



Safety Data Sheet

Section 01 - Product And Company Identification

Product Identifier	Hydrogen Peroxide 29% Standard Grade
Other Means of Identification	None
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
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
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Section 02 - Hazard Identification

GHS-Classification

Acute Toxicity-Oral	Category 4
Acute Toxicity-Inhalation	Category 4
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Eye Irritation	Category 1
STOT-Single Exposure	Category 3

Physical Hazards

Oxidizing Liquids	Category 2
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Danger

Hazard Statements

H302 – Harmful if swallowed.
H332 – Harmful if inhaled.
H272 – May intensify fire; oxidizer.
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.
H335 – May cause respiratory irritation.

Pictograms



Precautionary Statements

P271 – Use only outdoors or in a well-ventilated area.

P405 – Store locked up.

P420 – Store away from other materials.

P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.

P210 – Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.

P220 – Keep/Store away from clothing, incompatible and combustible materials.

P370 + P378 – In case of fire: Use water only for extinction.

P270 – Do not eat, drink or smoke when using this product.

P264 – Wash hands thoroughly after handling.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.

P283 – Wear fire, flame resistant, retardant clothing.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P260 – Do not breathe mist, vapours or spray.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 – Rinse mouth.

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin.

P306 + P360 – IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Hydrogen Peroxide	7722-84-1	29%	
Water	7732-18-5	71%	

Section 04 - First Aid Measures

Inhalation

If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact / Absorption

Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water/shower for 30 minute. Seek immediate medical attention. Store the contaminated clothing under running water and wash before re-use or discard.

Eye Contact

Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Ingestion

Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth. DO NOT induce vomiting. Seek immediate medical attention.

Additional Information

Notes to physician: Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and 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 tube may be required for the reduction of severe distension due to gas formation.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Hydrogen peroxide does not burn. Use extinguishing media suitable for the surrounding fire. Use large quantities of water as fog to fight fires in which this material is involved.
Unsuitable Extinguishing Media	Carbon dioxide or other extinguishing agents that smother flames are not effective in fires involving oxidizers.
Specific Hazards Arising From the Chemical	Hydrogen peroxide decomposes to molecular oxygen, which can accelerate the burning of flammable materials or cause spontaneous combustion. Closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time, or if contaminated with certain metals or dirt. Large amounts of oxygen-rich atmosphere. No part of a container should be subjected to a temperature higher than 49°C.
Special Protective Equipment for Fire-Fighters	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Further Information	Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers, waterways or confined spaces.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Flush area with water. LARGE SPILLS: Dike with earth, sand or inert noncombustible sorbent material to contain spill. Remove liquid with compatible pumps or vacuum equipment. Place in suitable, covered, labelled, vented containers. Flush area with excess water. Keep materials which can burn away from spilled material. Contaminated absorbent material may pose the same hazards as the spilled product. Combustible materials that have come into contact with spilled material should be submerged or rinsed off with water to remove hydrogen peroxide.

Section 07 - Handling and Storage

Precautions for Safe Handling	This material is a MODERATE OXIDIZER and is CORROSIVE to the eyes. 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. Avoid generating vapours or mists. Prevent the release of vapours or mists into the air. Eliminate all ignition sources (sparks, smoking, flames, hot surfaces). Keep away from heat.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated place. Keep container tightly closed, vented, out of direct sunlight, and away from incompatible materials. Do NOT store on wooden pallets: use plastic pallets. Storage facilities should be made of fire resistant materials. Construct walls, floors, shelving and fittings in storage areas from non-combustible materials that resist attack from hydrogen peroxide.
Incompatibilities	Iron and other heavy metals, copper alloys, caustic, reducing agents, dirt, organics, cyanides, and combustibles such as wood, paper, oils, etc.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Hydrogen Peroxide	ACGIH	TWA	1ppm
	OSHA	PEL	1ppm

Engineering Control(s)

Ventilation Requirements

Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must 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

Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face

Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Hand Protection

Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Skin and Body Protection

Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

Respiratory Protection

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

Thermal Hazards

Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State

Liquid

Colour

Clear, colourless

Odour

Odourless

Odour Threshold

Not Applicable

Property

pH

<2

Melting Point/Freezing Point

-25.7°C (30%)

Initial Boiling Point and Boiling Range

106.2°C (30%)

Flash Point

Not Applicable

Evaporation Rate

Not Available

Flammability

Non-Flammable

Upper Flammable Limit

Not Applicable

Lower Flammable Limit

Not Applicable

Vapour Pressure (mm Hg, 20°C)	Not Available
Vapour Density (Air=1)	1.17
Relative Density	Not Available
Solubility(ies)	Completely miscible
Partition Coefficient: n-octanol/water	Log P _{OW} = - 0.70-1.33; -1.57 (estimated)
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	150-152°C (Pure Hydrogen Peroxide)
Viscosity	Not Available
Explosive Properties	Product is noncombustible. On decomposition, H ₂ O ₂ releases oxygen which may intensify fire. Can cause overpressure if confined.
Specific Gravity (Water=1)	1.11 (30%)
% Volatiles by Volume	Not Available
Formula	H ₂ O ₂
Molecular Weight	34.02

Section 10 - Stability and Reactivity

Reactivity	The National Fire Protection Association (NFPA) lists hydrogen peroxide solutions (greater than 27.5% up to 52%) as a Class 2 Oxidizer. Class 2 Oxidizers cause a moderate increase in the burning rate of combustible materials with which they come into contact.
Stability	Solution which are completely free of contamination are relatively stable. Can decompose in sunlight. Readily liberates oxygen, water and heat.
Possibility of Hazardous Reactions	None reported.
Conditions to Avoid	Heat, open flames, contamination, depletion of stabilizers, pH greater than 4.5.
Incompatible Materials	Combustible materials, strong bases, nitric acid, sulfuric acid, organic compounds, metals, metal oxides, metal salts, iodates, reducing agents, potassium permanganate.
Hazardous Decomposition Products	Molecular oxygen.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Hydrogen Peroxide (30%)	250 mg/kg (rat)	2,300 mg/kg (rabbit)	377 mg/m ³ (mouse, 4hr)

Chronic Toxicity – Carcinogenicity

Component	IARC
Hydrogen Peroxide	Group 3: Not classifiable as to its carcinogenicity to humans.

Skin Corrosion/Irritation	Corrosive. Capable of producing serious burns, blisters, ulcers and permanent scarring.
Serious Eye Damage/Irritation	Can cause serious eye damage. Capable of producing severe eye burns and permanent injury.

Ingestion	Harmful if ingested. Symptoms include sharp pains in the abdomen, foaming at the mouth, vomiting, temporary unconsciousness and fever. Significant neurological impairment has been described.
Inhalation	Inhalation of mist or vapors may be severely irritating to nose, throat, and lungs.
Respiratory or Skin Sensitization	Hydrogen peroxide is not known to be an occupational respiratory or skin sensitizer.
Germ Cell Mutagenicity	The information located is insufficient to conclude that hydrogen peroxide is a mutagen.
Reproductive Toxicity	Hydrogen peroxide is not known to cause developmental toxicity. Hydrogen peroxide is not known to cause reproductive toxicity.
STOT-Single Exposure	Causes respiratory tract irritation.
STOT-Repeated Exposure	Not Available
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	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Hydrogen Peroxide	EC ₅₀ (Blue-green algae, 3hr): 0.27mg/L	LC ₅₀ (Ictalurus punctatus, 24hr):0.055mg/L	EC ₅₀ (Daphnia magna, 48hr): 2.32mg/L
Biodegradability	Readily biodegradable		
Bioaccumulation	None. Hydrogen peroxide quickly decomposes to oxygen and water.		
Mobility	Not Available		
Other Adverse Effects	Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. H ₂ O ₂ 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 contaminants.		

Section 13 - Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

UN Number	UN 2014
UN Proper Shipping Name	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Transport Hazard Class(es)	5.1 (8)
Packaging Group	II
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations
Special Precautions	Not Available
Transport in Bulk	Not Available

Additional InformationPacking GroupLimited Quantity Index

II

1L

TDG**Other**

Secure containers (full and/or empty) with suitable hold down devices 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 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

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

Section 16 - Other Information

Preparation Date

August 7, 2015

Note: The responsibility to provide a safe workplace remains with the user. The 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 user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

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

References:

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

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