SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: TRANSENE COMPANY, INC.
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EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **GOLD ETCH AU-1, DRY**
Revised: April 2019
CHEMICAL FAMILY: Inorganic Mixture
Product Number:

SECTION 2. HEALTH HAZARD INFORMATION

GHS Classifications

H290: Corrosive to Metals: Category 1
H302: Acute toxicity Oral : Category 4
H316: Skin corrosion / Skin irritation **:** Category 3
H319: Serious eye damage / Eye irritation **:** Category 2A
H373: Special target organ systemic toxicity repeated exposure **:** Category 2
H402: Acute aquatic environmental hazards **:** Category 2

Pictograms or Hazard symbols

Signal Word: Warning
Harmful if swallowed.
May be corrosive to metals.
Causes serious eye irritation.
Causes mild skin irritation.
May cause damage to endocrine or gastrointestinal system through prolonged or repeated exposure.
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.
P273 Avoid release into the environment.
P280 Wear protective gloves, clothing, and eye and face protection.
P301 + P312 If swallowed, call a physician if you feel unwell.
P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.

P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs, get medical advice/attention.
P337 + P313 If eye irritation persists, get medical advice/attention.
P390 Absorb spillage to prevent material damage.
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 %	STEL
Iodine	CAS# 7553-562	20-30	0.1 ppm ACGIH, OSHA
Potassium Iodide	CAS# 7681-11-0	70-80	not established
Total		100	

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE
FIRST AID:
Eye Contact: Irritant to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally.
Skin Contact: Obtain medical attention: Irritant to exposed skin. Flush skin well with water for 15 minutes, wash with soap and water. Remove affected clothing, get medical attention.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention.
Ingestion: Give water or milk to drink. Induce vomiting if medical help is not immediately available. Never give anything by mouth to an unconscious person. Get Medical Attention immediately.

SECTION 5. FIRE FIGHTING MEASURES

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

Extinguishing media: Foam, water spray or fog, carbon dioxide and dry chemical. Anything suitable for surroundings.
Special fire fighting procedures: Water may cause frothing. Wear chemically retardant gear and NIOSH approved self-contained breathing apparatus. Thermal decomposition produces toxic fumes including iodine vapors. Contact with oxidizing reagents may cause extremely violent combustion.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Clean up personnel should wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with sodium sulfite or sodium thiosulfite. Neutralize slurry with soda ash. Neutralized waste may be transferred to a closed container and sent to an approved waste disposal facility.

SECTION 7. HANDLING AND STORAGE

Storage & Handling Information Store below 80 degrees F. Store in a cool dry place. Do not store near incompatible products or open flame. Store away from direct sunlight.

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 iodine 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 :	crystalline solid
Appearance :	amber-brown
Odor :	mild odor.
pH :	NA (not available or not available)
Melting point:	NA
Boiling point/Boiling range :	NA
Flash point :	NA
Ignition point :	NA
Danger of explosion:	NA
Decomposition temperature:	NA
Vapor density (Air = 1) :	NA
Volatiles, %:	0
Vapor pressure at 15° C, mm Hg:	NA
Specific gravity :	1.2-1.3 g/cc
Solubility in / Miscibility:	Completely miscible in water
Evap. Rate (Water = 1):	NA

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable	X	Conditions to avoid: Excess heat , reacts with NH_4OH to form shock sensitive iodides.
	Unstable		

Incompatible with:
Strong reducing agents, ammonia, powdered metals, alkali metals, strong acids.
Acetaldehyde, dipropylmercury, and acetylene may can cause explosive reactions with iodine.
Hazardous decomposition products: oxides of iodine and iodine fumes

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

SECTION 11. TOXICOLOGICAL INFORMATION

EFFECTS OF EXPOSURE:
Ingestion: May cause burning sensations, severe corrosive gastroenteritis, abdominal pain,

diarrhea, fever, vomiting, stupor and shock. Probable lethal dose is 2 to 4 gm of free iodine.

Inhalation: Highly irritant to the mucous membranes and respiratory tract. Excessive tears, rhinitis, tightness in the chest, sore throat, headache and delayed pulmonary edema can result.

Skin contact: The crystalline form or strong solutions are severe skin irritants. Lesions resemble thermal burns.

Eye contact: Vapors severely irritate the eyes. Cause tearing and inflammation of the eyelids.

Chronic exposure: May cause insomnia, conjunctivitis, inflammation of the nasal mucous, bronchitis, tremor, rapid heart beat, diarrhea and weight loss. Allergic sensitization can occur.

Aggravation of pre-existing conditions: Person with pre-existing skin disorders, eye problems, impaired respiratory function or disease of the thyroid, lungs or kidney may be more susceptible to the effects of the substance.

Test data: There is no test data for this product. Composition test data:

Iodine : LD_{LO} : 28mg/Kg (human, oral)
LD_{LO}: 5 mg/kg (rabbit, oral); symptom: blood hemolysis
LD_{LO}: 0.916 g/kg (rabbit, oral)
LD_{LO}: 0.8 g/kg (dog, oral)
LD_{LO}: 1.86 g/kg (mouse, oral); symptoms: general depression, muscle weakness, dyspnea
LD_{50}: 14 g/kg (rat, oral)
LD_{50}: 22 g/kg (oral, mouse)
LD_{50}: 10 g/kg (oral, mouse); symptoms: behavioral changes in motor activity
LD_{50}: 10 g/kg (oral, rabbit)
LC_{LO}: 137ppm/1H (mouse, inhalation)
LC_{LO}: 1 ppm (human, inhalation); exposure time not specified; symptoms: muscle weakness, coma, acute pulmonary edema.
LC_{LO}: 137 ppm/1 H (rat, inhalation)
LC_{LO}: 100 ppm (rat, inhalation): exposure time not specified; symptoms: lacrimation, respiratory depression, body temperature decrease.
LD_{50}: 10.5 g/kg (rat, subcutaneous)
LD_{50}: 8.65 g/kg (mouse, subcutaneous)
LD_{LO}: 10 g/kg (rabbit, intravenous)
LD_{LO}: 167 mg/kg (rat, intravenous); symptoms: convulsions or effects on seizure threshold.

Reproduction Studies: Oral reproduction studies in laboratory animals dosed with iodine caused effects on the viability and growth of the newborn. Clinical use of iodine in pregnant women can cause effects on the fetus, and it can be distributed into mother's milk and affect the nursing infant.

Potassium Iodide :

LD_{50} : 1.86 g/kg (mouse, oral); symptoms: muscle weakness, general depressed activity.

LD_{LO}: 0.916 g/kg (rabbit, oral)

SECTION 12. ECOLOGICAL INFORMATION

Persistence/degradability : No test data found.

Bioaccumulation: Iodine can bioaccumulate in aquatic plants and animals.

Mobility: Iodine and iodide compounds are very mobile in the environment. They can readily transfer from soil to plant to animal.

Ecotoxicity : There is no test data for this product. Composition information:
Potassium Iodide : LC_{50}(fish) : 8960mg/L/96h
Iodine : LC_{50}(fish) : 0.1mg/196h

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

DOT Shipping Name: Corrosive Solid, N.O.S. (Potassium Iodide Solid)
UN1759
PGIII
Class 8

SECTION 15. REGULATORY

SARA Title III Hazard Classes:
Fire Hazard--No
Release of Pressure--No
Acute Health Hazard--No

SECTION 16. OTHER INFORMATION

NFPA Codes:
Health: 1
Flammability: 0
Reactivity: 0
Other: N/A

Occupational Exposure Standards, Potassium Iodide:
OEL-Russia: STEL 3 mg/m3, JUN2003

Occupational Exposure Standards, Iodine:
OEL- Arab Republic of Egypt: TWA 0.1 ppm, JAN1993
OEL-Australia: TWA 0.1 ppm, JAN1993

OEL-Belgium: STEL 0.1 ppm, JAN1993
OEL-Finland: STEL 0.1 ppm, JAN1999
OEL-France: VLE 0.1 ppm, JAN1999
OEL-The Netherlands: MAC-C 1 mg/m^3, 2003
OEL-Norway: TWA 0.1 ppm, JAN1999
OEL-Japan: OEL 0.1 ppm, MAY2006
OEL-The Philippines: TWA 0.1 ppm, JAN1993
OEL-Poland: MAC(TWA): 1 ppm, JAN1999
OEL-Russia: STEL 1ppm, JUN2003
OEL-Sweden: Ceiling 0.1 ppm, JAN1999
OEL-Switzerland: MAK-W 0.1 ppm; KZG-W 0.2 ppm, JAN1999
OEL-Thailand: TWA 0.1 ppm, JAN1993
OEL-Turkey: TWA 0.1 ppm, JAN1993
OEL in Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam: Check ACGIH TLV
OEL-Denmark: CL 0.1 ppm, OCT2002
OEL-Mexico: peak 0.1 ppm, 2004
OEL-United Kingdom: STEL 0.1 ppm, 2005
OEL-Korea: CL 0.1 ppm, 2006
OEL-New Zealand: CL 0.1 ppm, JAN2002

Ingredients are listed in the TSCA inventory.