SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: TRANSENE COMPANY, INC.
ADDRESS: DANVERS INDUSTRIAL PARK
10 ELECTRONICS AVENUE DANVERS, MA 01923
TEL: (978) 777-7860 FAX: (978)-739-5640
WWW.TRANSENE.COM
EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **TITANIUM ETCHANT TFTN**
REVISED: June 2022
CHEMICAL FAMILY: Aqueous Acid Solution
SYNONYMS: Chlorohydric Acid, Hydrogen Chloride, Muriatic Acid
Product Number: 060-0033000

SECTION 2. HEALTH HAZARD INFORMATION

Hazard Statements

H290 Corrosive to Metals: Category 1
H300 Acute toxicity Oral : Category 1
H330 Acute toxicity Inhalation : Category 2
H314 Skin corrosion / Skin irritation **:** Category 1B
H318 Serious eye damage / Eye irritation **:** Category 1
H371 Special target organ systemic toxicity single 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.

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.
P280 Wear protective gloves, clothing, and eye and face protection.
P284 In case of inadequate ventilation, wear respiratory protection.
P301 + P310 If swallowed, immediately call a physician.
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.
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
P308 + P311 If exposed or concerned, call a physician.
P310 Seek medical assistance if exposed.
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material		Wt %
Hydrochloric Acid	CAS# 7647-01-0	20-30
Water	CAS# 7732-18-5	70-80
Total		100

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE

FIRST AID:
Eye Contact: Corrosive to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally. May cause permanent eye damage or blindness. Seek medical attention.
Skin Contact: Obtain medical attention: Corrosive to exposed skin. Flush skin well with water for 15 minutes, wash with soap and water. Remove affected clothing, get medical attention. May cause deep, penetrating burns.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention. Inhalation of vapors may cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract. In severe cases, may pulmonary edema, circulatory failure, and death.
Ingestion: Will cause severe burns to the mouth and severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Get Medical Attention immediately. Do not induce vomiting; give large quantities of water.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
non-flammable	NA		NA	NA

Extinguishing media: Water spray. Neutralize with soda ash or slaked lime.
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.
Toxic gases released: Hydrogen chloride, 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 should 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 rubber gloves.
Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.
Eye protection: Safety goggles / face shield

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	Liquid
Appearance :	Colorless
Odor :	Acrid, pungent
pH :	< 1
Melting point:	-74 ^{o}C
Boiling point/Boiling range :	109 ^{o}C
Flash point :	Non-flammable.
Ignition point :	Will not ignite.
Danger of explosion:	Product is not explosive
Decomposition temperature:	> 150 ^{o}C
Vapor density (Air = 1) :	No information
Volatiles, %:	80-85
Vapor pressure at 15^{o} C, mm Hg:	190 mm Hg at 25 ^{o}C
Specific gravity :	1.12
Solubility in / Miscibility:	Completely miscible in water
Evap. Rate (Water = 1):	No information found

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable	X	Conditions to avoid: Excess heat , sunlight, confined spaces
	Unstable		

Incompatible with:
Most common metals, strong bases, metal oxides, amines, hydroxides, cyanides, sulfides, sulfites, formaldehyde, and carbonates.
Hazardous decomposition products: Hydrogen chloride fumes, hydrogen gas

Hazardous	May occur		Conditions to avoid: Excess heat, direct sunlight.
polymerization:	Will not occur	X	

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE:
Inhalation rat LC50: 4500 ppm/1 hr
Oral rabbit LD50: 1350 mg/kg
Investigated as a tumorigen, mutagen, reproductive efector
Carcinogenicity: NTP: No IARC: No Z List: No OSHA reg: No
IARC Category 3

OTHER DATA:
Strongly corrosive. Vapor inhalation burns mucous membranes; causes coughing, dyspnoea.

SECTION 12. ECOLOGICAL INFORMATION

Bioaccumulation : When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater.

Environmental Toxicity: This material is expected to be toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send waste to an approved waste disposal facility.

SECTION 14. TRANSPORTATION INFORMATION

Class 8
PG II
UN1789
Shipping Name: Hydrochloric Acid Solution

SECTION 15. REGULATORY

Symbol: C, Corrosive
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 component of this product is regulated as a toxic chemical under section 313 or Title III SARA, and 40CFR 372:

Hexanes CAS# 110-54-3

SECTION 16. OTHER INFORMATION

NFPA Codes:
Health: 3
Flammability: 0
Reactivity: 0
R35: Causes severe burns.
Ingredients are TSCA listed.