

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: TRANSENE COMPANY, INC.
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MATERIAL NAME: **GOLD ETCHANT TYPE TFA**

REVISED: March 2009

CHEMICAL FAMILY: 12 complex aqueous solution

SECTION 2. HEALTH HAZARD INFORMATION

GHS Classifications

Oxidizing liquids : No
Acute toxicity Oral : Category 4
Acute toxicity Inhalation : None
Skin corrosion / Skin irritation : Category 3
Serious eye damage / Eye irritation : Category 2
Respiratory or skin sensitization : No
Special target organ systemic toxicity repeated exposure : Category 2
Acute aquatic environmental hazards : Category 3

Pictograms or Hazard symbols



Warning
Harmful if
swallowed.

Warning
Causes mild
skin irritation.

Warning
Causes eye
irritation.

Harmful
to aquatic
life.



Warning
May cause damage to endocrine
or gastrointestinal system
through prolonged or repeated
exposure.

Precautionary Statement Prevention

Use only in a well-ventilated area. Do not eat, drink or smoke when using this product. Do not breathe fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing /eye protection/face protection.

Wash the hands thoroughly after handling.

Avoid release to the environment

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material

Wt %

| | | |
|------------------|----------------|-------|
| Iodine | CAS# 7553-562 | 2-4 |
| Potassium Iodide | CAS# 7681-11-0 | 40-45 |
| Water | | 51-58 |
| 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 | <u>LOWER</u> | <u>UPPER</u> |
| non-flammable | NA | | NA | NA |

Extinguishing media: Water spray or fog, carbon dioxide and dry chemical! anything suitable for surroundings Water may cause frothing! Wear chemically retardant gear and NIOSH approved

Special fire fighting procedures: self-contained breathing apparatus. Thermal decomposition produces toxic fumes. 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 : | Liquid |
| Appearance : | red brown |
| Odor : | mild odor. |
| pH : | 6.5-8.0 |
| Melting point: | -10 °C |
| Boiling point/Boiling range : | 100-105 °C |
| Flash point : | N.A. |
| Ignition point : | Will not ignite. |
| Danger of explosion: | Product is not explosive |
| Decomposition temperature: | > 150 °C |
| Vapor density (Air = 1) : | N/A |
| Volatiles, %: | 50-80 |
| Vapor pressure at 15° C, mm Hg: | 1 |
| Specific gravity : | 1.27-1.32 g/cc |
| Solubility in / Miscibility: | Completely miscible in water |
| Evap. Rate (Water = 1): | 1 |
| Propyl butyl-carbinol/moisture distribution coefficient : | Aqueous solution |

SECTION 10. STABILITY AND REACTIVITY

| | | | |
|-----------|----------|---|---|
| Stability | Stable | X | Conditions to avoid: Excess heat , reacts with NH ₄ OH to form |
| | Unstable | | shock sensitive iodides. |

Incompatible with:

Strong reducing agents, ammonia, powdered metals, alkali metals.

Hazardous decomposition products: oxides of iodine and iodine fumes

| | | |
|-----------------|----------------|---|
| Hazardous | May occur | Conditions to avoid: Excess heat, damp. |
| polymerization: | 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 (Humanity, Oral)
LC_{LO}: 137ppm/1H (mouse, Inhalation)
Potassium Iodide : LD₅₀ : 2279mg/Kg (mouse, Oral)

SECTION 12. ECOLOGICAL INFORMATION

Persistence/degradability : No test data found.

Bioaccumulation : There is no evidence of bioaccumulation.

Ecotoxicity : There is no test data for this product. Composition information:

Potassium Iodide : LC₅₀(fish) : 8960mg/L/96h

Iodine : LC₅₀(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

UN/No : Non-regulated/non-restricted.

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: 2

Flammability: 0

Reactivity: 0

Other: N/A

ADDENDUM TO MATERIAL SAFETY DATA SHEET
REGULATORY STATUS

THIS ADDENDUM MUST NOT BE
DETACHED
FROM THE MSDS ALUMINUM ETCH
TYPE D

IDENTIFIES SARA 313 SUBSTANCE(S)

Any copying or distribution of the MSDS must
include a copy of this addendum
(Chem.Key:PHACD)

HAZARD CATEGORIES FOR SARA

Section 311/312 Reporting

| | | | | |
|--------------|----------------|-------------|-----------------|-----------------|
| <u>Acute</u> | <u>Chronic</u> | <u>Fire</u> | <u>Pressure</u> | <u>Reactive</u> |
| X | X | | | X |

| Product or Components Of Products | SARA EHS Sect. 302 | SARA Section 313 Chemicals | CERCLA Sec. 103 | RCRA | | |
|--------------------------------------|-----------------------|----------------------------|--------------------|----------------------|-----------|----------------|
| | RQ (lbs.) | TPQ (lbs.) | Name List | Chemical Category | RQ (lbs.) | Section 261.33 |
| IODINE (7553-56-2) | No | No | No | No | No | No |

SARA Section 302 EHS RQ: Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.
SARA Section 302 EHS TPQ: Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity + 10,000 LBS.
SARA Section 313 Chemicals: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.
CERCLA Sec 103: Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center (800-424-8802); Listed at 40 CFR 302.4
RCRA: Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

Effective Date 11-1-02 Supersedes 9-5-85

IODINE