

MATERIAL SAFETY DATA SHEET

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EMERGENCY NO. 1-800-424-9300

SECTION I. MATERIAL IDENTIFICATION

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MATERIAL NAME: Gold Etch TFAC
CHEMICAL FAMILY: Cyanides
TRADE NAME: Gold Etch TFAC
FORMULA: Mixture

SECTION II. INGREDIENTS AND HAZARDS

	%	TLV (UNITS)
Zinc Cyanide (557-21-1) (ipr-rat LDLo: 100mg/kg)	<25	5 mg/M ³
Potassium Cyanide (151-50-8) (oral human LDLo: 2857 ug/kg)	<35	5 mg/M ³

SECTION III. PHYSICAL DATA

Boiling point (F): N/A
Vapor pressure at (mm Hg): 0
Evap. Rate (BuAc= 1): N/A
Vapor density (Air = 1): N/A
Volatiles, %: 0
Water solubility: Appreciable
Specific Gravity (H₂O=1): N/A
Appearance and Odor: Off white powder

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Flammability Limits in Air	LOWER	UPPER
Non Flammable	NOT APPLICABLE	—	—

Extinguishing media: Waterspray, CO₂, dry chemical, Halon

Special fire fighting procedures: Wear self-contained breathing apparatus, full protective clothing

Unusual Fire and Explosion Hazards: Contains an organic oxidizer which will support combustion. Contact with acids liberates highly toxic fumes.

SECTION V. REACTIVITY DATA

Stability	Stable	X
	Unstable	

Conditions to Avoid: N/A

Incompatible with: Do not bring into contact with acids or acidic materials.

Hazardous decomposition products: Oxides of carbon and nitrogen. Hydrogen cyanide gas.

Hazardous polymerization:	May Occur	
	Will Not Occur	X

SECTION VI. HEALTH HAZARD INFORMATION:

Threshold Limit Value: Not established for product. See Section II.

Effects of overexposure-Unless otherwise stated, chronic or long-term health effects unknown: Irritation to eyes, skin and mucous membranes. Material is highly toxic upon ingestion. Dizziness, confusion, vomiting, death if ingested.

FIRST AID: SEE ATTACHED SHEET

Eye contact: Flush for at least 15 minutes with water, lifting both lids. Contact a physician at once!

Skin contact: Flush area of contact with water. Discard contaminated clothing.

Internal: If conscious, induce vomiting. Begin cyanide antidote treatment immediately. Contact physician. Have a Cyanide First Aid Kit on hand. Read instructions prior to use.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

SPILLS, LEAKS: Wear protective clothing. Never discharge directly into sewers or waterways. Sweep up excess material. Flush with water to chemical drain for cyanide holding wastes. Use respirator. Avoid acids.

DISPOSAL: Dispose in waste treatment facility in compliance with local, state and federal regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection: Dust type mask or US Bureau of Mines respirator.

Ventilation: Mechanical (general)

Protective gloves: Rubber

Eye protective Equipment: Safety glasses or face shield

Other Protective Equipment: Rubber apron/boots--Cyanide First Aid Kit

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Storage & Handling Information: Store in dry area in tightly closed containers away from acids.

Other precautions--AVOID EYE AND SKIN CONTACT. ALWAYS WASH CLOTHING BEFORE REUSE: Contains an organic oxidizer which can burn if ignited. Remove contaminated clothing and wash prior to reuse. Wash thoroughly after handling.

SECTION X. SAFETY AND WARNING INFORMATION

Industrial Hygiene

- Ingestion: All food should be kept in a separate area away from working location. Eating drinking, smoking and carrying of tobacco products should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, drinking or smoking, hands and face should be thoroughly washed.
- Skin Contact: Skin contact should be prevented through the use of impervious clothing, gloves and footwear. A face shield should be worn when use conditions could result in exposure to the material.
- Eye contact: Eye contact should be prevented through the use of chemical safety glasses, goggles or face shield. Do not wear contact lenses.
- Inhalation: This material should only be handled in open or well-ventilated areas. Where adequate ventilation is not available and there is possibility of vapor, aerosol or mist generation, control of inhalation can be achieved through the use of a NIOSH-approved, half-face-piece cartridge, air-purifying respirator.

General Storage Requirements for Hazardous Materials

- Corrosive Materials: Corrosive materials must not be above, below or adjacent to: flammable solids, oxidizing materials, cyanide bearing materials (poison).
- Flammable liquids: Keep flammable liquids in a segregated area, preferably outside of your facility or in a flammable liquid storage cabinet.
- Double Labeled Materials: (Example: Corrosive liquid, Poisonous NOS). Primary hazard is corrosive, secondary hazard is poison. Consider both hazards in storing the material. In this example, do not store near flammable solids, oxidizing or cyanide bearing materials because of the corrosive element. Preferably keep double labeled materials separate from all other diamond labeled materials.
- Acids/Alkalines: Acid bearing material should be stored separate from alkaline bearing material.

Waste Disposal

- Due to more restrictive waste disposal regulations, NEVER waste treat or dispose of material until you check your appropriate local, state and federal regulations for requirements.

SECTION XI – DOT SHIPPING INFORMATION

Proper DOT Shipping Name:

CFR-49-DOT Cyanides, Inorganic, Solid, N.O.S.
(Zinc Cyanide and Sodium Cyanide Mixture) UN1588

Although the information and recommendations set forth in this sheet are believed to be correct as of the date hereof, Transene Company, Inc. makes no further representations as to the completeness or accuracy of such information and recommendations.

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Addendum to Material Safety Data Sheet Regulatory Status

This addendum must not be detached from the MSDS. Identifies SARA 313 substances(s). Any copying or redistribution of the MSDS must include a copy of this addendum.

Hazard Categories for SARA Section 311/312 Reporting Acute Chronic Fire Pressure Reactive

Products or Components of product.	SARA EHS Sect.302		SARA Section 313 Chemicals		CERCLA Sec.103	RCRA
	RQ (lbs.)	TpQ (lbs.)	Name List	Chemical Category	RQ (lbs.)	Sec. 261.33
Zinc Cyanide(Cyanide Compound) (557-21-1) (Zinc Compound)	No	No	No	Yes	10	P121

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=10000 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