

# SAFETY DATA SHEET

Version: 03  
Date of Issue: 23 November 2018  
Date of First Issue: 13 August 2014


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SAFETY DATA SHEET ACCORDING TO EC-REGULATIONS 1907/2006  
(REACH), 1272/2008 (CLP) & 2015/830

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

- 1.1 Product identifier**  
Product Name Tetra Etch Compound TEC-1  
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  
Languages spoken 24 hours, English spoken

## 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  
Eye Dam. 1; H318  
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.

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Precautionary Statement(s)	H411: Toxic to aquatic life with long lasting effects.  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.
2.3 Other hazards	None.

## 3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances Not applicable
- 3.2 Mixtures Substances in preparations / 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	Not yet assigned in the supply chain	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Acute Tox. 4; H332 Repr. 1B; H360FD EUH019
Naphthalene	15 - 25	91-20-3	202-049-5	Not yet assigned in the supply chain	Flam. Sol. 1; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Sodium	1 - 5	7440-23-5	231-132-9	Not yet assigned in the supply chain	Water-react. 1; H260 Skin Corr. 1B; H314 EUH014

For full text of H/P Statements see section 16.

## 4. SECTION 4: FIRST AID MEASURES



### 4.1 Description of first aid measures

Self-protection of the first aider

Inhalation

Skin Contact

Wear suitable protective clothing. Avoid all contact. Avoid breathing vapours. Do not employ mouth-to-mouth method. A washing facility/water for eye and skin cleaning purposes should be present.

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

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned.

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Eye Contact	Immediately call a POISON CENTER/doctor. Liquid Sodium: Absorb spillage in suitable inert material. Rinse cautiously with water for several minutes. Immediately call a POISON CENTER/doctor. 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. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Make victim drink plenty of water. Do not give anything by mouth to an unconscious person. Immediately call a POISON CENTER or doctor/physician.
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	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.
<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	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.
Notes to a physician:	IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation. IF SWALLOWED: Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture.

## 5. SECTION 5: FIREFIGHTING MEASURES

<b>5.1 Extinguishing media</b>	Dry powder (Nitrogen propellant). Extinguish preferably with dry chemical, sand, foam or carbon dioxide.
Suitable Extinguishing media	
Unsuitable extinguishing media	Do not use water. In contact with water releases flammable gases.
<b>5.2 Special hazards arising from the substance or mixture</b>	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. Sealed containers may rupture explosively if hot.
<b>5.3 Advice for fire-fighters</b>	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

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	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. Avoid breathing vapours. Use personal protective equipment as required. See Section: 8.
<b>6.2 Environmental precautions</b>	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.
<b>6.3 Methods and material for containment and cleaning up</b>	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),

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with a polyethylene liner. Dispose of this material and its container as hazardous waste.

## 6.4 Reference to other sections

See Section: 8, 13

## 7. SECTION 7: HANDLING AND STORAGE

### 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.

Storage temperature  
Storage life  
Incompatible materials

Keep at temperature not exceeding (°C): 0.

Stable under normal conditions. Keep only in original container.

Strong oxidising agents and Acids. Keep from any possible contact with water.

Keep away from moisture.

### 7.3 Specific end use(s)

See Section: 1.2.

## 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 <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Naphthalene*	91-20-3	10	53	15	80	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40). \*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. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. 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).

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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. A suitable mask with filter type A (EN141 or EN405) may be appropriate.

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
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.

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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.

Naphthalene

Acute Tox. 4; H302

LD50 (oral, mouse) mg/kg: 533 (OECD 401)

Inhalation

Acute Tox. 4: Harmful if inhaled.

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 14.7 mg/l.

Ethylene Glycol Dimethyl Ether

Acute Tox. 4; H332

LC50 (Inhalation) mg/l/6 hour: 20 (OECD 403)

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

Ethylene glycol dimethyl ether

Skin Corr. 1B: Causes severe skin burns and eye damage.

Skin Irrit. 2; H315

Sodium

Irritating to skin. (rabbit) (OECD 404)

Skin Corr. 1B; H314 Harmonised Classification

No data

#### Serious eye damage/irritation

Eye Dam. 1; Causes severe skin burns and eye damage.

#### 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.

Naphthalene

Carc. 2; H351

LOAEC mg/m<sup>3</sup> (Air): 50. Carcinogenic effect: Positive (Unnamed, 2000)

#### Reproductive toxicity

Ethylene Glycol Dimethyl Ether

Repr. 1B: May damage fertility. May damage the unborn child.

Repr. 1B; H360FD

Reproductive toxicity: NOEC mg/l 0.019 (OECD 414)

Developmental toxicity: NOEC mg/l 0.06 (OECD 414)

#### 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.

#### Aspiration hazard

Based upon the available data, the classification criteria are not met.

### 11.2 Other information

None.

## 12. SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

Naphthalene

Aquatic Chronic 2: Toxic to aquatic life with long lasting effects.

Estimated Mixture LC50 > 1 ≤ 10 mg/l (Fish)

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Acute Toxicity: LC50 (rainbow trout) mg/l (96 hour): 1.6 (OECD 203)

Chronic Toxicity: LC50 (fish) mg/l (96 hour): 2.1 (Moles, 1981)

### 12.2 Persistence and degradability

Ethylene Glycol Dimethyl Ether

No data for the mixture as a whole. Part of the components are poorly biodegradable.

Naphthalene

Not biodegradable. 16% Degradation (48 Days) (OECD 302 B)

Readily biodegradable (according to OECD criteria). >74% Degradation (28 Days) (OECD 301 B)

Sodium

Not applicable for inorganic substances

### 12.3 Bioaccumulative potential

Ethylene Glycol Dimethyl Ether

No data for the mixture as a whole.

Naphthalene

No data

Low bioaccumulation potential. (OECD 305)

Sodium

Not applicable for inorganic substances

### 12.4 Mobility in soil

The product is predicted to have moderate mobility in soil.

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Ethylene Glycol Dimethyl Ether	No data
Naphthalene	The substance has high mobility in soil. (Lindhardt, 1994)
Sodium	Not applicable for inorganic substances
<b>12.5 Results of PBT and vPvB assessment</b>	Not classified as PBT or vPvB. None of the substances in this product fulfil the criteria for being regarded as a PBT or vPvB substance.
<b>12.6 Other adverse effects</b>	None known.

## 13. SECTION 13: DISPOSAL CONSIDERATIONS

<b>13.1 Waste treatment methods</b>	Do not release undiluted and unneutralised to the sewer. This material and its container must be disposed of as hazardous waste. Containers must be decontaminated in accordance with all applicable regulations.
<b>13.2 Additional Information</b>	Dispose of contents in accordance with local, state or national legislation.

## 14. SECTION 14: TRANSPORT INFORMATION

	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	UN 2924	UN 2924	UN 2924
<b>14.2 Proper Shipping Name</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Sodium / Ethylene Glycol Dimethyl Ether).	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Sodium / Ethylene Glycol Dimethyl Ether).	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Sodium / Ethylene Glycol Dimethyl Ether).
<b>14.3 Transport hazard class(es)</b>	3 + 8	3 + 8	3 + 8
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	Environmentally hazardous substance	Classified as a Marine Pollutant	Environmentally hazardous substance
<b>14.6 Special precautions for user</b>	See Section: 2		
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.		
<b>14.8 Additional Information</b>	None.		

## 15. SECTION 15: REGULATORY INFORMATION

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>15.1.1 EU regulations</b>	For professional users only. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction). Ethylene Glycol Dimethyl Ether: Entry 30: Restriction on supply of substances and mixtures to the general public, if classified as Repr. 1A or 1B. Ethylene Glycol Dimethyl Ether, Sodium: Entry 40: Restricted in aerosol dispensers intended for supply to the general public for entertainment and decorative purposes. Naphthalene: Substance evaluated in 2016; evaluating Member State has proposed to ask the registrants to provide further information. Ethylene Glycol Dimethyl Ether: Listed
Authorisations and/or Restrictions On Use	
CoRAP Substance Evaluation	
SVHCs	
<b>15.1.2 National regulations</b>	
Wassergefährdungsklasse (Germany)	Water hazard class: 3
<b>15.2 Chemical Safety Assessment</b>	Not available.

## 16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: V3.0  
Updated Sections: 1.4, 2.3, 4.1, 4.3, 5, 8.2.2, 11, 12, 15, 16.

**References:** Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Ethylene Glycol Dimethyl Ether (CAS No. 110-71-4), Naphthalene

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(CAS No. 91-20-3) and Sodium (CAS No. 7440-23-5), Existing ECHA registration(s) for Ethylene Glycol Dimethyl Ether (CAS No. 110-71-4), Naphthalene (CAS No. 91-20-3) and Sodium (CAS No. 7440-23-5).

### Literature References:

1. Moles A, Bates S, Rice SD and Korn S. 1981. Reduced Growth of Coho Salmon Fry Exposed to Two Petroleum Components, Toluene and Naphthalene, in Fresh Water. Trans. Am. Fish. Soc. 110:430-436.
2. Lindhardt Bo, Christensen Thomas H. 1994. Measured And Estimated Volatilisation Of Naphthalene From a Sandy Soil. Chemosphere, Vol. 29, No. 7, pp. 1407-1419, 1994.

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
Eye Dam. 1; H318	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

### Fwas

#### LEGEND

LTEL: Long Term Exposure Limit  
STEL: Short Term Exposure Limit  
DNEL: Derived No Effect Level  
LOAEC: Lowest observed adverse effect concentration

PNEC: Predicted No Effect Concentration  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

### Hazard Class / Classification code:

Flam. Liq. 3; Flammable Liquid, Category 3  
Water-react. 3; Reacts with water. Category 3  
Acute Tox. 4; Acute toxicity, Category 4  
Skin Corr. 1B; Skin corrosion/irritation, Category 1B  
Eye Dam. 1; Serious eye damage/irritation, Category 1  
Carc. 2; Carcinogen, category 2  
Repr. 1B; Reproductive toxicity, Category 1B  
Aquatic Acute 1; Hazardous to the aquatic environment, Acute, Category 1  
Aquatic Chronic 1; Hazardous to the aquatic environment, Chronic, Category 1  
Aquatic Chronic 2; Hazardous to the aquatic environment, Chronic, Category 2  
EUH014: Reacts violently with water.

### Hazard Statement(s)

H226: Flammable liquid and vapour.  
H261: In contact with water releases flammable gases.  
H332: Harmful if inhaled.  
H314: Causes severe skin burns and eye damage.  
H318: Causes serious eye damage.  
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.  
H411: Toxic to aquatic life with long lasting effects.  
EUH019: May form explosive peroxides.

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.





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