

SECTION 1: Identification

1.1 GHS Product identifier

Product name

Al Etch 3

1.2 Other means of identification Aluminum Etch 3

1.3 Recommended use of the chemical and restrictions on use Laboratory and manufacturing use only

1.4 Supplier's details

Name Address High Purity Products 14546 N. Lombard Street Portland OR 97203 United States of America

Telephone email 503-227-1616 help.desk@highpp.com

1.5 Emergency phone number

CHEMTREC: 1-800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Corrosive to metals, Cat. 1
- Acute toxicity, inhalation, Cat. 2
- Acute toxicity, oral, Cat. 4
- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1
- Carcinogenicity, Cat. 1A

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word	Danger
Hazard statement(s)	
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H302	Harmful if swallowed
H318	Causes serious eye damage
H330	Fatal if inhaled
H350	May cause cancer, inhalation
Precautionary statement(s)	
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P310	Immediately call a POISON CENTER
P390	Absorb spillage to prevent material-damage.

SECTION 3: Composition/information on ingredients

3.1 Mixture

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SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Immediate first aid treatment reduces the health effects of this substance.
If inhaled	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
In case of skin contact	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

If swallowed

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical

Phosphoric acid in contact with most metals causes formation of flammable and explosive hydrogen gas; acetic acid is a combustible liquid.

5.3 Special protective actions for fire-fighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure adequate ventilation. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Nitric acid (CAS: 7697-37-2) TWA 2 ppm (5 mg/m3) ST 4 ppm (10 mg/m3) (NIOSH)

2. Acetic acid (CAS: 64-19-7 EC: 200-580-7) TWA 10 ppm (25 mg/m3) ST 15 ppm (37 mg/m3) (NIOSH)

3. Phosphoric acid (CAS: 7664-38-2 EC: 231-633-2) TWA 1 mg/m3 ST 3 mg/m3 (NIOSH)

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

Pictograms



Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid
Appearance	Clear, viscous liquid
Color	colorless
Odor	Odorless
Odor threshold	No data available.
pH	<1
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Specific Gravity	1.574
Solubility	100%
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal use conditions.

10.2 Possibility of hazardous reactions

Oxides of phosphorus, Carbon oxides

10.3 Conditions to avoid

Heat, flames, sparks, and incompatibles.

10.4 Incompatible materials

Acetic acid: Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid Phosphoric acid/Nitric Acid: Strong bases, Powdered metals

10.5 Hazardous decomposition products

Acetic acid: Hazardous decomposition products formed under fire conditions. - Carbon oxides Phosphoric acid: Hazardous decomposition products formed under fire conditions. - Oxides of phosphorus Other decomposition products - No data available

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity Phosphoric Acid: LC50 Inhalation - Mouse - 25.5 mg/m3 LD50 Oral - Mouse - 1.25 gm/kg Acetic acid: LD50 Oral - Rat - 3,310 mg/kg LC50 Inhalation - Mouse - 5620 ppm - 1 h LC50 Inhalation - Rat - 11.4 mg/l - 4 h LD50 Skin - Rat - 1,112 mg/kg Nitric Acid: LC50 Inhalation - Cat - 300 mg/m3 - 2 h LC50 Inhalation - Rat - 260 mg/m3 - 30 min

Germ cell mutagenicity

No data available.

Carcinogenicity

Inhalation of strong inorganic acid mists, which may include nitric acid, causes cancer of the larynx.

Reproductive toxicity No data available.

STOT-single exposure

No data available.

SECTION 12: Ecological information

Toxicity

Acetic acid: LC50 - Oncorhynchus mykiss (rainbow trout) - >1,000 mg/l - 96 h LpH50 (median lethal pH) (96h) phosphoric acid (bluegill sunfish): 3-3.25 Algae: NOEC (EC50 >100 mg/l, the upper limit of toxic range) D. subspicatus: 100 mg/l Nitric Acid: EC50 - Daphnia 1 - >180 mg/l - 48 h LC50 - fish 2 - 72 ppm - 96 h

Persistence and degradability Readily degradable in the environment

Bioaccumulative potential

No data available.

Mobility in soil Aqueous solution has high mobility in soil.

SECTION 13: Disposal considerations

Disposal methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. EPA Waste Code: **D002**

SECTION 14: Transport information

DOT (US)

UN Number: UN1760 Class: 8 Packing Group: II Proper Shipping Name: Corrosive liquid, n.o.s., (Phosphoric Acid, Nitric Acid, Acetic Acid) Reportable quantity (RQ): 6,700 lbs Marine pollutant: No Poison inhalation hazard: No

IMDG

UN Number: UN1760 Class: 8 Packing Group: II Proper Shipping Name: Corrosive liquid, n.o.s., (Phosphoric Acid, Nitric Acid, Acetic Acid)

IATA

UN Number: UN1760 Class: 8 Packing Group: II Proper Shipping Name: Corrosive liquid, n.o.s., (Phosphoric Acid, Nitric Acid, Acetic Acid)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Massachusetts Right To Know Components Chemical name: Nitric acid CAS number: 7697-37-2

New Jersey Right To Know Components Common name: NITRIC ACID CAS number: 7697-37-2

Pennsylvania Right To Know Components

Chemical name: Nitric acid CAS number: 7697-37-2

Canadian Domestic Substances List (DSL) Chemical name: Nitric acid CAS: 7697-37-2

Massachusetts Right To Know Components Acetic acid CAS number: 64-19-7

New Jersey Right To Know Components Acetic acid CAS number: 64-19-7

Pennsylvania Right To Know Components

Acetic acid CAS number: 64-19-7

California Prop. 65 Components

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

Canadian Domestic Substances List (DSL) Chemical name: Acetic acid CAS: 64-19-7

Massachusetts Right To Know Components Phosphoric acid CAS number: 7664-38-2

New Jersey Right To Know Components Phosphoric acid CAS number: 7664-38-2

Pennsylvania Right To Know Components Phosphoric acid CAS number: 7664-38-2

Canadian Domestic Substances List (DSL) Chemical name: Phosphoric acid CAS: 7664-38-2

EPCRA Section 302 (EHS) TPQ Extremely Hazardous Substances Nitric Acid: 1,000 lbs

EPCRA Section 304 EHS RQ Reportable Quantities Nitric Acid: 1,000 lbs

CERCLA RQ Hazardous Substances

Phosphoric Acid: 5,000 lbs Nitric Acid: 1.000 lbs Acetic Acid: 5,000 lbs

EPCRA Section 313 Toxic chemicals Nitric Acid

HMIS Rating

Al Etch 3	
HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating



SECTION 16: Other information

Disclaimer:

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