

Section 1: Product & Company Information

Product Identifier: Hydrogen Peroxide, 50% Solution

Other Means of Identification

Product Number: -

Recommended Use and Restrictions on Use

Recommended Use: Not available.

Restrictions on Use: Not known.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Oxidizing, Liquids - 1

Health Hazard(s)

Acute Toxicity, Oral - 4

Corrosion/Irritation, Skin - 1A

(Corrosion)Damage/Irritation, Eye - 1

Environmental Hazard(s)

Aquatic, Acute - 3

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H271: May cause fire or explosion; strong oxidizer

H302: Harmful if swallowed

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage

Precautionary Statements

Prevention

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220: Keep/Store away from clothing/combustible materials.

P221: Take any precaution to avoid mixing with combustibles.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash face, hands and any exposed skin thoroughly after handling.

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

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P283: Wear fire/flame resistant/retardant clothing.

Response

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

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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

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

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P306 + P360: IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
 P310: Immediately call a POISON CENTER or doctor/physician.
 P321: Specific treatment (see supplemental first aid instructions on this label).
 P330: Rinse mouth.
 P363: Wash contaminated clothing before reuse.
 P370 + P378: In case of fire: Use suitable extinguishing media for extinction.
 P371 + P380 + P375: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Storage

P402: Store in a dry place.
 P405: Store locked up.

Disposal

P501 - Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Substances

Chemical Identity	Common Name/Synonym(s)	CAS #	Weight %	Impurity or Stabilizing Additive
Hydrogen Peroxide	-	7722-84-1	50%	No

- Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- "-" Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact

Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention immediately! Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Symptoms

Harmful if swallowed. Toxic if inhaled. Corrosive to skin and eyes.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

Strong oxidizer - contact with other material may cause fire.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

Unsuitable Extinguishing Media

No data available.

Specific Hazards Arising from the Chemical

Strong oxidizer. Contact with combustible material may cause fire. Pressurized container may explode when exposed to heat or flame.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unauthorized personnel away. Use personal protective equipment. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and Materials for Containment and Clean-Up

Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures

Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Wash hands thoroughly after handling. Do not get in eyes, on skin, on clothing. Keep away from combustible material. Do not taste or swallow. Do not eat, drink or smoke when using the product. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.

Conditions for Safe Storage, including any Incompatibilities

Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Keep container tightly closed. Store in a well-ventilated place. Store in a dry place.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	CAS #	Type	Value	Source
Hydrogen Peroxide	7722-84-1	TWA	1 ppm	US. ACGIH Threshold Limit Values
Hydrogen Peroxide	7722-84-1	PEL	1 ppm	US OSHA Table Z-1
Hydrogen Peroxide	7722-84-1	TWA	1 ppm	US OSHA Table Z-1

Biological Limit Values

None of the components have assigned biological limit values.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment (PPE)

General Information

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. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hygiene Measures

When using, do not eat, drink or smoke. 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. Discard contaminated footwear that cannot be cleaned.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Liquid

Color:	Clear
Odor:	No data available.
Odor Threshold:	No data available.
pH:	No data available.
Melting Point/Freezing Point:	-40 °C (-40 °F)
Initial Boiling Point and Boiling Range:	126 °C (259 °F) at 1,013.25 hPa (760.00 mmHg)
Flash Point:	No data available.
Evaporation Rate (butyl acetate=1):	No data available.
Flammability (solid, gas):	No data available.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	No data available.
Explosive Limit – Lower:	No data available.
Vapor Pressure:	31.0641 hPa (23.3000 mmHg) at 30 °C (86 °F)
Vapor Density (air =1):	No data available.
Relative Density (water=1):	No data available.
Solubility(ies):	
Solubility in water:	Complete
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-Ignition Temperature:	No data available.
Viscosity:	No data available.
Other Information:	
Molecular Weight:	34.01 g/mol
Formula:	H ₂ O ₂

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

Stable; however, may decompose if heated.

Possibility of Hazardous Reactions

No data available.

Conditions to Avoid

Heat. Light. Contact with combustibles. Contact with incompatible materials.

Incompatible Materials

Brass, Copper, Copper alloys, Powdered metals, Iron and iron salts. Organic compounds. Reducing agents. Flammable/combustible material.

Hazardous Decomposition Products

Oxygen. May decompose upon heating to produce corrosive and/or toxic fumes.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: May cause burns of the gastrointestinal tract if swallowed. Harmful if swallowed.

Inhalation: May cause irritation to the respiratory system. Toxic if inhaled.

Skin Contact: Causes severe skin burns.

Eye Contact: Causes serious eye damage.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Hydrogen Peroxide: LC50 (Rat): 1,232 mg/kg

Dermal

Hydrogen Peroxide: LD50 (Rabbit): > 2,000 mg/kg

Inhalation

Hydrogen Peroxide: LC50 (Rat): 2,000 mg/l

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Causes severe skin burns.

Serious Eye Damage/Eye Irritation

Causes serious eye damage.

Respiratory/Skin Sensitization

Not a skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

May cause genetic defects.

In Vivo

May cause genetic defects.

Reproductive Toxicity

No components toxic to reproduction.

Specific Target Organ Toxicity – Single Exposure

Respiratory tract irritation. Lungs.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Hydrogen Peroxide: LC50 (Fathead minnow (*Pimephales promelas*), 96 h): 16.4 mg/l

Aquatic Invertebrates

Hydrogen Peroxide: EC50 (Water flea (*Daphnia pulex*), 48 h): 2.4 mg/l

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

This material is expected to biodegrade.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available.

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

The product is water soluble and may spread in water systems.

Other Adverse Effects

Toxic to aquatic life.

Section 13: Disposal Considerations

Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN2014
UN Proper Shipping Name: Hydrogen peroxide, aqueous solutions
Technical Name: -
Hazard Class: 5.1
Subsidiary Hazard Risk: 8
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: 12, A60, B53, B80, B81, B85, IB2, IP5, T7, TP2, TP6, TP24, TP37
Packaging Exceptions: None
Packaging Non-Bulk: 49CFR 173.202
Packaging Bulk: 49CFR 173.243
Reportable Quantity (RQ): No
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 140

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredients are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemicals in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemicals in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: Yes
Sudden Release of Pressure: No
Reactive: Yes
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 3
Chronic Health Hazard: /
Flammability: 0
Physical Hazard: 1

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 3
Fire Hazard: 0
Reactivity Hazard: 1
Special: OXY

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA - American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL - Immediately Dangerous to Life and Health	CAS - Chemical Abstracts Service
Kg - Kilogram	DOT - US Department of Transportation
l - Liter	EPA - US Environmental Protection Agency
lb - Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml - milliliter	IMDG - International Maritime Dangerous Goods
N/A - Not Applicable	NIOSH - National Institute for Occupational Safety and Health
N/D - Not Determined	NTP - National Toxicology Program
PEL - Permissible Exposure Limit	OSHA - US Occupational Health and Safety Administration
REL - Recommended Exposure Limit	SARA - US EPA Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit	TSCA - US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

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