

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: SILVER ETCHANT TFS
REV 1

REVISED: 10-05 M.E. HECHT

CHEMICAL FAMILY: 12 complex aqueous solution

SECTION II. INGREDIENTS AND HAZARDS

HAZARD DATA

Iodine Complex	CAS# 7553-562	3-10
Potassium Iodide	CAS# 7681-11-0	18-42
Water		Balance Toxicity (mg/M ³) 1ppm (AGCIH) 1 ppm (AGCIH)

NFPA CODES

Health - - - - 2 Flammability - - - - 0 Reactivity - - - - 0 Other - - -
- N/A

SECTION III. PHYSICAL DATA

Boiling point at 1 atm, deg C	N/A	Specific gravity, 20/4 ⁰ C	2.0-2.15
Vapor pressure at 15 ⁰ C, mm Hg	1	Evap. Rate (BuAc = 1)	N/A
Vapor density (Air = 1)	N/A	Volatiles, %	50-80
Water solubility at 20 ⁰ C	miscible	Molecular weight	N/A

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

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method non-flammable	Autoignition Temp. NA	Flammability Limits In Air	<u>LOWER</u> NA	<u>UPPER</u> 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 V. REACTIVITY DATA

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. REV 1		
Hazardous decomposition products: oxides of iodine and iodine fumes		
Hazardous polymerization:	May occur Will not occur X	Conditions to avoid: Excess heat, damp.

SECTION VI. HEALTH HAZARD INFORMATION TLV NA

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.

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 VII. SPILL, LEAK, AND DISPOSAL 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.

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

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. SPECIAL PRECAUTIONS AND COMMENTS

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

Dot Class: Non-restricted Potassium Iodide Solution

APPROVALS: M. E .HECHT

Revised 5-88, 6-92, 9-01

Judgements as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, Transene extends no warranties, makes no representations and assumes no responsibility as to accuracy suit

Industrial Hygiene & Safety _____

Corporate Medical Staff _____

ability of such information for application to purchaser's intended purposes of for consequences of its use.

REV 1

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)		HAZARD CATEGORIES FOR SARA				
Any copying or distribution of the MSDS must include a copy of this addendum (Chem.Key:PHACD)		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 09-05-85 Supersedes 01-01-85