ENE ELECTROPOLISH NC-3

1 IDENTIFICATION

Product Code : 2380021

Recommended use of the chemical and restrictions on use: Industrial applications

Hubbard-Hall Inc.
563 South Leonard Street
Waterbury, CT 06708
Telephone : 203-756-5521
Fax number: 203-756-9017

Emergency Phone Number
CHEMTREC: 1 (800) 424-9300
International: 1 (703) 527-3887

2 HAZARDS IDENTIFICATION

Signal Word:	DANGER
Hazard Category:	Acute Toxicity-Inhalation Hazard Category 2
	Skin Corrosion/Irritation Hazard Category 1A
	Eye Damage/Irritation Hazard Category 1
	Acute Aquatic Toxicity-Category 3
	Chronic Aquatic Toxicity- Category 3
	Carcinogenicity Hazard Category 1A
	Specific Target Organ Toxicity (Repeated Exposure) Hazard Category 2
	Corrosive to Metals Hazard Category 1
Hazard Statements:	Fatal if inhaled.
	May cause damage to teeth through prolonged or repeated exposure via inhalation.
	Causes severe skin burns and eye damage.
	May cause cancer.
	Harmful to aquatic life with long lasting effects
	May be corrosive to metals.
Prevention:	Do not breathe dust, fumes, gas, mist, vapors or spray.
	Use only outdoors or in well ventilated area.
	In case of inadequate ventilation wear respiratory protection.
	Wash skin thoroughly after handling.
	Wear protective gloves, chemical protective clothing, eye protective goggles and face shield for face prot
	Obtain special instruction before use.
	Do not handle until all safety precautions have been read and understood.

Keep only in original container.
Avoid releases to the environment

Response: If inhailed: Remove person to fresh air and keep comfortable for breathing.
Immediately call poison center or doctor and explain the type of exposure to the chemical(s) and provide th
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing Rinse skin with water/shower .
Wash contaminated clothing before reuse.
Specific treatment - refer to poison center or doctor for advice.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to
If exposed or concerned: Get medical advice/attention.
Absorb spillage to prevent material damage .

Storage: Store locked up.
Store in well ventilated place. Keep container tightly closed.
Store in corrosive resistant high density polyethylene container.

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

3 COMPOSITION INFORMATION

Chemical Name	Common Name And Synonyms	CAS No. and other Unique identifiers	Concentration %
Sulfuric Acid	Oil of Vitriol	7664-93-9	<15%
Phosphoric Acid	-	7664-38-2	>85%

4 FIRST AID

After Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

After Skin Contact:

Immediately remove contaminated clothing under a safety shower. Flush all affected areas with large amounts of water for 15 minutes. DO NOT attempt to neutralize with chemical agents. Obtain medical advice.

After Eye Contact:

Immediately flush the eyes with large quantities of running water for 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyelids with water. DO NOT attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue rinsing for an additional 15 minutes if the physician is not available.

After Ingestion:

If swallowed: Rinse mouth. Do NOT induce vomiting.

5 FIRE FIGHTING MEASURES

Suitable and Unsuitable extinguishing media:	Avoid contact with water. Use foam, dry chemical or carbon dioxide.
Specific hazards arising from the chemical:	Sulfur dioxide may be produced.

Special protective equipment and precautions for firefighter	Fire fighters should enter area only if they are protected from all contact with the materail. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surfaces should be exposed.

6 ACCIDENTAL RELEASE MEASURES

Methods and Materials for containment & cleaning up:	If trained in accordance 29 CFR 1910.120, leaks should be stopped. Spills should be contained and cleaned immediately. Persons performing clean up work should wear adequate personal protective equipment and clothing. Spills and releases should be reported, if required, to the appropriate local, state and federal regulatory agencies. Neutralize spill with soda ash or lime under good ventilation. For an interior (inside a closed space) spill be aware that the use of Soda Ash, Lime will eveolve heat and carbon dioxide thus the need for ventilation. Avoid release to the environment.

7 HANDLING AND STORAGE

Precautions for safe handling:	Use ventilation sufficient to keep personal exposure below the OSHA Permissible Exposure Limits (PEL) and or the ACGIH Threshold Limit Value (TLV) Time Weighted Average (TWA) exposure limits. Wear rubber protective gloves, chemical protective clothing, eye protective goggles and face shield for face protection. Avoid breathing dust, fumes, gas, mist, vapors and sprays. Eating, drinking and smoking in the work area is prohibited. Do not get in eyes, or on skin, or on clothing. Keep only in original container . Keep container tightly closed.
Conditions for safe storage, inc any incompatibilities:	Store in corrosive resistant container. Store locked up and away from incompatible chemicals. Store in cool dry place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Name	Std.	TWA-8hrs	STEL - 15 min.
Sulfuric Acid	ACGIH	0.2 mg/m3	
Phosphoric Acid	ACGIH	1 mg/m3	3 mg/m3

ACGIH - American Control of Governmental Hygenists
OSHA - Occupational Safety and Health Administration

Ventilation:	Use local exhaust to keep personal exposures below the OSHA Permissible Exposure Limit(s) (PEL) or the ACGIH threshold Limit Values (TLV)Time Weight Average (TWA).
Respiratory Protection:	A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI 788.2 or applicable federal requirements must be followed whenever work place conditions warrant respirator use. NIOSH's Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.
Protective Gloves:	Acid resistant rubber.
Eye Protection:	Wear chemical safety goggles with face shield.

Other Protective Equipment:	Rubber aprons, safety shoes and similar protective clothing.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear amber liquid
Odor:	No odor
Odor Threshold:	N/A
PH:	(5% solution in water)<1
Melting Point/Freezing Point:	N/A
Initial Boiling Point and Boiling Range:	N/A
Flash Point:	N/A
Evaporation Rate:	N/A
Flammability (solid, gas):	N/A
Upper/Lower flammability or explosive limits:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Relative Density:	1.69-1.71
Solubility (ies):	Complete in water
Partition Coefficient; n-octanol/water:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Viscosity:	N/A

10 STABILITY AND REACTIVITY

Reactivity:	Reacts violently with water, organic substances and base solutions with evolution of heat and hazardous mists.
Chemical Stability:	Stable under normal conditions
Conditions to Avoid:	Extremely high temperatures
Incompatible Materials:	Vigorous reactions with: water;alkaline solutions;metals, metal powder, Cabides;Chlorates;Fulminates;nitrates,picrates, strong oxidizing,reducing,or combustible organic materials. Hazardous gases are evolved in contact with chemicals such as cyanides, sulfides, and carbides. Sulfuric acid reacts with metal to produce hydrogen, a flammable and potentialy explosive gas. Hydrogen reacts with sulfides and generates hydrogen sulfide(Highly toxic gas). NEVER add water directly to sulfuric acid because a violent exothermic reaction may occur.
Hazardous Decomposition Products:	Possibility of decomposition if heated and in contact with sources of ignition. Releases of toxic gases and vapors (Sulfur oxides (SO2,SO3)).

11 TOXICOLOGICAL INFORMATION

Oral Administration:	Sulfuric Acid-LD50-(Rat)-2140 mg/kg
Oral Administration:	Phosphoric Acid-LD50-(Rat-female)-1.7 mL/100 g body weight
Inhalation:	Sulfuric Acid-LC50-(Rat)-347 ppm-1 h
Immediate effects:	Severe irritation or burns to skin, eyes and respiratory system
Long term exposure:	Long term exposure to concentrated vapors may cause erosion of the teeth. Long term exposure seldom due to corrosive properties of the acid.
Cancer Hazard:	IARC group 1-Carcinogenic to Humans(Strong inorganic mists containing Sulfuric acid),ACGIH-A2-Suspected Human Carcinogen.
Routes of Exposure	Eyes, Skin, Inhalation, Ingestion

12 ECOLOGICAL INFORMATION

Fish, Lepomis macrochirus,	Sulfuric Acid,LC50-48 h-49 mg/L
Daphnia Magna,	Sulfuric Acid-EC50,48 h-60-70 mg/L
Persistence and Degradability:	Not Available
Bioaccumulation potential:	Unlikely
Water result:	Disperses in water.
Soil/Sediment Result:	No data avaiilable

13 DISPOSAL CONSIDERATION

Dispose of in accordance with local, state and federal regulations.

14 TRANSPORT INFORMATION

UN Number:	3264
	CORROSIVE LIQUID ACIDIC INORGANIC N.O.S.(