

# MATERIAL SAFETY DATA SHEET

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

## SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: **Gold Etchant GE-6** Prepared: August 2004

CHEMICAL FAMILY: 12 complex aqueous solution

## SECTION II. INGREDIENTS AND HAZARDS

### HAZARD DATA

Material		Wt %	Toxicity (mg/M <sup>3</sup> )
Iodine Complex	CAS# 7553-562	1-10	1ppm (ACGIH)
Potassium Iodide	CAS# 7681-11-0	20-40	1 ppm (ACGIH)
Water		Balance	

## SECTION III. HEALTH HAZARD INFORMATION

TLV ACGIH 0.1 ppm in air

### 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: 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.

## SECTION IV. EFFECTS OF OVEREXPOSURE

### 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 V. FIRE AND EXPLOSION DATA**

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 VI. SPILL AND LEAK PROCEDURES**

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 VII. SPECIAL PRECAUTIONS AND COMMENTS**

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 VIII. SPECIAL PROTECTION INFORMATION**

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 IX. PHYSICAL DATA**

Boiling point at 1 atm, deg C	Water = 100 °C	Specific gravity, 20/4°C	1.23
Vapor pressure at 15° C, mm Hg	1	Evap. Rate (BuAc = 1)	N/A
Vapor density (Air = 1)	4.87	Volatiles, %	50-80
Water solubility at 20 °C	miscible	Molecular weight	N/A

Appearance & Odor: Reddish-brown liquid with mild odor.

## **SECTION X. REACTIVITY DATA**

Stability	Stable	X	Conditions to avoid: Excess heat , reacts with NH <sub>4</sub> OH to form
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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 XI. TOXICOLOGICAL INFORMATION**

No test data found for product

## **SECTION XII. ECOLOGICAL INFORMATION**

No data found for product

## **SECTION XIII. DISPOSAL**

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

## **SECTION XIV. TRANSPORTATION INFORMATION**

DOT Class: Non-restricted potassium iodide solution

## **SECTION XV. REGULATORY**

SARA Title III Hazard Classes:

Fire Hazard--No

Release of Pressure--No

Acute Health Hazard--No

## **SECTION XVI. OTHER INFORMATION**

NFPA Codes:

Health: 2

Flammability: 0

Reactivity: 1

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

Acute  
X

Chronic  
X

Fire

Pressure

Reactive  
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**