SAFETY DATA SHEET

HYDROXYSAN PLUS Product ID: FP0490 Revised: 09-01-2023 **Replaces:** 08-16-2023

1. IDENTIFICATION

Product Identifier Used HYDROXYSAN PLUS

on the Label:

Other Identifiers:

R25591

Product ID:

MIXTURE

Recommended Use: Restrictions on Use: EPA Registered Sanitizing Applications / EPA Reg. No: 10324-214-2686 No data available.

Hydrite Chemical Co. 17385 Golf Parkway

Brookfield, WI 53045

EMERGENCY RESPONSE NUMBERS: 24 Hour Emergency #: (414) 277-1311 CHEMTREC Emergency #: (800) 424-9300

(262) 792-1450

2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Skin Corrosion/Irritation Category 1B

Serious Eye Damage/Eye Irritation Category 1

Oxidizing Liquid Category 2 Organic Peroxide Type F

Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

Hazardous to the aquatic environment - Acute Category 2

GHS Label Elements:

GHS Hazard Symbols:









Signal Word:

Danger

Hazard Statements:

Heating may cause a fire. May intensify fire; oxidizer.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Toxic to aquatic life.

Precautionary Statements:

Prevention: Keep away from heat, sparks, open flames and hot surfaces. – No smoking.

Keep away from clothing combustible materials.

Take any precaution to avoid mixing with combustibles.

Keep only in original container.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

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

Protect from sunlight.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with

water

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for

breathing.

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 or doctor/physician.

Specific treatment (see on this label). Wash contaminated clothing before reuse.

In case of fire: Use to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store in a secure manner. Protect from sunlight.

Store at temperatures not exceeding 20 °C/ 86 °F. Keep cool.

Store away from other materials.

Disposal:

Dispose of in accordance with local, regional and international regulations.

Hazards not otherwise classified:

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

7% of the mixture consists of component(s) of unknown long-term

hazards to the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

Chemical or Common Name/Synonyms	CAS Number	<u>% by Wt.</u>
Hydrogen Peroxide	7722-84-1	20 - <30 %
Acetic Acid	64-19-7	5 - <10 %
Peracetic Acid	79-21-0	5 - <10 %
1-Hydroxyethylidene-1,1-diphosphonic Acid	2809-21-4	1 - < 3%
Sulfuric Acid	7664-93-9	< 1.0 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Wash with soap and water. Discard shoes if contaminated. Discard contaminated leather articles such as shoes and belt.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce

vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Rinse mouth with fresh water.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: redness. tearing. swelling. burns. pain. stinging. corneal damage. Effects may be delayed. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact with concentrated liquid for a short period of time may cause a temporary whitening or bleaching of the skin. Contact may cause: redness. swelling. erythema. discoloration. itching. blistering. burning. skin damage.

Skin Absorption: May be harmful if absorbed through skin.

Inhalation: CORROSIVE-Causes severe irritation and burns. Vapors or mists may cause: irritation. hoarseness. shortness of breath. burning sensation. tightness of the chest. difficulty breathing. coughing. respiratory irritation. nausea. vomiting. pulmonary edema. Symptoms of pulmonary edema may be delayed. Prolonged or repeated overexposure may cause: nose bleeds. chronic bronchitis. Chronic exposure may cause: tooth decay. lung damage. Inhalation of sulfuric acid mist may decrease the ability of the respiratory tract to remove other small particles which may be inhaled.

Ingestion: CORROSIVE-Causes severe irritation and burns. Causes burns of the: mouth. throat. May cause: nausea. abdominal pain. diarrhea. coughing. suffocation. shortness of breath. vomiting (bloody). perforation of the esophagus. perforation of the stomach. The rapid releasing of oxygen can cause distension and bleeding of the mucosa in the stomach and lead to severe damage of the intestinal organs, especially in the event of greater intake of the product.

Indication of Immediate Medical Attention and Special Treatment Needed: Exposure to material may cause delayed lung injury resulting in pulmonary edema and pneumonitis. Exposed individuals should be monitored for 72 hours after exposure for the onset of delayed respiratory symptoms. Hydrogen peroxide 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. Observe for latent pulmonary edema. Consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Observation may be warranted. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water only. Water spray. Water fog. Water (flood with water). DO NOT USE: Organic compounds.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: STRONG OXIDIZER. Forms explosive mixtures with combustible, organic, or other easily oxidizable materials. These mixtures are easily ignited by friction or heat. Heated material can form flammable vapors with air. Heated material can form explosive vapors with air. Decomposition will release oxygen, which will intensify a fire. The rate of decomposition may exceed the vent capacity of storage containers and cause an explosion.

Hazardous Combustion Products: Oxygen. Carbon dioxide. Carbon monoxide. Sulfur oxides. Toxic or corrosive gases.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and

disperse vapors. Move containers from fire area if possible without hazard. Run-off from fire control may cause pollution.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: CORROSIVE MATERIAL. STRONG OXIDIZER. Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: Stop the flow of material, if this is without risk. Eliminate all sources of ignition. Contain spill, place into drums for proper disposal. Soak up residue with non-flammable absorbent material. Place in non-leaking containers for immediate disposal. Ensure adequate decontamination of tools and equipment following clean up. Never return spilled product into its original container. Never put spilled material into another container for disposal. Flush area with large quantity of water to remove trace residue and dispose of properly. 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 is allowed to 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 a fire. Do not touch or walk through spilled material.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Avoid contamination. Never return unused product to container. Contamination may cause decomposition and generation of oxygen gas which could result in high pressure and possibly container rupture. Use non-sparking tools and equipment. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic. Immediately change moistened and saturated work clothes. Immediately rinse contaminated or saturated clothing with water. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood, or other combustibles can cause the material to ignite and result in a fire.

Conditions for Safe Storage, Including any Incompatibilities: CORROSIVE MATERIAL. STRONG OXIDIZER. Store in a cool, well ventilated area away from all sources of ignition and out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Avoid storage on wood floors or near wooden walls, etc.. Do not store on wooden pallets. Store in a vented container. Do not store near combustible materials. DO NOT contaminate water, food or feed by storage or disposal. Refer to the National Fire Protection Association (NFPA) Code for the Storage of Organic Peroxide Formulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component <u>Limits</u>

Hydrogen Peroxide 1 ppm TWA; 1.4 mg/m3 TWA Acetic Acid 10 ppm TWA; 25 mg/m3 TWA

Sulfuric Acid 1 mg/m3 TWA

ACGIH Exposure Guidelines:

ComponentLimitsHydrogen Peroxide1 ppm TWA

Acetic Acid 10 ppm TWA; 15 ppm STEL

Peracetic Acid 0.4 ppm STEL (inhalable fraction and vapor)

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Sulfuric Acid

0.2 mg/m3 TWA (thoracic particulate matter)

Appropriate Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are required when handling or using this product to avoid overexposure. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Wear a full-face respirator, if needed. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Butyl rubber. Neoprene. Polyvinyl chloride. Nitrile. Inspect regularly for leaks. Avoid cotton, wool and leather clothing and shoes. Thoroughly wash the outside of gloves with soap and water before removal.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved respirator. NIOSH-Approved self-contained breathing apparatus. DO NOT use any form of air-purifying respirator (APR) or filtering facepiece (AKA dust mask), especially those containing oxidizable sorbants such as activated carbon. DO NOT exceed limits established by the respirator manufacturer.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Rubber boots. Impervious clothing. Full body suit. NOTE: As the water content of hydrogen peroxide evaporates, cotton, rayon, and wool fibers are particularly subject to spontaneous combustion. Where there is significant risk of sudden splash or spray, it is advised that an apron or rubber suit be worn. Any contaminated clothing, including gloves, shoes, aprons, coveralls, etc., should be removed immediately and thoroughly flushed with water to eliminate any traces of hydrogen peroxide before cleaning and reuse. Residual hydrogen peroxide, if allowed to dry on material such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in fire.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.
Color: Colorless.
Odor: Vinegar-like.
Odor Threshold: N.D.
pH: < 1.5 (as is)

Freezing Point (deg. F): N.D. Melting Point (deg. F): N.D.

Initial Boiling Point or Boiling Range: 212 °F

Flash Point: None to decomposition

Flash Point Method: N.D.

Evaporation Rate (nBuAc = 1): N.D. Flammability (solid, gas): N.D. Lower Explosion Limit: N.A. Upper Explosion Limit: N.A.

Vapor Pressure (mm Hg): 22 mm Hg @ 25 °C

Vapor Density (air=1): N.D.

Specific Gravity or Relative Density: 1.138 @ 25 °C

Solubility in Water: Complete

Partition Coefficient (n-octanol/water): N.D.

Auto-ignition Temperature: > 518 °F **Decomposition Temperature:** N.D.

Viscosity: 5-15 cSt @ 20 °C % Volatile (wt%): > 99 VOC (wt%): N.D. VOC (lbs/gal): N.D. Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Contact with organic materials may cause fire and explosions. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

Conditions to Avoid (e.g., static discharge, shock, or vibration): Avoid elevated temperatures. Avoid exposure to light. UV-rays. pH variations. Excessive heat or contamination could cause product to become unstable. Avoid heat, sparks or open flames.

Incompatible Materials: Metals. Water. Alkalies. Strong oxidizing agents. Reducing agents. Carbonates. Cyanides. Sulfides. Carbides. Chlorates. Fulminates. Nitrates. Amines. Styrene. Dirt. Leather. Paper. Wood. Combustible materials. Heavy metals. Oxidizing agents. Strong acids. Bases. Alcohols. Nitric Acid. Sodium peroxide. Hydroxides. Phosphates. Corrosive to some metals. Acetaldehyde. Acetic Anhydride. Potassium tertbutoxide. Organics. Dust. Decomposition catalysts. Metal salts. Metal ions. Copper or copper alloys. Galvanized iron. Metal Oxides. Acids. Salts. Flammable materials. Hydrochloric acid. Iron.

Hazardous Decomposition Products: Oxygen. Material decomposes with the potential to produce a rupture of unvented closed containers. This material decomposes if contaminated, causing fire and possible explosions. Oxygen can be liberated at temperatures above ambient. Carbon dioxide. Carbon monoxide. Hydrogen sulfide gas. Sulfur compounds. Acetic acid. Corrosive vapors.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Skin. Inhalation. Ingestion. Absorption.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: redness. tearing. swelling. burns. pain. stinging. corneal damage. Effects may be delayed. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact with concentrated liquid for a short period of time may cause a temporary whitening or bleaching of the skin. Contact may cause: redness. swelling. erythema. discoloration. itching. blistering. burning. skin damage.

Skin Absorption: May be harmful if absorbed through skin.

Inhalation: CORROSIVE-Causes severe irritation and burns. Vapors or mists may cause: irritation. hoarseness. shortness of breath. burning sensation. tightness of the chest. difficulty breathing. coughing. respiratory irritation. nausea. vomiting. pulmonary edema. Symptoms of pulmonary edema may be delayed. Prolonged or repeated overexposure may cause: nose bleeds. chronic bronchitis. Chronic exposure may cause: tooth decay. lung damage. Inhalation of sulfuric acid mist may decrease the ability of the respiratory tract to remove other small particles which may be inhaled.

Ingestion: CORROSIVE-Causes severe irritation and burns. Causes burns of the: mouth. throat. May cause: nausea. abdominal pain. diarrhea. coughing. suffocation. shortness of breath. vomiting (bloody). perforation of the esophagus. perforation of the stomach. The rapid releasing of oxygen can cause distension and bleeding of the mucosa in the stomach and lead to severe damage of the intestinal organs, especially in the event of greater intake of the product.

Numerical Measures of Toxicity:

Oral LD50 Component Dermal LD50 Inhalation LC50 Hydrogen Peroxide Rat: 1518 mg/kg Rabbit: 9200 mg/kg 4H Rat: 2000 mg/m3 Acetic Acid Rat: 3310 mg/kg Rabbit: 1060 mg/kg 4H Rat: 11.4 mg/L Peracetic Acid Rat: 1540 mg/kg Rabbit: 1410 mg/kg 4H Rat: 186 mg/m3 1-Hydroxyethylidene-1,1-Rat: 3130 mg/kg Rabbit: > 10000 mg/kg No Data

diphosphonic Acid

Sulfuric Acid Rat: 2140 mg/kg No Data 4H Rat: 0.4 mg/L

Acute Toxicity Estimates (ATE):

Oral: 4085 mg/kg **Dermal:** 9605 mg/kg

Cancer Information:

This product contains 0.1% or more of the following chemicals listed by NTP, IARC or OSHA as known or possible carcinogens:
Sulfuric acid mist

Medical Conditions Aggravated by Exposure to Product: Lung disorders. Eye disorders. Skin disorders. Respiratory system disorders. Mucous membranes diseases.

Other: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Acute test data:

Fathead Minnow 96 hr LC50 = 17.48 mg/L Daphnia Magna 48 hr LC50 = 9.47 mg/L

Chronic test data:

Fathead Minnow IC25 = 19.7 mg/L Ceriodaphnia Dubia IC25 = 5.8 mg/L

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: Possibly: D002; D003

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Identification Number: UN3109

Proper Shipping Name: ORGANIC PEROXIDE TYPE F, LIQUID (PEROXYACETIC ACID, TYPE F

STABILIZED)

Hazard class: 5.2 (8)

Label Required: ORGANIC PEROXIDE; CORROSIVE Reportable Quantity (RQ): 5000# (Acetic Acid); 1000# (Sulfuric Acid)

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards: Please see Section 2 of this SDS.

Regulated Components:	CAS	CERCLA	SARA	SARA	<u>U.S.</u>	WI	Prop
Component	<u>Number</u>	RQ	<u>EHS</u>	<u>313</u>	HAP	<u>HAP</u>	65
Hydrogen Peroxide	7722-84-1	No	Yes	No	No	Yes	No
Acetic Acid	64-19-7	Yes	No	No	No	Yes	No
Peracetic Acid	79-21-0	No	Yes	Yes	No	No	No
Sulfuric Acid	7664-93-9	Yes	Yes	Yes	No	Yes	Yes

*Prop 65 - May Contain the Following Trace Components:

Strong inorganic acid mists containing sulfuric acid

Note:

* SARA RQ and TPQ are for Hydrogen Peroxide (Conc. > 52%). * Sulfuric acid appears on the Section 313 List. However, the listing only applies to the aerosol forms of sulfuric acid.

FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. CORROSIVE. Causes irreversible eye damage and skin burns. Harmful if swallowed. May be fatal if inhaled. Do not get into eyes, on skin or on clothing. Do not breathe vapors or spray mist. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

16. OTHER INFORMATION

Hazard Rating System

Health: 3 Flammability: 2 Reactivity: 1

* = Chronic Health Hazard

NFPA Rating System
Health: 3
Flammability: 2
Reactivity: 1
Special Hazard: OX

SDS Abbreviations

N.A. = Not Applicable

N.D. = Not Determined

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

C = Ceiling Limit

N.E./Not Estab. = Not Established

SDS Prepared by: EP

Reason for Revision: Minor change(s) made in: Section 2.

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Revised: 09-01-2023 **Replaces:** 08-16-2023

The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.