

SAFETY DATA SHEET

Revision: 2.0 Date: 10.06.2015


ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 453/2010

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1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
Product Name Tetra Etch Compound TEC-1
Chemical Name Mixture
CAS No. Mixture
EINECS No. Mixture
REACH Registration No. None assigned.
- 1.2 Recommended use of the chemical and restrictions on use**
Identified Use(s) Etchant and acids
Uses Advised Against For professional users only.
- 1.3 Supplier's details**
Company Identification VISHAY MEASUREMENTS GROUP UK LTD
Stroudley Road
Basingstoke
Hampshire
RG24 8FW
United Kingdom
Telephone +44 (0) 1256 462131
Fax +44 (0) 1256 471441
E-Mail (competent person) mm.uk@vishaypg.com
- 1.4 Emergency Phone No.** (00-1) 703-527-3887
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
2.1.1 Regulation (EC) No. 1272/2008 (CLP) Flam. Liq. 2; H225
Water-react. 3; H261
Skin Corr. 1B; H314
Acute Tox. 4; H332
Carc. 2; H351
Repr. 1B; H360FD
Aquatic Chronic 2; H411
- 2.2 Label elements**
Product Name According to Regulation (EC) No. 1272/2008 (CLP)
Tetra Etch Compound TEC-1
- Hazard Pictogram(s)

- Signal Word(s) Danger
- Contains: Sodium, Ethylene glycol dimethyl ether and Naphthalene
- Hazard Statement(s)
H225: Highly flammable liquid and vapour.
H261: In contact with water releases flammable gases.
H314: Causes severe skin burns and eye damage.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H360FD: May damage fertility. May damage the unborn child.
H411: Toxic to aquatic life with long lasting effects.

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Precautionary Statement(s)

P201: Obtain special instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P310: Immediately call a POISON CENTER/doctor.

Additional Information

EUH014: Reacts violently with water.
EUH019: May form explosive peroxides.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Ethylene glycol dimethyl ether	70 - 80	110-71-4	203-794-9	None assigned	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Acute Tox. 4; H332 Repr. 1B; H360FD EUH019
Naphthalene	< 25	91-20-3	202-049-5	None assigned	Flam. Sol. 1; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Sodium	< 5	7440-23-5	231-132-9	None assigned	Water-react. 1; H260 Skin Corr. 1B; H314 EUH014

H225: Highly flammable liquid and vapour. H228: Flammable solid. H260: In contact with water releases flammable gases which may ignite spontaneously. H302: Harmful if swallowed. H315: Causes skin irritation. H314: Causes severe skin burns and eye damage. H332: Harmful if inhaled. H351: Suspected of causing cancer. H360FD: May damage fertility. May damage the unborn child. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. EUH014: Reacts violently with water. EUH019: May form explosive peroxides.

4. SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Apply artificial respiration if necessary (do not employ mouth-to-mouth method). Immediately call a POISON CENTER/doctor.

Skin Contact

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. Immediately call a POISON CENTER/doctor.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required. Continue irrigation until medical attention can be obtained.

Ingestion

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Make victim drink plenty of water. Do not give anything by mouth to an unconscious person.

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| 4.2 Most important symptoms and effects, both acute and delayed | Immediately call a POISON CENTER or doctor/physician.
Causes severe skin burns and eye damage. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Can be absorbed through skin. Harmful if inhaled. Suspected of causing cancer. May damage fertility. May damage the unborn child. Inhalation of solvent vapours may give rise to nausea, headaches and dizziness. |
| 4.3 Indication of any immediate medical attention and special treatment needed | Treat symptomatically. Due to possible delayed effect of poisoning and for safety reasons, they should be kept under medical observation for at least 48 hours. |

5. SECTION 5: FIREFIGHTING MEASURES

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| 5.1 Extinguishing media
Suitable Extinguishing media
Unsuitable extinguishing media | Dry powder (Nitrogen propellant)
Do not use water. In contact with water releases flammable gases. |
| 5.2 Special hazards arising from the substance or mixture | Highly flammable liquid and vapour. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. May decompose in a fire giving off toxic fumes. Oxides of carbon, Acrid smoke, Naphthalene, Vinyl methyl ether, Methanol, Sodium methoxide, Hydrogen and polycyclic compounds. May form explosive peroxides. Containers may explode when involved in a fire. |
| 5.3 Advice for fire-fighters | Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers. |

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

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| 6.1 Personal precautions, protective equipment and emergency procedures | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid all contact. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours. |
| 6.2 Environmental precautions | Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body. |
| 6.3 Methods and material for containment and cleaning up | Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do not use water. Transfer to a container for disposal. Suitable containers: Polyethylene or Steel (drums), with a polyethylene liner. Dispose of this material and its container as hazardous waste (2008/98/EEC). |
| 6.4 Reference to other sections | See Section: 8, 13 |

7. SECTION 7: HANDLING AND STORAGE

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|---|--|
| 7.1 Precautions for safe handling | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Handle and open container with care. Take precautionary measures against static discharge. Do not use sparking tools. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid all contact. Do not breathe vapour. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Protect from moisture. |
| 7.2 Conditions for safe storage, including any incompatibilities | Ground/bond container and receiving equipment. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Keep container tightly closed. Handle and open container with care. Store contents under: Nitrogen. |

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Storage temperature
Storage life
Incompatible materials

Keep at temperature not exceeding (°C): 0.
Stable under normal conditions.
Strong oxidising agents and Acids. Keep from any possible contact with water.
Keep away from moisture.
Keep only in original container.
Etchant and acids. See Section: 1.2.

Suitable containers:
7.3 **Specific end use(s)**

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Naphthalene	91-20-3	10	53	15	80	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40/ 2002). Please note: These OELs have been omitted from UK HSE EH40/ 2005.

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Local exhaust recommended. Guarantee that the eye flushing systems and safety showers are located close to the working place.

8.2.2 Individual protection measures, such as personal protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

Eye/ face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Recommended: Butyl rubber.

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Recommended: Full-face mask (DIN EN 136).

Thermal hazards

Not applicable.

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Green - Black Coloured liquid.

Odour

Naphthalene Odour

Odour threshold

< 1 ppm

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pH	> 12.5 (aqueous)
Melting point/freezing point	Not known.
Initial boiling point and boiling range	85 °C
Flash point	0.5 °C [Closed cup]
Evaporation rate	5 (BuAc = 1) (Ethylene Glycol Dimethyl Ether)
Flammability (solid, gas)	Not applicable - Liquid.
Upper/lower flammability or explosive limits	Flammable Limits (Upper) (%v/v): 1.8 (Air). Flammable Limits (Lower) (%v/v): 10.4 (Air)
Vapour pressure	48 mm Hg (Mixture)
Vapour density	3.11 (Air = 1) (Ethylene Glycol Dimethyl Ether)
Relative density	Not available.
Solubility(ies)	Partially soluble (Water)
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	192 °C
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive (May form explosive peroxides).
Oxidising properties	Not oxidising.

9.2 Other information Volatile Organic Compound Content: 73%

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Stability and reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Highly flammable liquid and vapour. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. May react violently with water. In contact with water releases flammable gases.
10.4 Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
10.5 Incompatible materials	Strong oxidising agents and Acids. Keep from any possible contact with water. Keep away from moisture.
10.6 Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Oxides of carbon, Acrid smoke, Naphthalene, Vinyl methyl ether, Methanol, Sodium methoxide, Hydrogen and polycyclic compounds. Reacts with - Water. Forms sodium hydroxide, naphthalene, polycyclic compounds and hydrogen.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects (Substances in preparations / mixtures)	
Acute toxicity	
Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Inhalation	Acute Tox. 4: Harmful if inhaled. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 14.7 mg/l.
Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Skin Corr. 1B: Causes serious eye damage.
Serious eye damage/irritation	Skin Corr. 1B: Causes severe skin burns.
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Carc. 2: Suspected of causing cancer.
Reproductive toxicity	Repr. 1B: May damage fertility. May damage the unborn child.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.

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11.2 Aspiration hazard
Other information

Based upon the available data, the classification criteria are not met.
None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity Aquatic Chronic 2: Toxic to aquatic life with long lasting effects.
Estimated Mixture LC50 > 1 ≤ 10 mg/l (Fish)

12.2 Persistence and degradability No data for the mixture as a whole. Part of the components are poorly biodegradable.

12.3 Bioaccumulative potential No data for the mixture as a whole.

12.4 Mobility in soil The product is predicted to have moderate mobility in soil.

12.5 Results of PBT and vPvB assessment Not classified as PBT or vPvB.

12.6 Other adverse effects None known.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Do not release undiluted and unneutralised to the sewer. This material and its container must be disposed of as hazardous waste (2008/98/EEC). Containers must be decontaminated in accordance with all applicable regulations.

13.2 Additional Information Dispose of contents in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

14.1 UN number **ADR/RID / IMDG / IATA**
UN 2924

14.2 Proper Shipping Name FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Sodium / Ethylene Glycol Dimethyl Ether).

14.3 Transport hazard class(es) 3 + 8

14.4 Packing group II

14.5 Environmental hazards Classified as a Marine Pollutant/ Environmentally hazardous substance

14.6 Special precautions for user See Section: 2

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

14.8 Additional Information None.

15. SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1 EU regulations

Authorisations and/or Restrictions On Use For professional users only. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction). Ethylene Glycol Dimethyl Ether (CAS# 110-71-4): REACH Entry 30.

SVHCs Ethylene Glycol Dimethyl Ether (CAS# 110-71-4)

15.1.2 National regulations

Wassergefährdungsklasse (Germany) Water hazard class: 3

15.2 Chemical Safety Assessment Not available.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Ethylene Glycol Dimethyl Ether (CAS# 110-71-4), Naphthalene (CAS# 91-20-3) and Sodium (CAS# 7440-23-5), Existing ECHA registration(s) for Ethylene Glycol Dimethyl Ether (CAS# 110-71-4), Naphthalene (CAS# 91-20-3) and Sodium (CAS# 7440-23-5).

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Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Flam. Liq. 2; H225	Flash Point [Closed cup] Test Result/ Boiling Point (°C)
Water-react. 3; H261	Estimated Physico-chemical properties of substance
Skin Corr. 1B; H314	Physico-chemical properties of substance
Acute Tox. 4; H332	Acute Toxicity Estimate Mixture Calculation
Carc. 2; H351	Threshold Calculation
Repr. 1B; H360FD	Threshold Calculation
Aquatic Chronic 2; H411	Summation Calculation

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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Annex to the extended Safety Data Sheet (eSDS)

No information available.