

SAFETY DATA SHEET

Version: 03

Date of Issue: 23 November 2018

Date of First Issue: 24 August 2012


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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 H Cement
CAS No. Mixture
EINECS No. Mixture
REACH Registration No. None assigned.
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Identified Use(s) PC14 Metal surface treatment products, including galvanic and electroplating products
Uses Advised Against For professional users only.
- 1.3 Details of the supplier of the safety data sheet**
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 telephone number**
Languages spoken (00-1) 703-527-3887 – CHEMTREC
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) Met. Corr. 1; H290
Skin Irrit. 2; H315
Skin Sens. 1; H317
Eye Dam. 1; H318
Acute Tox. 4; H332
Resp. Sens. 1; H334
STOT SE 3; H335
Muta. 1B; H340
Carc. 1A; H350
Repr. 2; H361f
STOT RE 1; H372
Aquatic Chronic 2; H411
- 2.2 Label elements**
Product Name According to Regulation (EC) No. 1272/2008 (CLP)
H Cement
- Hazard Pictogram(s)
- 
- Signal Word(s) DANGER
- Contains: Silicon Dioxide, Phosphoric acid and Chromium (VI) trioxide

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Hazard Statement(s) H290: May be corrosive to metals.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H332: Harmful if inhaled.
 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335: May cause respiratory irritation.
 H340: May cause genetic defects.
 H350: May cause cancer.
 H361f: Suspected of damaging fertility.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement(s) P201: Obtain special instructions before use.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310: Immediately call a POISON CENTER/doctor.

Additional Information None.

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)
Silicon Dioxide	20 - 25	14808-60-7	238-878-4	Not yet assigned in the supply chain	STOT RE 1; H372
Phosphoric Acid	< 20	7664-38-2	231-633-2	Not yet assigned in the supply chain	Met. Corr. 1; H290 Skin Corr. 1B; H314 (SCL: ≥ 25%)
Aluminum Oxide [^]	< 10	1344-28-1	215-691-6	Not yet assigned in the supply chain	Not classified
Chromium (VI) Trioxide	< 5	1333-82-0	215-607-8	Not yet assigned in the supply chain	Ox. Sol. 1; H271 Acute Tox. 3; H301 Acute Tox. 3; H311 Skin Corr. 1A; H314 Skin Sens. 1; H317 Acute Tox. 2; H330 Resp. Sens. 1; H334 STOT SE 3; H335 Muta. 1B; H340 Carc. 1A; H350 Repr. 2; H361f STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

For full text of H/P Statements see section 16. [^]Substance with a community exposure limit

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4. SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

Avoid all contact with substance. Do not breathe vapour. Wear suitable protective clothing. Wear suitable respiratory protective equipment if exposure to high levels of material are likely. Do not use mouth-to-mouth resuscitation.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a POISON CENTER/doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/... IF exposed or concerned: Get medical advice/attention. If unconscious, place in recovery position and get medical attention immediately. Apply artificial respiration if necessary. Do not employ mouth-to-mouth method.

Skin Contact

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. IF exposed or concerned: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if eye irritation develops or persists. Obtain prompt consultation, preferably from an ophthalmologist.

Ingestion

IF SWALLOWED: Rinse mouth with water (only if the person is conscious). Drink two glasses of water. Do not induce vomiting. Allow the patient to drink 5 - 10 g ascorbic acid (not effervescent tablets) dissolved in water. This dose can be repeated several times. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure..

4.3 Indication of any immediate medical attention and special treatment needed

Chemical eye burns may require extended irrigation.
Ingestion: Get medical attention immediately. Allow the patient to drink 5 - 10 g ascorbic acid (not effervescent tablets) dissolved in water. This dose can be repeated several times.

Skin Contact: If the skin becomes scratched or wounded, dab it with saturated gauze pads or compresses using a freshly made up ascorbic acid solution (10 g in 100 g water).

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media

As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.

Unsuitable extinguishing media

Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

May decompose in a fire giving off toxic fumes. May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, metal oxides/oxides and Oxides of phosphorus.

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

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. In case of leakage, eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, open

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- 6.2 **Environmental precautions** flames and other ignition sources. No smoking. Avoid all contact. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours. Avoid release to the environment. Do NOT wash away into sewer. 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** Adsorb spillages onto sand, earth or any suitable adsorbent material. Neutralize with: slaked lime (calcium hydroxide), sodium carbonate, calcium carbonate or sodium bicarbonate. Use non-sparking tools. Transfer to a container for disposal. 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. Ensure adequate ventilation. 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.
- 7.2 **Conditions for safe storage, including any incompatibilities** Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight.
Storage temperature Ambient. 5 - 25°C
Storage life Stable under normal conditions.
Incompatible materials Keep away from: Combustible materials, Alkalis, Reducing agent, Strong oxidising agents, Acids and metals. Keep away from water. Reacts violently with strong alkalis. Direct contact with alkalis may produce hydrogen gas. Hydrogen gas is released in contact with most metals. Exothermic reaction with water. May be corrosive to metals.
- Suitable containers: Keep only in original packaging.
- 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 ³)	STEL (ppm)	STEL (mg/m ³)	Note
Silicon Dioxide	14808-60-7	-	0.1	-	-	WEL, Respirable Crystalline
		-	0.1	-	-	IOELV
Phosphoric Acid	7664-38-2	-	1	-	2	WEL
		-	1	-	2	IOELV
Aluminium Oxide	1344-28-1	-	10	-	-	WEL, Inhalable Aerosol
		-	4	-	-	Respirable Aerosol

Source: WEL: Workplace Exposure Limit (UK HSE EH40), IOELV: Indicative Occupational Exposure Limit Value

- 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. Eyewash bottles containing clean water or saline solution. Wash thoroughly after handling.
- 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.

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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.

Body protection: Chemical protection suit, boots and plastic gloves.

Respiratory protection



Do not use in areas without adequate ventilation. In case of inadequate ventilation wear respiratory protection. A suitable mask with filter type P 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 Slurry.
Odour	No odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	104.4°C (Mixture)
Flash point	Not applicable.
Evaporation rate	1 (BuAc = 1) (Mixture)
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	23.7 mmHg @ 20°C
Vapour density	<1 (Air = 1)
Relative density	Not available.
Solubility(ies)	Miscible
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information

None known.

10. SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	May be corrosive to metals.
10.2	Chemical stability	Stable under normal conditions.
10.3	Possibility of hazardous reactions	Reacts violently with strong alkalis. Direct contact with alkalis may produce hydrogen gas. Hydrogen gas is released in contact with most metals. Exothermic reaction with water. At high temperature formation of phosphorous oxides.
10.4	Conditions to avoid	Keep away from water.
10.5	Incompatible materials	Keep away from: Combustible materials, Alkalis, Reducing agent, Strong

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10.6 Hazardous decomposition product(s) oxidising agents, Acids and metals.
May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, and possibly chromium. Thermal decomposition may yield phosphoric oxide.

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 16.4 mg/l.

Chromium Trioxide

Acute Tox. 3; H331

LC50 (rat) 217 mg/m³ (EPA OTS 798.1150)

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

Phosphoric acid

Skin Irrit. 2; Causes skin irritation.

Skin Corr. 1B; H314

Chromium Trioxide

Corrosive to skin. (rabbit) (Unnamed, 1980)

Skin Corr. 1A; H314

Serious eye damage/irritation

Chromium Trioxide

Corrosive to skin. (rabbit) (Unnamed, 1983)

Eye Dam. 1: Causes serious eye damage.

Eye Dam. 1; H318

Corrosive to eyes. (rabbit) (Unnamed, 1979)

Respiratory or skin sensitization

Chromium Trioxide

Skin Sens. 1: May cause an allergic skin reaction.

Resp. Sens. 1: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1; H317

No data

Resp. Sens. 1; H334

No data

Germ cell mutagenicity

Chromium Trioxide

Muta. 1B: May cause genetic defects.

Muta. 1B; H340

In vitro: Evidence of genotoxicity. (EU Risk Assessment Report, 2005)

In vivo: Evidence of genotoxicity. (EU Risk Assessment Report, 2005)

Carcinogenicity

Chromium Trioxide

Carc. 1A: May cause cancer.

Carc. 1A; H350

Animal carcinogen (EU Risk Assessment Report, 2005)

Reproductive toxicity

Chromium Trioxide

Repr. 2: Suspected of damaging fertility.

Repr. 2; H361f

Developmental toxicity: LOAEL (mouse) mg/kg bw/day: 60 (EU Risk Assessment Report, 2005)

STOT - single exposure

Chromium Trioxide

STOT SE 3: May cause respiratory irritation.

STOT SE 3; H335

STOT - repeated exposure

Silicon Dioxide

Irritating to respiratory system. (rat)(Inhalation) (Unnamed, 1989)

STOT RE 1: Causes damage to organs through prolonged or repeated exposure..

STOT RE 1; H372

Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. (Ziskind et al., 1976; IARC, 1987)

Chromium Trioxide

STOT RE 1; H372

Oral: NOAEL (rat) mg/kg bw/day: 24 (Unnamed, 1996)

Inhalation: LOAEC (mouse) mg/m³ 3.63. Effects and Symptoms: Respiratory tract Irritation (Adachi S, 1986)

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11.2 **Aspiration hazard** Dermal: No data
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)
Chromium Trioxide Aquatic Acute 1; H400
Aquatic Chronic 2; H410
Acute: LC50 (fish) mg/l: 13 – 120 (96 hour) (Several species) (EU Risk Assessment Report, 2005)
Chronic: NOEC 0.05 – 0.92 (30 Days) (Several species) (EU Risk Assessment Report, 2005)

12.2 **Persistence and degradability** The methods for determining the biological degradability are not applicable to inorganic substances.
Silicon Dioxide No data
Phosphoric acid Not applicable for inorganic substances
Chromium Trioxide Not applicable for inorganic substances

12.3 **Bioaccumulative potential** No data for the mixture as a whole.
Silicon Dioxide No data
Phosphoric acid Not applicable for inorganic substances
Chromium Trioxide Not applicable for inorganic substances

12.4 **Mobility in soil** The product is predicted to have moderate mobility in soil.
Silicon Dioxide No data
Phosphoric acid Not applicable for inorganic substances
Chromium Trioxide Not applicable for inorganic substances

12.5 **Results of PBT and vPvB assessment** 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.

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. Dispose of this material and its container as hazardous waste. 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

	ADR/RID	IMDG	IATA
14.1 UN number	UN 1760	UN 1760	UN 1760
14.2 Proper Shipping Name	CORROSIVE LIQUID N.O.S	CORROSIVE LIQUID N.O.S	CORROSIVE LIQUID N.O.S
14.3 Transport hazard class(es)	8	8	8
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally hazardous substance	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.		

15. SECTION 15: REGULATORY INFORMATION

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

15.1.1 **EU regulations**

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Authorisations and/or Restrictions On Use

Substance(s) of Very High Concern (SVHCs)
REACH: ANNEX XIV list of substances subject to authorisation

Annex XVII (Restrictions)

For professional users only. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction).

Chromium (VI) trioxide: Carcinogenic and Mutagenic
Chromium (VI) trioxide

Chromium (VI) trioxide - Entry 28: Restriction on supply of substances and mixtures to the general public, if classified as Carc. 1A or 1B, Entry 29: Restriction on supply of substances and mixtures to the general public, if classified as Muta. 1A or 1B, Entry 47: Restricted in cement if > 2 mg/kg (0.0002%) of the total dry weight of the cement (Exemptions apply)

15.1.2 National regulations

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: V3.0

Updated Section 1.4, 3.2, 11, 12, 13, 15, 16.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Phosphoric Acid (CAS No. 7664-38-2) and Chromium (VI) trioxide (CAS No. 1333-82-0), Existing ECHA registration(s) for Phosphoric Acid (CAS No. 7664-38-2), Aluminum Oxide (CAS No. 1344-28-1), Chromium (VI) trioxide (CAS No. 1333-82-0), Aluminum Hydroxide (CAS No. 21645-51-2) and Chromium Oxide (CAS No. 1308-38-9), and the Classification and Labelling Inventory for Silicon Dioxide (CAS No. 14808-60-7) and Chromium (III) Hydroxide (CAS No. 1308-14-1).

Literature References

1. Ziskind M, Jones RN, Weill H, 1976, Silicosis. American review of respiratory disease, 113:643-665.
2. European Union Risk Assessment Report: chromium trioxide, sodium chromate, sodium dichromate, ammonium dichromate, potassium dichromate. 2005. European Chemicals Bureau. 3rd Priority List; Volume 53.
3. Adachi S et al. 1986. Effects of chromium compounds to the respiratory system. Part 4. Jpn J Ind Health 1986 (28); 283-287

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Met. Corr. 1; H290	Estimated Physico-chemical properties of substance
Skin Irrit. 2; H315	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Eye Dam. 1; H318	Threshold Calculation
Acute Tox. 4; H332	Acute Toxicity Estimate Mixture Calculation
Resp. Sens. 1; H334	Threshold Calculation
STOT SE 3; H335	Threshold Calculation (SCL)
Muta. 1B; H340	Threshold Calculation
Carc. 1A; H350	Threshold Calculation
Repr. 2; H361f	Threshold Calculation
STOT RE 1; H372	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: Persistent, Bioaccumulative and Toxic

IARC: International Agency for Research on Cancer

TWA: Time Weighted Average

vPvB: very Persistent and very Bioaccumulative

SCL: Specific Concentration Limit

Hazard Class / Classification code:

Acute Tox. 3; Acute toxicity, Category 3

Acute Tox. 3; Acute toxicity, Category 3

Skin Corr. 1 ; Skin corrosion/irritation, Category 1

Skin Sens. 1 ; Skin sensitisation, category 1

Hazard Statement(s)

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

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Eye Dam. 1; Serious eye damage/irritation, Category 1	H318: Causes serious eye damage.
Acute Tox. 2; Acute toxicity, Category 2	H330: Fatal if inhaled.
Resp. Sens. 1; Respiratory sensitisation, category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3; Specific target organ toxicity — single exposure, Category 3	H335: May cause respiratory irritation.
Muta. 1B; Germ cell mutagenicity, Category 1B	H340: May cause genetic defects.
Carc. 1B; Carcinogenicity, Category 1B	H350: May cause cancer.
Repr. 2; Reproductive toxicity, Category 2	H361f: Suspected of damaging fertility.
STOT RE 1; Specific target organ toxicity — repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Aquatic Acute 1; Hazardous to the aquatic environment, Acute, Category 1	H400: Very toxic to aquatic life.
Aquatic Chronic 1; Hazardous to the aquatic environment, Chronic, Category 1	H410: Very toxic to aquatic life with long lasting effects.
Aquatic Chronic 2; Hazardous to the aquatic environment, Chronic, Category 2	H411: Toxic to aquatic life with long lasting effects.

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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