# Material Safety Data Sheet May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

#### U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved



OMB No. 1218-0072 Note: Slank spaces are not permitted, if any item is not applicable, or no information is available, the space must be marked to indicate that. DENTITY (As Used on Label and List) CHOMIUM ETCHANT TYPE 1020 Section | Emergency Telephone Number Manufacturer's Name CHEMTREC 24HR# 1-800-424-9300 TRANSENE COMPANY INC. Address (Number, Street, City, State, and ZIP Code) Telephone Number for Information 1-508-948-2501 ROUTE ONE Date Prepared ROWLEY, MA 01969 AUGUST 1985 REVISED 1987 AND MAY 1992 Signature of Preparer (opponer) Section II — Hazardous Ingredients/Identity Information Other Limits Hazardous Components (Specific Chemical Identity; Common Name(s)) OSHA PEL ACGIH TLV Recommended % (optional) 244ppm \* CAS# 16774-21 orl rat LC50 16 CERIC AMMONIUM NITRATE 6 CAS# 7697-37-2 NITRIC ACID (HNO3) 2ppm NON-HAZARDOUS AQUEOUS SOLUTION \* AS NITRATE (THIS PRODUCT CONTAINS NO MORE THAN 6% BY WT. NITRIC ACID WHICH IS CONSIDERED TO BE A TOXIC CHEMICAL UNDER TITLE III. EMISSIONS DATA MUST BE SUBMITTED ANNUALLY TO THE EPA FOR COMPANIES WHO MANUFACTURE, PROCESS OR OTHERWISE USE THIS PRODUCT IN EXCESS OF CERTAIN QUANTITIES ESTABLISHED BY THE EPA. THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL.) Section III — Physical/Chemical Characteristics **Boiling Point** Specific Gravity (H2O = 1) (100°C) 212°F @ 25°C 1.16 Vapor Pressure (mm Hg.) Meeting Point % VOLATILES: 85 % N/A Vapor Density (AIR - 1) Evaporation Rate Similar to N/A (Butvi Acetate = 1) water Solubility in Water COMPLETE Appearance and Odor ORANGE LIQUID WITH PRACTICALLY NO ODOR. Section IV — Fire and Explosion Hazard Data Pasn Point (Method Used) Flammable Limits E UEL N/A NON-FLAMMABLE Extinguishing Media WATER SPRAY IN CASE OF FIRE CAUSED BY SPILLAGE. DO NOT USE ORGANIC FIRE EXTINGUISHING AGENTS. Special Fire Fighting Procedures WEAR NIOSH APPROVED SELF-CONTAINED BREATHING APPARTUS AND APPROPRIATE PROTECTIVE APPAREL Unusual Fre and Explosion Hazards SPILLAGE MAY CAUSE FIRE OR LIBERATE DANGEROUS GAS. INCREASES FLAMMABILITY OF COMBUSTIBLE ORGANICS AND DEADILY OXIDIZABLE MATERIALS. MAY CAUSE IGNITION. Reproduce incally 1944 11 1mg 194

ection V —	Unstable	1	Conditions to Avoid		
ability					
	Stable	X	ORGANIC MATERIALS, S'	TRONG OXIDANTS	, HEAT
METALLIC I	Materials to Avoi	BIDES,	HYDROGEN SULFIDE AND E	ASILY OXIDIZED	MATERIALS.
	managing of Bung	white	BASES, AND METALS		
lazardous Polymenzation	May Occur		Conditions to Avoid		
	Will Not Cocur	х	NOT APPLICABLE, EXCE	SSIVE HEAT	7/8/2
ection VI -	- Health Haza	rd Data			
loute(s) of Entr		nnalation? YES	Skin? YES		- Ingestion? YES
leaith Hazards	(Acute and Chroni		CAUSE IRRITATION TO LUN	NGS AND RESPIRA	ATORY SYSTEM.
			1400 14		OSHA Requiated?
Carcinogenicity: NO		NTP?	IARC M	onographs?	YES
ligns and Sym	ptoms of Exposure	MAY CAL	SE IRRITATION AND BURNS	S	
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## Material Safety Data

ROUTE ONE, ROWLEY, MASS, 01969 Tel. (617) 949-2501, 949-2811

## TRANSENE COMPANY, INC.

## Addendum to Material Safety Data Sheet

## REGULATORY STATUS

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

must include a com: of this addendum

This Addendum Must Not Be Detached from the MSDS

Identifies SARA 313 substancers)

Am conving or redistribution of the MSDS

Product or Components of Product:

Nitric Acid (7697-37-2)

SARA EHS Sect. 302		SARA Section 313 Chemicals		CERCLA Sec.103	Sec. 261.33
RQ (lbs.)	TPQ (lbs.)	Name List	Chemical Caregory	RQ (lbs.)	Sec. 281.33
No	No	Yes	No	No	No

### Applicable Products:

Reagent Semiconductor Etchants (RSE100-RSE1155), Nitric Acid 70%, Wright Etchant, TFB, TFD, TFC, TFN/1020, Chromium Mask Etchant

SARA Section 302 EHS RO: 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 = 10,000 LBS. 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 Chemicais: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

SARA Section 313 Chemicais: 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 CERCLA Sec 103: Comprehensive Environmental Response, Compensation and Liability Act (Superfund), Releases to air, land or water of these hazardous cubstances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 302.4 substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 261.33 RCRA: Resource Conservation and Recumation Act. Commercial chemical product waster designated as acute hazards and toxic under 40 CFR 261.33

Effective Date: 02-17-87 Supersedes 04-30-86

#### ADDITIONAL PRECAUTIONS

MAY CAUSE BURNS TO EYES, SKIN AND MUCOUS MEMBRANES. AVOID CONTACT AND AVOID BREATHING SPRAYS OR MISTS. PROTECT CONTAINER AGAINST PHYSICAL DAMAGE. WASH THOROUGHLY AFTER HANDLING. KEEP OUT OF SUN AND AWAY FROM HEAT. LOOSEN CLOSURE CAREFULLY. NEVER USE PRESSURE TO EMPTY. REPLACE CLOSURE AFTER EACH WITHDRAWAL. MAKE SURE CLOSURE IS SECURED. STORE IN WELL VENTILATED AREA. KEEP AWAY FROM COMBUSTIBLE MATERIALS.