water treatment.
Initial Supplier Identifier	ClearTech Industries Inc 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7 Phone: 800.387.7503 Fax: 888.281.8109 www.cleartech.ca
Prepared By	ClearTech Industries Inc. technical writer
24-Hour Emergency Phone	306.664.2522

Section 02 Hazard Identification

GHS-Classification

This product has been assessed in accordance with the Hazardous Products Regulations and is not classified as a hazardous substance or mixture.

Hazards Not Otherwise Classified

Not available

Supplemental Information

Not available

Section 03 Composition / Information on Ingredients

Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Hydrogen peroxide	Not available	7722-84-1	3.4-3.6%

Section 04 First-Aid Measures

Description of necessary first-aid measures

Inhalation	Get medical advice / attention if you feel unwell or are concerned.
Ingestion	Get medical advice / attention if you feel unwell or are concerned.
Skin contact	Rinse skin with lukewarm, gently flowing water / shower for 5 minutes or until product is removed. If skin irritation occurs or if you feel unwell: Get medical advice / attention.
Eye contact	If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice / attention.

Most important symptoms and effects, both acute and delayed

Inhalation	May cause respiratory irritation.
Ingestion	May cause discomfort or nausea.
Skin contact	Causes transient skin irritation.
Eye contact	May cause eye irritation and redness.
Further information	For further information see Section 11 Toxicological Information.

Section 05 Fire Fighting Measures

Suitable extinguishing media	Extinguish fire using extinguishing agents suitable for the surrounding fire.
Unsuitable extinguishing media	Not available
Specific hazards arising from the chemical	Not available
Special protective equipment for fire-fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Section 06 Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area.
Environmental Precautions	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. Use vented containers to avoid pressure buildup. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available. Never return contaminated material to its original container.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Protect label and keep it visible.
Incompatibilities	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids Metals, such as aluminum, steel, and brass.

Section 08 Exposure Controls and Personal Protection

Exposure limits

Component	Regulation	Type of listing	Value
Hydrogen Peroxide	ACGIH	TWA	1 ppm

Engineering controls

Ventilation Requirements Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other No specific recommendations beyond the required hygiene facilities at the place of work.

Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

Eye and face protection Contact lenses are not recommended; they may contribute to severe eye injury.

Hand and body protection Where handling this product it is recommended that skin contact is avoided.

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment.

NIOSH respirator recommendations for: Hydrogen peroxide

Up to: 10 ppm
(APF = 10) Any supplied-air respirator

Up to: 25 ppm
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

Up to: 50 ppm
(APF = 50) Any self-contained breathing apparatus with a full facepiece.
(APF = 50) Any supplied-air respirator with a full facepiece

Up to: 75 ppm
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Hydrogen peroxide

Thermal hazards Not available

Section 09 Physical and Chemical Properties

Appearance

Physical state	Liquid
Colour	Clear, colourless
Odour	Odourless
Odour threshold	Not available

Property

pH	<2
Melting point / freezing point	~0 °C
Initial boiling point and boiling range	~100 °C
Flash point	Not applicable
Evaporation rate	Not available
Flammability	Not applicable
Upper flammable limit	Not applicable
Lower flammable limit	Not applicable
Vapour pressure	Not available
Vapour density	1.17
Relative density	Not applicable
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Log Pow = -0.70 to -1.33
Auto-ignition temperature	Not applicable
Decomposition temperature	150-152 °C (Pure Hydrogen Peroxide)
Viscosity	Not available
Specific gravity	1.010-1.015 g/mL @ 15 °C
Formula	H_2O_2
Molecular weight	34.02 g/mol

Section 10 Stability and Reactivity

Reactivity	This product is an oxidizer and will react with reducing agents and organic compounds such as paper or wood to produce heat and could potentially catch fire.
Stability	This product is stable if stored according to the recommendations in Section 07. Exposure to sunlight or high temperatures may cause the degradation of this product over time.
Possibility of hazardous reactions	Not available
Conditions to avoid	Avoid contact with incompatible materials. Do not heat.
Incompatible materials	Bases, such as potassium hydroxide, sodium hydroxide, calcium hydroxide (slaked lime), ammonia, carbonates. Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids Metals, such as aluminum, steel, and brass.
Hazardous decomposition products	Molecular oxygen.

Section 11 Toxicological Information

Acute Toxicity (LD50 values)

Component	Route	Species	Value	Exposure time
Hydrogen peroxide 20%	Oral	Rat	>2,000 mg/kg	
Hydrogen peroxide	Dermal	Rabbit	>2,000 mg/kg	
	Inhalation (aerosol)	Mouse	>170 mg/m³	4 hours

Toxic Health Effect Summary

Chemical characteristics	Strong oxidizer.
Skin	Causes transient skin irritation.
Ingestion	May cause discomfort or nausea.
Inhalation	May cause respiratory irritation.
Eye contact	May cause eye irritation and redness.
Sensitization	This product and its components at their listed concentration have no known sensitizing effects.
Mutagenicity	This product and its components at their listed concentration have no known mutagenic effects.
Carcinogenicity	IARC has classified hydrogen peroxide as group 3, not classifiable as to its carcinogenicity to humans.
Reproductive toxicity	This product and its components at their listed concentration have no known reproductive effects.
Specific organ toxicity	This product and its components at their listed concentration have no known effects on specific organs.
Aspiration hazard	Not available
Synergistic materials	Increased airways resistance was observed in volunteers exposed to hydrogen peroxide and sulfur dioxide aerosols at the same time. An animal study has shown that concurrent inhalation exposure to fine particulates and hydrogen peroxide can increase the toxicity of both to the lungs. Exposure to hydrogen peroxide also increased the toxicity of ozone in animals.

Section 12 Ecological Information

Ecotoxicity

Component	Type	Species	Value	Exposure Time
Hydrogen peroxide	LC50	Pimephales promelas	16.4 mg/L	72 hours
	EC50	Daphnia pulex	2.4 mg/L	48 hours
	NOEC	Skeletonema costatum	0.68 mg/L	48 hours

Biodegradability	The domestic substance list categorizes hydrogen peroxide as persistent.
Bioaccumulation	The domestic substance list categorizes hydrogen peroxide as non-bioaccumulative.
Mobility	This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water.
Other adverse effects	Not available

Section 13 Disposal Considerations

Waste From Residues / Unused Products	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

Section 14 Transport Information

UN number	Not available
UN proper shipping name and description	Not available
Transport hazard class(es)	Not available
Packing group	Not available
Excepted quantities	Not available
Environmental hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special precautions	No special provisions
Transport in bulk	ERAP index: Not available MARPOL 73/78 and IBC Code: This product is not listed in Chapter 17 of the IBC Code.
Additional information	Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

Section 15 Regulatory Information.

NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

All components of this product appear on the domestic substance list.

Section 16 Other Information

Date of latest revision: March 24, 2020

Note: The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) TOXNET
3) eChemPortal
4) ECHA
5) Transportation of Dangerous Goods Canada
6) HSDB
7) PAN