

SAFETY DATA SHEET

EPS 2500 ELECTROPOLISH

Product ID: EP250001

Revised: 05-03-2022

Replaces: 01-13-2015

1. IDENTIFICATION

Product Identifier Used on the Label: EPS 2500 ELECTROPOLISH

Other Identifiers: N.A.

Product ID: MIXTURE

Recommended Use: No data available.

Restrictions on Use: No data available.

Electro Polish Systems, Inc.
W175 N11117 Stonewood Dr.
Suite 101
Germantown, WI 53022
(262) 293-9970
(800) 959-0868

EMERGENCY RESPONSE NUMBERS:
CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Substance or mixture corrosive to metals Category 1
Skin Corrosion/Irritation Category 1B
Serious Eye Damage/Eye Irritation Category 1
Carcinogenicity Category 1A
Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3
Acute Toxicity - Inhalation Dust / Mist Category 4

GHS Label Elements:

GHS Hazard Symbols:



Signal Word: Danger

Hazard Statements: May be corrosive to metals.
Causes severe skin burns and eye damage.
Harmful if inhaled.
May cause respiratory irritation.
May cause cancer.
May cause damage to organs (teeth) through prolonged or repeated exposure to sulfuric acid mists..

Precautionary Statements:

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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.
Wear protective gloves/protective clothing/eye protection/face protection.

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 First Aid on SDS or on this label).
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a secure manner.
Store in corrosive resistant container with a resistant inner liner.

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

Hazards not otherwise classified: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. May be harmful if swallowed. Causes severe digestive tract burns. May react with certain metals to form explosive/flammable hydrogen gas. May react violently with water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

<u>Chemical or Common Name/Synonyms</u>	<u>CAS Number</u>	<u>% by Wt.</u>
Phosphoric Acid	7664-38-2	45 - 70 %
Sulfuric Acid	7664-93-9	15 - 40 %

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. Wear chemical protective gloves, if necessary. Remove any contact lens at once. Quickly and gently blot excess acid off face. Extensive irrigation is required (at least 30 minutes). DO NOT INTERRUPT FLUSHING. If necessary, continue flushing during transport to emergency care facility.

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. Wear chemical protective clothing if necessary. DO NOT INTERRUPT FLUSHING. For acid splashes over large areas of the body, transport quickly to an emergency care facility. If necessary, and if it can be done safely, continue flushing during transport to emergency care facility. Skin should be thoroughly flushed with water for over 30 minutes. Discard contaminated leather articles such as shoes and belt. Do not apply oils or ointments unless ordered by the physician.

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. Take precaution to ensure your own safety before attempting rescue (e.g., wear appropriate protective equipment, use buddy system). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in the recovery position and get medical attention immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

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. Do not give milk or alcoholic beverages. Rinse mouth and

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throat. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Chemical burns must be treated promptly by a physician.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: blurred vision. redness. pain. conjunctivitis. ulcerations. tissue destruction. permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Concentrated solutions may cause: severe burns. severe necrosis. permanent skin damage. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.

Skin Absorption: No data available.

Inhalation: CORROSIVE-Causes severe irritation and burns. Vapors or mists may damage: mucous membranes. respiratory tract. Vapors or mists may cause: coughing. sore throat. shortness of breath. labored breathing. choking. bronchospasms. chemical pneumonitis. pulmonary edema. death. Effects may be delayed. Chronic exposure may cause: dental erosions. discoloration of teeth. bronchitis. bronchial emphysema. Asthmatics may be more sensitive to inhaling sulfuric acid mists and asthma may be aggravated by exposure to sulfuric acid. 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. May cause damage to the: mouth. throat. esophagus. stomach. gastrointestinal tract. May cause: pain. vomiting. diarrhea. bleeding. labored breathing. burns or perforation of the gastrointestinal tract leading to ulceration and secondary infection. death. Effects may be delayed. Aspiration into the lungs may cause chemical pneumonia and lung damage.

Indication of Immediate Medical Attention and Special Treatment Needed: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (e.g., gastric lavage after endotracheal intubation).

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Carbon dioxide. Dry chemical. Foam. DO NOT USE: Direct water stream.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: Product may react with some metals (ex.: Aluminum, Zinc, Tin, etc.) to release flammable hydrogen gas. Will react with organic materials with evolution of heat and sulfur dioxide. Concentrated acid is a strong oxidizing agent. May cause ignition of combustible materials on contact with generation of sulfur dioxide fumes.

Hazardous Combustion Products: Phosphorous oxides. Phosphine. Corrosive vapors. 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. Do not get water inside containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: CORROSIVE MATERIAL. 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: Keep away from combustibles (wood, paper, oils, etc.). Neutralize spill with lime or soda ash. Adequate ventilation is required if soda ash or limestone is used, because of the consequent release of carbon dioxide gas. Absorb with an inert material. Contain spill, place into drums for proper disposal. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

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. CORROSIVE MATERIAL. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Mixing with strong bases can cause high heat of reaction and generate steam.

Conditions for Safe Storage, Including any Incompatibilities: CORROSIVE MATERIAL. Store in a cool, well ventilated area, 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. Do not freeze. Highly corrosive to most metals with evolution of hydrogen gas. Explosive/flammable concentrations of hydrogen gas may accumulate inside metal containers. Elevated temperatures will increase the corrosion rate of most metals. Avoid contact with combustible materials, wood and organic materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Phosphoric Acid	1 mg/m ³ TWA
Sulfuric Acid	1 mg/m ³ TWA

ACGIH Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
Phosphoric Acid	1 mg/m ³ TWA; 3 mg/m ³ STEL
Sulfuric Acid	0.2 mg/m ³ 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. Do not wear contact lenses. Wear a full-face respirator, if needed.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Chemical-resistant. Acid-proof. Check gloves for leaks before use.

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 air-purifying respirator with: A combination of a 42CFR84 Class N, R or P-100 particulate filter and an acid gas cartridge. NOTE: Sulfuric acid mist also causes eye irritation at high concentrations and a full face respirator or air supplied respirator may be necessary in some cases. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

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Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing. Full-rubber acid suit.

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: Clear. Colorless to pink or yellow.

Odor: No odor.

Odor Threshold: N.D.

pH: < 1 (as is)

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

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

Initial Boiling Point or Boiling Range: N.D.

Flash Point: N.A.

Flash Point Method: N.A.

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): N.D.

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

Specific Gravity or Relative Density: 1.730 @ 25C

Solubility in Water: Complete

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

Auto-ignition Temperature: No Data

Decomposition Temperature: N.D.

Viscosity: 43 CPS @ 25 C

% Volatile (wt%): N.D.

VOC (wt%): 0

VOC (lbs/gal): 0

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. May react with certain metals to form explosive/flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc. Contact with organic materials may cause fire and explosions.

Conditions to Avoid (e.g., static discharge, shock, or vibration): Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures. Contact with organic materials may cause fire and explosions.

Incompatible Materials: Metals. Water. Alkalies. Strong oxidizing agents. Reducing agents. Carbonates. Cyanides. Sulfides. Carbides. Chlorates. Fulminates. Nitrates. Powdered metals. Organic materials. Combustible materials. Nitrogen compounds. Picrates. Bases. Halogens. Alkali metals. Amines. Styrene. and many other reactive substances. Sulfites. Fluorine. Sulfur trioxide. Phosphorous pentoxide. Sodium tetrahydroborate.

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Aldehydes. Amides. Alcohols. Azo-compounds. Carbamates. Esters. Caustics. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Unsaturated halides. Organic peroxides. Mercaptans. Nitromethane. Glycols. Fluorides. Halogenated organics. Sulfur. Aluminum. Copper. Mild steel. Brass. Bronze. Steel.

Hazardous Decomposition Products: Phosphorous oxides. Phosphine. Reactions with other materials may liberate toxic and/or explosive gases. Sulfur oxides. Sulfuric acid vapors. Hydrogen gas. Corrosive vapors.

11. TOXICOLOGICAL INFORMATION

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

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: blurred vision. redness. pain. conjunctivitis. ulcerations. tissue destruction. permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Concentrated solutions may cause: severe burns. severe necrosis. permanent skin damage. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.

Skin Absorption: No data available.

Inhalation: CORROSIVE-Causes severe irritation and burns. Vapors or mists may damage: mucous membranes. respiratory tract. Vapors or mists may cause: coughing. sore throat. shortness of breath. labored breathing. choking. bronchospasms. chemical pneumonitis. pulmonary edema. death. Effects may be delayed. Chronic exposure may cause: dental erosions. discoloration of teeth. bronchitis. bronchial emphysema. Asthmatics may be more sensitive to inhaling sulfuric acid mists and asthma may be aggravated by exposure to sulfuric acid. 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. May cause damage to the: mouth. throat. esophagus. stomach. gastrointestinal tract. May cause: pain. vomiting. diarrhea. bleeding. labored breathing. burns or perforation of the gastrointestinal tract leading to ulceration and secondary infection. death. Effects may be delayed. Aspiration into the lungs may cause chemical pneumonia and lung damage.

Numerical Measures of Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Phosphoric Acid	Rat: 1530 mg/kg	Rabbit: 2740 mg/kg	1H Rat: > 850 mg/m ³
Sulfuric Acid	Rat: 2140 mg/kg	No Data	4H Rat: 0.4 mg/L

Acute Toxicity Estimates

(ATE):

Oral: 2514 mg/kg

Inhalation Dust/Mist: 1.407 mg/L

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: Eye disorders. Skin disorders. Respiratory system disorders.

Other: Sulfuric acid, per se, is not listed as a carcinogen by OSHA, the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the ACGIH. IARC has concluded that there is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulfuric acid is carcinogen to humans, resulting in an increased incidence of primary laryngeal cancers. The ACGIH lists strong inorganic acid mists containing sulfuric acid as a suspected human carcinogen (A2) and the NTP have classified inorganic acid mists containing sulfuric acid as a known human carcinogen. OSHA does not list sulfuric acid mist as a carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal 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: UN3264
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, SULFURIC ACID)
Hazard class: 8
Packing Group: II
Label Required: CORROSIVE
Reportable Quantity (RQ): 5000# (Phosphoric Acid); 1000# (Sulfuric Acid)
IATA (International Air Transportation Association)

Identification Number: UN3264
Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS PHOSPHORIC ACID, SULFURIC ACID)
Class or Division: 8
Packing Group: II
Label Required: CORROSIVE

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.S.	WI	Prop
Component	Number	RQ	EHS	313	HAP	HAP	65
Phosphoric Acid	7664-38-2	Yes	No	No	No	Yes	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: * Sulfuric acid appears on the Section 313 List. However, the listing only applies to the aerosol forms of sulfuric acid.

16. OTHER INFORMATION

Hazard Rating System

Health: 3*

Flammability: 0

Reactivity: 2

* = Chronic Health Hazard

NFPA Rating System

Health: 3

Flammability: 0

Reactivity: 2

Special Hazard: W

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: JAK

Reason for Revision: Changes made throughout the SDS.

Revised: 05-03-2022

Replaces: 01-13-2015

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 ELECTRO POLISH SYSTEMS, INC. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.