



Safety Data Sheet

Tantalum Etch

SECTION 1: Identification

1.1 GHS Product identifier

Product name Tantalum Etch

1.2 Other means of identification

N/A

1.3 Recommended use of the chemical and restrictions on use

For laboratory and manufacturing use only.

1.4 Supplier's details

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

Telephone 503-227-1616
email 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)

- Flammable liquids, Cat. 4
- Corrosive to metals, Cat. 1
- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1A
- Acute toxicity, inhalation, Cat. 3
- Acute toxicity, oral, Cat. 4
- Acute toxicity, dermal, Cat. 3

Safety Data Sheet

Tantalum Etch

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H227 Combustible liquid
H290 May be corrosive to metals
H302 Harmful if swallowed
H311 Toxic in contact with skin
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H330 Fatal if inhaled

Precautionary statement(s)

P260 Do not breathe gas, mist, vapors, or spray.
P264 Wash thoroughly after handling.
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+P312 In case of inadequate ventilation wear respiratory protection.
P301+P330+P331 IF SWALLOWED: Call a POISON CENTER if you feel unwell.
P303+P361+P353 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P361+P364 Call a POISON CENTER if you feel unwell.
P403+P233 Take off immediately all contaminated clothing and wash it before reuse.
P234 Store in a well-ventilated place. Keep container tightly closed.
P390 Keep only in original container.
Absorb spillage to prevent material-damage

SECTION 3: Composition/information on ingredients

3.1 Mixture

Components	CAS Number	Percent (Weight)
Acetic Acid	64-19-7	70 – 85%
Hydrofluoric Acid	7664-39-3	3 – 10%
Nitric Acid	7697-37-2	2 – 7%
DI-water	7732-18-5	5 – 25%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Safety Data Sheet

Tantalum Etch

In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Apply Calcium gluconate 2.5 % gel to contaminated skin. Call a poison center or doctor if irritation develops or persists. Wash contaminated clothing before reuse.
In case of eye contact	Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: Fire-fighting measures

- 5.1 Suitable extinguishing media**
This product is not flammable. Use extinguishing agent suitable for type of surrounding fire.
- 5.2 Specific hazards arising from the chemical**
toxic and corrosive vapors/gases may be formed.
Nitrogen oxides, hydrogen fluoride, Carbon monoxide, Carbon dioxide.
- 5.3 Special protective actions for fire-fighters**
Wear self-contained breathing apparatus for firefighting if necessary.

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 Environmental precautions**
Do not let product enter drains.
- 6.3 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.
- 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

Components	CAS Number	NOISH REL (TWA)
Acetic Acid	64-19-7	10 ppm
Hydrofluoric Acid	7664-39-3	3 ppm
Nitric Acid	7697-37-2	2 ppm

Safety Data Sheet

Tantalum Etch

8.2 Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

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

Pictograms



Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

In case of inadequate ventilation use suitable respirator. Wear approved respiratory protection when working with this material unless ventilation or other engineering controls are adequate to keep airborne concentrations below recommended exposure standards.

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid
Appearance	Clear liquid
Color	Colorless
Odor	Vinegar Like Smell
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.
Lower and upper explosion limit/flammability limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	1.08
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
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.

Safety Data Sheet

Tantalum Etch

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

None under normal use conditions.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, and Amines, Alcohols, organic materials.

10.6 Hazardous decomposition products

Carbon oxides, Nitrogen oxides, hydrogen fluoride, Carbon monoxide, Carbon dioxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acetic acid:

LD50 – oral – Rat - 3,310 - 3,530 mg/kg

LD50 – dermal – rabbit - 1,060 mg/kg

LC50 – inhalation – Rat - 11.4 mg/l/4H

Hydrofluoric Acid:

LD50 - Inhalation - guinea pig – 4327 ppm/15 M

LD50 - Inhalation - mouse – 342 ppm/ 1 H

Nitric Acid:

LC50 - inhalation - rat - 67 ppm/4H (red fuming)

Skin corrosion/irritation

Causes severe skin burns.

Serious eye damage/irritation

Risk of serious damage to eyes.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

STOT-single exposure

HF attack the skin and bones.

STOT-repeated exposure

Safety Data Sheet

Tantalum Etch

No data available.

Aspiration hazard

No data available.

SECTION 12: Ecological information

Toxicity

Acetic acid:

LC50 - Oncorhynchus mykiss (rainbow trout) - >1,000 mg/l - 96 h

Citation: (OECD Test Guideline 203)

EC50 - Daphnia magna (water flea) - >300.82 mg/l - 48 h Citation: (OECD Test Guideline 202)

Hydrofluoric Acid:

Aquatic fish; EC50 (48 hours): 270 mg/l

Leuciscus idus; LC50 (48 hours): 660mg/L

Nitric Acid:

LC50 - Gambusia affinis - 72 mg/L 96h

LC50 - Species: Carcinus maenas - 180 mg/L- 48 hr

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

SECTION 13: Disposal considerations

Product disposal

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: UN2922

Class: 8 (6.1)

Packing Group: II

Proper Shipping Name: Corrosive liquids, toxic, n.o.s., (Acetic Acid, Hydrofluoric Acid)

Reportable quantity (RQ): 6,250 lbs

IMDG

UN Number: UN2922

Class: 8 (6.1)

Packing Group: II

Proper Shipping Name: Corrosive liquids, toxic, n.o.s., (Acetic Acid, Hydrofluoric Acid)

IATA

UN Number: UN2922

Safety Data Sheet

Tantalum Etch

Class: 8 (6.1)

Packing Group: II

Proper Shipping Name: Corrosive liquids, toxic, n.o.s., (Acetic Acid, Hydrofluoric Acid)

SECTION 15: Regulatory information

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

Massachusetts Right To Know Components

Acetic acid

CAS number: 64-19-7

Chemical name: Hydrofluoric acid

CAS number: 7664-39-3

Chemical name: Nitric acid

CAS number: 7697-37-2

New Jersey Right To Know Components

Acetic acid

CAS number: 64-19-7

Common name: HYDROGEN FLUORIDE

CAS number: 7664-39-3

Chemical name: Nitric acid

CAS number: 7697-37-2

Pennsylvania Right To Know Components

Acetic acid

CAS number: 64-19-7

Chemical name: Hydrofluoric acid

CAS number: 7664-39-3

Chemical name: Nitric acid

CAS number: 7697-37-2

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 number: 64-19-7

Chemical name: Hydrofluoric acid

CAS number: 7664-39-3

Chemical name: Nitric acid

CAS number: 7697-37-2

EPCRA Section 302 (EHS) TPQ Extremely Hazardous Substances

Hydrofluoric Acid: 100 lbs

Nitric Acid: 1,000 lbs

EPCRA Section 304 EHS RQ Reportable Quantities

Hydrofluoric Acid: 100 lbs

Nitric Acid: 1,000 lbs

CERCLA RQ Hazardous Substances

Safety Data Sheet
Tantalum Etch

Acetic Acid: 5,000 lbs
Hydrofluoric Acid: 100 lbs
Nitric Acid: 1,000 lbs

EPCRA Section 313 Toxic chemicals
Hydrofluoric Acid
Nitric Acid

HMIS Rating

Tantalum Etch	
HEALTH	3
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating



SECTION 16: Other information

Disclaimer:

High Purity Products provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. High Purity Products MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, High Purity Products WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.
