

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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MATERIAL NAME: **Titanium Nitride Etch 22-7**

REVISED: May 2019

CHEMICAL FAMILY: Inorganic Acid Mixture

Product Number: 060-TIN22-7

For QT: 060-TIN227

SECTION 2. HEALTH HAZARD INFORMATION

Hazard Statements

H402 Acute harm to aquatic life: Category 3
H290 Corrosive to metals: Category 1
H300 Acute toxicity oral : Category 1
H330 Acute toxicity inhalation : Category 2
H314 Skin corrosion / skin irritation : Category 1A
H318 Serious eye damage / Eye irritation : Category 1
H371 Special target organ systemic toxicity single exposure: Category 2
H373 Special target organ systemic toxicity repeated exposure : Category 2

Pictograms or Hazard symbols



Signal word: Danger

May be corrosive to metals

Fatal if swallowed. Toxic if inhaled.

Causes severe skin burns and eye damage. Causes serious eye damage.

May cause damage to bones, lungs, eyes, and mucous membranes.

Harmful to aquatic life.

Precautionary Statements

P234 Keep only in original container.

P260 Do not breathe fume/gas/mist/vapors.

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.

P273 Avoid release into the environment.

P280 Wear protective gloves, clothing, and eye and face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

Extinguishing media: Use water spray or suitable agent for surrounding fire. Do not use solid water streams. Acid reacts violently with water and can splatter acid onto personnel.

Special fire fighting procedures: Wear chemically retardant gear and NIOSH approved self-contained breathing apparatus. Thermal decomposition produces irritating and toxic fumes. Extreme heat or contact with metals can release flammable hydrogen gas, ammonia.

Toxic gases released: Hydrogen fluoride, hydrogen gas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Stop leak if possible to do so without risk. Clean-up personnel must wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent, non-combustible material such as earth, sand, or vermiculite. Neutralize with alkaline material such as soda ash or lime. Do not use combustibles. Do not flush to sewer.

SECTION 7. HANDLING AND STORAGE

Wash thoroughly after handling. Remove contaminated clothing and wash before re-use. Do not breathe mist or vapor. Do not expose eyes, skin, or clothing. Keep container closed tightly. Avoid contact with combustibles. Do not use with metal tools or items. Use with adequate ventilation or respiratory protection. Do not store near combustibles or in direct sunlight. Store in a cool, dry, well-ventilated area away from incompatible substances. Separate from metals, alkali, and organics. Residue in empty containers may still be hazardous.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment to avoid exposure to vapors above 0.1ppm. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.

Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with dust, fume and mist filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from strong bases.

Protective gloves: Skin contact should be minimized through use of acid resistant gloves.

Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.

Eye protection: Safety goggles / face shield. Do not wear contact lenses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	Liquid
Appearance :	Colorless
Odor :	Acrid, pungent
pH :	< 1
Melting point:	Variable
Boiling point/Boiling range :	Variable
Flash point :	Non-flammable.
Ignition point :	Will not ignite.
Danger of explosion:	Product is not explosive
Decomposition temperature:	Variable
Vapor density (Air = 1) :	Variable
Volatiles, %:	20-40
Vapor pressure at 15° C, mm Hg:	Variable
Specific gravity :	> 1

R-Phrase: 35, causes severe burns

S-Phrases: 23-36/37/39-45 Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

The following components of this product are regulated as toxic chemicals under section 313 of Title III SARA, and 40CFR 372:

Nitric Acid, CAS# 7697-37-2

Hydrogen Fluoride CAS# 7664-39-3

SECTION 16. OTHER INFORMATION

NFPA Codes:

Health: 3

Flammability: 0

Reactivity: 1

WHMIS Codes:

Health: 4

Flammability: 0

Reactivity: 0

R35: Causes severe burns.

Ingredients are TSCA listed.