



# MATERIAL SAFETY DATA SHEET



## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** Tetra Etch Compound TEC-1

April 13, 2010

Vishay Measurements Group, Inc.  
Post Office Box 27777  
Raleigh, NC 27611

919-365-3800

CHEMTREC 1-800-424-9300 (U.S.)  
703-527-3887 (Outside U.S.)

NOTE: CHEMTREC numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

## SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CAS NUMBER	CHEMICAL IDENTITY	%
110-71-4	Ethylene Glycol Dimethyl Ether	74.0
113492-05-0	Sodium Naphthalene Complex	25.0
107-25-5	Vinyl Methyl Ether	1.0

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** YES    **Skin:** YES    **Ingestion:** Accidental

**Health Hazards (Acute and Chronic):** Contact with skin or eye will cause severe irritation and possible caustic burns. Inhalation of vapor can cause dizziness, drowsiness, headache and nausea. Ingestion will cause severe gastric disturbance and possible burns to the mouth, esophagus and gastrointestinal tract. Some individuals may show sensitivity to naphthalene.

Experimental studies in mice have shown that the glycol ether used in this product causes male reproductive toxicity, teratogenic effects and embryo toxicity. Teratogenic effects have been observed in mice at 250 mg/kg. Phyto-toxicity has been observed in mice at 490 mg/kg. Laboratory studies in male mice with the glycol ether have shown anemia, bone marrow damage, hemolysis, immunosuppression and testicular atrophy.

Tetra Etch Compound TEC-1MSDS (Continued)

<b>Carcinogenicity:</b>	NTP:	Not listed
	IARC Monographs:	Not listed
	OSHA Regulated:	Not listed

**Signs and Symptoms of Exposure:**

**INHALATION:** Vapor inhalation can cause breathing difficulty, respiratory irritation, dizziness, drowsiness and nausea.

**EYE CONTACT:** Direct contact will cause eye burns. Vapors are irritating.

**SKIN CONTACT:** Direct contact will cause irritation and possible burns. Material can be absorbed through skin.

**INGESTION:** Ingestion will cause burns to the mouth, esophagus and gastrointestinal tract.

**Conditions Generally Aggravated by Exposure:** Not known.

<b>SECTION 4: EMERGENCY AND FIRST AID PROCEDURES</b>
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**INHALATION:** If inhalation exposure occurs, remove affected person to fresh air. If breathing stops, give artificial respiration and seek medical attention immediately.

**EYE CONTACT:** Immediately flush with water for at least 15 minutes. Contact a physician immediately.

**SKIN CONTACT:** Flush with water immediately. Remove contaminated clothing. Wash body with soap and water. If irritation or burns develop, see a physician immediately. Discard contaminated shoes.

**INGESTION:** Contact a physician immediately. Product will react with water in the body to form caustic burns of the mouth, esophagus and gastrointestinal tract.

<b>SECTION 5: FIRE AND EXPLOSION HAZARD DATA</b>
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**Flash Point (Method Used):** 47°F (8°C) ASTM D93-80

**Auto Ignition Point:** 378°F (192°C)

**Flammable limits:** (Solvent only) LEL: 1.8 UEL: 10.4

**Extinguishing Media:** Dry powder; preferably with a nitrogen propellant.

**Special Firefighting Procedures:** Wear NIOSH approved equipment including a positive pressure self-contained breathing apparatus in any closed space.

**Unusual Fire and Explosion Hazards:** Extremely flammable. Vapor explosion hazard. May be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Steps to be taken if material is released or spilled:** Dike and cover with a non-flammable inert absorbent such as sand or dirt. Remove all sources of ignition. This material will cause skin and/or eye burns and personal protective equipment must be used. Use non-sparking tools, transfer into polypropylene drums. Dispose of according to applicable regulations. Waste from a spill may be regulated as ignitable, corrosive waste.

Residual product may be present in empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat, sparks, flames, static electricity, or other sources of ignition. Do not reuse containers for food, clothing or products for human or animal consumption.

## SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

**Respiratory Protection:** Use only with adequate ventilation such as local exhaust fume hood. Use NIOSH approved respirator with cartridge specific for organic vapors or supplied air breathing apparatus.

### Ventilation:

**Local Exhaust:** Keep below TLV

**Mechanical:** Keep below TLV

**Special:** N/A

**Other:** N/A

**Protective Gloves:** Butyl rubber gloves are recommended.

**Eye Protection:** Use chemical splash safety goggles or full face shield. Use in proximity to an eye wash station.

**Other Protective Clothing or Equipment:** Wear long sleeved clothing; changed daily. Neoprene or polyethylene apron is recommended. Use in proximity to a full body safety shower.

**Work / Hygienic Practices:** Wash thoroughly after use.

## SECTION 8: HANDLING AND STORAGE

**Precautions to be taken in handling and storing:** Store under nitrogen. Store below 32°F (0°C) for best performance and stability. Allow material to reach room temperature prior to use. Open carefully to gently release any built-up pressure. Follow procedures for flammable materials. Sources of static discharge must be grounded. Keep container closed. Avoid long exposure of open containers to the atmosphere. Avoid flame, electrical sparks or other sources of ignition.

**Other Precautions:** Wear chemical resistant gloves and goggles when opening container or using liquid. Do not breath vapors. Do not get into eyes. Avoid contact with the skin. Wash thoroughly after handling.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point:	85°C (Solvent only)
Vapor Pressure (mmHg):	48
Vapor Density (Air = 1):	3.11 (Solvent only)
Specific Gravity (H <sub>2</sub> O = 1):	.96
Melting Point:	Not known
Evaporation Rate (BuAc = 1):	5 (Solvent only)
Volatile Organic Compounds:	75%
Solubility in Water:	Partial
Odor Threshold:	<1 ppm
pH:	>12.5

**Appearance and Odor:** Green-black liquid; naphthalene (mothball/ether) odor.

**SECTION 10: STABILITY AND REACTIVITY DATA**

**Stability:** Stable.

**Conditions to Avoid:** Exposure to heat, water, ignition sources. Reacts with water to form caustic soda, naphthalene, small amounts of hydrogen and polycyclic compounds.

**Incompatibility (Materials to Avoid):** Oxidizing agents, strong acids.

**Hazardous Decomposition or By-products:** Heating to decomposition emits acrid smoke and fumes. Reacts with water to form caustic soda, naphthalene, small amounts of hydrogen and polycyclic compounds.

**Hazardous Polymerization:** Will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION**

Ethylene Glycol Dimethyl Ether

OSHA PEL:	N/E
ACGIH TLV:	N/E
OTHER:	1ppm TWA (Recommended by W.L. Gore Associates) 5ppm STEL (Recommended by W.L. Gore Associates)

Sodium Naphthalene Complex

OSHA PEL:	10ppm (for Naphthalene)
ACGIH TLV:	10ppm (for Naphthalene)
OTHER:	15ppm STEL (for Naphthalene)

<b>SECTION 12: DISPOSAL CONSIDERATIONS</b>
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**Waste Disposal Method:** This product is both corrosive and flammable. Dispose of as a hazardous waste in accordance with all applicable regulations. Residual product may be present in empty containers. Do not pressurize, cut, weld, braze, solder, drill, grind or expose container to heat, sparks, flames, static electricity, or other sources of ignition. Do not reuse containers for food, clothing or products for human or animal consumption.

<b>SECTION 13: TRANSPORTATION INFORMATION</b>
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SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Flammable Liquid, Corrosive, N.O.S. (Sodium Naphthalene/Ethylene Glycol Dimethyl Ether)	3	II	2924

<b>SECTION 14: REGULATORY INFORMATION</b>
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**SECTION 313 SUPPLIER NOTIFICATION:**

This product contains a toxic chemical or chemicals (as listed below) subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS NUMBER	CHEMICAL NAME	% BY WEIGHT
91-20-4*	Naphthalene	25
110-71-4**	Ethylene Glycol Dimethyl Ether	74

\*Primary constituent of Sodium Naphthalene Complex

\*\*SARA 313 listing as part of Glycol Ether Family

**TSCA NOTIFICATION:**

All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).

<b>SECTION 15: OTHER INFORMATION</b>
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To the best of our knowledge, the information provided above meets the requirements of the United States Occupational Safety and Health Act and regulations established under 29 CFR 1910.1200 (g)(2)(c)(1)-(4) for a mixture of hazardous chemicals which has not been tested as a whole. The data provided on this Material Safety Data Sheet is from manufacturers of the original components. Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.