SDS

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: **Hydrogen Peroxide, 20-35% w/w**

Product Code(s): H1021, H1025, H1026, H1027, H1054, H1057, H1074

Synonyms: Hydrogen Dioxide

Recommended Use: For manufacturing, industrial, and laboratory use only. Use as a solvent, as a cleaning agent, or as an oxidizing agent.

Uses Advised Against: Not for food, drug, or household use.

Supplier: Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (VelocityEHS)

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Acute Toxicity - Oral:	Category 4
Skin Corrosion/Irritation:	Category 1A
Eye Damage/Irritation:	Category 1
Oxidizing Liquids:	Category 1

Signal Word: DANGER

Hazard Statements: Harmful if swallowed.
Causes severe skin burns and serious eye damage.
May cause fire or explosion; strong oxidizer.

Pictograms:



Precautionary Statements:

Prevention: Wash thoroughly after handling.
Do not eat, drink, or smoke while using this product.
Do not breathe fumes, mists, vapors, or spray.

Wear protective gloves, protective clothing, eye protection, and face protection.
Keep away from heat.
Keep away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles.
Wear fire resistant clothing.

Response: Immediately call a poison center or doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
In case of fire: Use water spray, dry powder, alcohol resistant foam, or carbon dioxide to extinguish.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified: May pose a pressure hazard when sealed. Use vented containers to avoid hazardous pressure buildup.
May be hazardous to the aquatic environment.

Toxicity Statement: Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Water	Water	7732-18-5	H_2O	65 – 80
Hydrogen Peroxide	Hydrogen Dioxide	7722-84-1	H_2O_2	20 – 35

Trade Secret Statement: Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediately call a poison center or doctor.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Rinse mouth. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor.

Skin Contact: Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a doctor if symptoms persist.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Immediately call a doctor.

General Advice:	Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.
Symptoms and Effects:	Ingestion may cause burns, abdominal pain, nausea, vomiting, convulsions, and organ damage. Inhalation may cause coughing, pneumonia, burns, hoarseness. Contact with skin may cause burns and discoloration. Contact with eyes may cause tissue damage.
Immediate Medical Care/ Special Treatment:	If you feel unwell or are concerned, get medical attention immediately. Treat symptomatically. Symptoms may be delayed.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, dry powder, alcohol resistant foam, carbon dioxide.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream, as it may scatter and spread fire.
Hazardous Combustion Products:	Excessive thermal conditions may yield corrosive and/or toxic fumes.
Specific Hazards:	Oxidizer. Contact with combustible and organic material may cause fire. This product will accelerate burning when involved in a fire. May cause explosion hazard if contacted with flammable materials or if heated.
Special Protective Equipment/ Precautions for Firefighters:	As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. Use water spray to cool unopened containers. Move containers from fire area, if you can do so without risk. In the event of fire and/or explosion, do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment:	Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, clothing, and combustible materials.
Emergency Procedures:	In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).
Methods for Containment:	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover liquid when possible.
Methods for Cleanup:	Keep combustibles away from spilled material. Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, clothing, and combustible materials. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage: Store in a cool, dry, ventilated area. Keep out of light and away from heat and sources of ignition. Store in a segregated and approved area away from incompatible materials (see Section 10). Store in original container. Ensure container is vented. Keep containers tightly closed and upright. Keep away from food, drink, and animal feed. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Water:	No information found.	
Hydrogen Peroxide:	ACGIH (TLV):	1 ppm
	OSHA (PEL):	1 ppm
		1.4 mg/m^3

Engineering Controls: Ensure adequate ventilation. 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.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or goggles and a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance: Colorless, transparent liquid.

Odor: Slight, acrid.

Odor Threshold: No information found.

Formula Weight: 34.01 (as H_2O_2)

pH:	< 4.0
Melting/Freezing Point:	< 0 °C
Boiling Point/Range:	> 100 °C
Decomposition Temperature:	No information found.
Flash Point:	Not applicable.
Auto-ignition Temperature:	Not applicable.
Flammability:	Not applicable.
Flammability/Explosive Limits:	Not applicable.
Solubility:	Miscible with water, ether.
Vapor Pressure:	≤ 23.25 mmHg at 20 °C
Vapor Density:	1.1 (Air = 1)
Specific Gravity:	1.07 – 1.11 (Water = 1)
Evaporation Rate:	< 1 (Butyl Acetate = 1)
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	Corrosive. Oxidizer. See Section 11.
Chemical Stability:	Degrades nonhazardously under normal storage conditions. May decompose if heated.
Conditions to Avoid:	Heat, light, incompatible materials.
Incompatible Materials:	Reducing agents, combustible materials, organic materials, metals, acids, alkalis.
Hazardous Decomposition Products:	May decompose upon heating to produce corrosive and/or toxic fumes.
Possibility of Hazardous Reactions:	May react vigorously, violently, or explosively if exposed to extreme thermal conditions or to the incompatible materials listed above. Decomposes into water and oxygen, which may cause a pressure hazard.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin contact, eye contact.	
Acute Effects:	Corrosive. Harmful if swallowed, inhaled, absorbed through the skin, or exposed to the eyes. May cause burns to the eyes, skin, respiratory tract, and gastrointestinal tract. May affect the central nervous system, respiratory system, brain, blood, gastrointestinal system, and cardiovascular system.	
Chronic Effects:	Prolonged or repeated exposure may cause dermatitis, corneal damage, metabolic effects, respiratory effects, blood effects, mutagenic effects, and cancer.	
Toxicological Data:	Water:	Not applicable.

Hydrogen Peroxide:	LD_{50} Oral, Rat:	376 mg/kg
	LD_{50} Dermal, Rat:	> 2000 mg/kg
	Causes skin and eye damage based on animal data.	

Symptoms of Exposure: Irritation, ataxia, convulsions, dyspnea, ocular clouding, corneal edema, coughing, lacrimation, insomnia, headache, numbness, ulceration of nasal tissue, chemical pneumonia, unconsciousness, nausea, vomiting, hypermotility, diarrhea, difficulty swallowing, stomach distension, cerebral swelling.

Carcinogenic Effects: May cause cancer based on animal data.

ACGIH: A3 – Confirmed animal carcinogen with unknown relevance to humans

IARC: 3 – Not classifiable for human

12. ECOLOGICAL INFORMATION

Ecotoxicological Data: Water: No information found.

Hydrogen Peroxide:

EC_{50}, Water Flea (Daphnia magna):	2.4 mg/L 48 h
LC_{50}, Rainbow Trout (Oncorhynchus mykiss):	22 mg/L 96 h

Persistence and Degradability: Readily biodegradable. Not expected to bioaccumulate.

Environmental Effects: May be hazardous to the aquatic environment. Avoid exposure to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

Waste Codes: No information found.

14. TRANSPORT INFORMATION

DOT:

UN Number: UN2014

Proper Shipping Name: Hydrogen peroxide, aqueous solutions

Hazard Class: 5.1

Subsidiary Class: 8

Packing Group: II

ERG Number: 140

Environmental Hazard Regulations: No information found.

Other Transport Precautions: No information found.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	No
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

Section 313: No information found.

CERCLA Reportable Quantities: No information found.

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
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
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that the listed components of this product comply with the inventory requirements administered by the governing country or region.

16. OTHER INFORMATION

Disclaimer: Rocky Mountain Reagents, Inc. provides the information in this Safety Data Sheet in the belief that it is reliable but assumes no responsibility for its completeness or accuracy. The physical properties reported in this SDS are obtained from literature and do not constitute product specifications. Rocky Mountain Reagents, Inc. makes and gives no representations or warranties with respect to the information contained herein or the product to which it refers, whether express, implied, or statutory, including without limitation, warranties of accuracy, completeness, merchantability, non-infringement, performance, safety, suitability, stability, and fitness for a particular purpose. No warranty against infringement of any patent, copyright or trademark is made or implied. This SDS is intended only as a guide to the appropriate handling of the material by a properly trained person. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. Accordingly, Rocky Mountain Reagents, Inc. assumes no liability whatsoever for the use of or reliance upon this information including results obtained, incidental or consequential damages, or lost profits.

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