Tintometer[®] Group **Water Testing**



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Safety data sheet according to Regulation (EC) No 1907/2006, Article 31

Printing date 25.09.2024 Version number 1 Revision: 25.09.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- · 1.1 Product identifier
- · Product name: 15% Cadmium Sulphate
- · Catalog number: 56Z611898, 56L6118, 56L611898
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- · Application of the substance / the preparation: Reagent for water analysis
- · 1.3 Details of the supplier of the safety data sheet
- · Supplier:

Tintometer GmbH Schleefstraße 8-12 44287 Dortmund Made in Germany

phone: +49 (0)231 94510-0 e-mail: sales@lovibond.com www.lovibond.com The Tintometer Limited

Lovibond® House Sun Rise Way Amesbury Wiltshire SP4 7GR United Kingdom

phone: +44 1980 664800 e-mail: SDS@lovibond.uk

· Informing department: e-mail: sds@lovibond.com **Product Safety Department**

1.4 Emergency telephone number:

+44 1235 239670 Languages: English

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1B H360FD May damage fertility. May damage the unborn child.

STOT RE 1 H372 Causes damage to the liver, the respiratory system and the bones through prolonged or repeated exposure. Route of exposure: Inhalation.



Met. Corr.1 H290 May be corrosive to metals.

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Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Acute Tox. 4 H302 Harmful if swallowed.

· 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms









GHS05 GHS06 GHS08

· Signal word Danger

Hazard-determining components of labelling:

Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

· Hazard statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H340 May cause genetic defects.

H350 May cause cancer.

H360FD May damage fertility. May damage the unborn child.

H372 Causes damage to the liver, the respiratory system and the bones through prolonged or repeated exposure. Route of exposure: Inhalation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection.

P273 Avoid release to the environment.
P234 Keep only in original packaging.
P201 Obtain special instructions before use.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

Additional information:

Restricted to professional users.

· 2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description: Mixture of inorganic compounds.

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	· · · · · · · · · · · · · · · · · · ·	,
· Dangerous components:		
CAS: 7790-84-3	Sulfuric acid, cadmium salt (1:1), hydrate (3:8)	10–20%
EINECS: 233-331-6	Acute Tox. 3, H301; Acute Tox. 2, H330; 🗞 Muta. 1B, H340; Carc. 1B, H350;	
Index No: 048-009-00-9	Repr. 1B, H360FD; STOT RE 1, H372; & Aquatic Acute 1, H400 (M=1); Aquatic	
Reg.nr.: 01-2119487964-18-XXXX		
	Specific concentration limits: Carc. 1B; H350: C ≥ 0.01 %	
	STOT RE 1; H372: C ≥ 7 %	
	STOT RE 2; H373: 0.1 % ≤ C < 7 %	
	Aquatic Acute 1; H400: C ≥ 10 %	
	Aquatic Chronic 1; H410: C ≥ 10 %	
CAS: 7664-93-9	sulphuric acid	0.1–1%
EINECS: 231-639-5	♦ Met. Corr.1, H290; Skin Corr. 1A, H314	
Index No: 016-020-00-8	Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 %	
Reg.nr.: 01-2119458838-20-XXXX	Skin Irrit. 2; H315: 5 % ≤ C < 15 %	
	Eye Dam. 1; H318: C ≥ 15 %	
	Eye Irrit. 2; H319: 5 % ≤ C < 15 %	

·SVHC

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

· SVHC (UK)

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- **General information**

Personal protection for the First Aider!

Instantly remove any clothing soiled by the product.

· After inhalation

Supply fresh air or oxygen.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Call a doctor immediately.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Get medical advice/attention.

- · After eye contact Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.
- · After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

after inhalation:

mucosal irritations, cough, shortness of breath

after swallowing:

sickness

vomiting

gastric or intestinal trouble

drop in blood pressure

functional disturbances to the kidneys / kidney damage

· Danger

Danger of pulmonary oedema.

Danger of system failure.

4.3 Indication of any immediate medical attention and special treatment needed:

If swallowed or in case of vomiting, danger of entering the lungs

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- 5.2 Special hazards arising from the substance or mixture

The product is not combustible.

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Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Sulphur oxides (SOx)

smoke of metal oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

· Advice for non-emergency personnel:

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

Use breathing protection against the effects of fumes/dust/aerosol.

· Advice for emergency responders: Protective equipment: see section 8

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Inform respective authorities in case product reaches water or sewage system.

Dilute with much water.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

· Advice on safe handling:

Open and handle container with care.

Work only in fume cupboard.

Hygiene measures:

Do not inhale gases / fumes / aerosols.

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Store protective clothing separately.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

· 7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers:

Store in cool location.

Keep only in original packaging.

Information about storage in one common storage facility: Store away from metals.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

- · Recommended storage temperature: 20°C +/- 5°C
- · 7.3 Specific end use(s) No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

WEL (Great Britain) | Long-term value: 0.025 mg/m³

as Cd, Carc

BOELV (European Union) Long-term value: 0.001 (0.004)* mg/m³

*until 11/7/2027

· Regulatory information

WEL (Great Britain): EH40/2020 BOELV (European Union): EU 2022/431

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

- · Additional information: The lists that were valid during the compilation were used as basis.
- · 8.2 Exposure controls
- Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7

· Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· Eye/face protection

Safety glasses

use against the effects of fumes / dust

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Other skin protection (body protection): Protective work clothing.
- Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.
- · Recommended filter device for short term use: Filter P3
- · Environmental exposure controls Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical and chemical properties
• Physical state
• Fluid

Physical state
Form:
Colour:
Odourless
Odour threshold:
Melting point/Freezing point:
Boiling point or initial boiling point and boiling range

Fluid
Solution
Colourless
Odourless
Not applicable.
Not determined.
Boiling point or initial boiling point and boiling range
Not determined.

• Flammability The product is not combustible.
• Explosive properties: Product is not explosive.

· Lower and upper explosion limit

Lower:
Upper:
Not applicable.
Flash point:
Not applicable.
Not applicable.
Not applicable.
Not applicable.

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Product name: 15% Cadmium Sulphate

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Decomposition temperature: >80°C (CAS 7790-84-3)

• **pH** Strongly acidic

Kinematic viscosity Not determined.

Solubility

· Water: Fully miscible

Partition coefficient n-octanol/water (log value) Not applicable (mixture).

Vapour pressure: Not determined.

· Density and/or relative density

Density at 20°C: ~1.28 g/cm³
 Relative density: Not determined.
 Relative gas density Not determined.
 Particle characteristics Not applicable (liquid).

· 9.2 Other information

· Information with regard to physical hazard classes

• Corrosive to metals May be corrosive to metals.

· Metals that are corroded by the substance or mixture Information on incompatible materials can be found in Sections 7 and

10.

· Other safety characteristics

· Oxidising properties: none

· Additional information

 Solids content:
 10-20 %

 Solvent content:
 0 %

 Water:
 80-90 %

SECTION 10: Stability and reactivity

· 10.1 Reactivity see section 10.3

- · 10.2 Chemical stability Stable at ambient temperature (room temperature).
- · 10.3 Possibility of hazardous reactions

Corrosive action on metals

Reacts with oxidizing agents

- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: metals
- · 10.6 Hazardous decomposition products: see section 5

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity

Classification according to calculation procedure:

Harmful if swallowed.

Fatal if inhaled.

Acute toxicity estimate (ATE _(MIX)) - Calculation method:					
Oral	CI P ATF	769 mg/kg (.)			

Inhalative CLP ATE_(MIX) 0.38 mg/l/4h (aerosol (dust, mist))

· LD/LC50 values that are relevant for classification:

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

CAS. 1190-04-3 Sulfuric acid, Caumium Sait (1.1), hydrate (3.0)				
		100 mg/kg (ATE)		
	LD50.	107 mg/kg /Cd (rat) (ECHA: in analogy to similar compounds; Cadmium chloride)		
Inhalative	LC50/4h	0.05 mg/l (ATE)		

- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Information on components: CAS 7664-93-9: chronic: dermatitis
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Germ cell mutagenicity May cause genetic defects.

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- · Carcinogenicity May cause cancer.
- · Reproductive toxicity May damage fertility. May damage the unborn child.
- STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.
- STOT (specific target organ toxicity) -repeated exposure

Causes damage to the liver, the respiratory system and the bones through prolonged or repeated exposure. Route of exposure: Inhalation.

- · Aspiration hazard Based on available data, the classification criteria are not met.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.
- · Other information

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

LC50 0.036 mg/l/48h (Daphnia magna)

(ECHA: in analogy to similar products; Cadmium chloride)

NOEC 0.008 mg/l (Brook trout)

(ECHA: in analogy to similar products; Cadmium chloride)

LC50 0.75 mg/l/96h (goldfish)

(ECHA: in analogy to similar products; Cadmium chloride)

Bacterial toxicity:

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

NOEC 0.2 mg/l /3 h (activated sludge) (OECD 209)

(ECHA: in analogy to similar products; Cadmium chloride)

12.2 Persistence and degradability

Other information:

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

- 12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.
- · 12.7 Other adverse effects Avoid transfer into the environment.
- · Water hazard:

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 07* discarded inorganic chemicals consisting of or containing hazardous substances

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

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· Recommended cleaning agent: Water, if necessary with cleaning agent.

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SECTION 14: Transport information	n en
· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3289
· 14.2 UN proper shipping name · ADR	3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (Cadmium sulfate hydrate), ENVIRONMENTALLY HAZARDOUS
·IMDG	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (Cadmium sulfate hydrate), MARINE POLLUTANT
· IATA	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (Cadmium sulfate hydrate)
· 14.3 Transport hazard class(es)	
· ADR	
· Class · Label	6.1 (TC3) Toxic substances.6.1+8
· IMDG	
· Class · Label	6.1 Toxic substances. 6.1/8
·IATA	
· Class · Label	6.1 Toxic substances. 6.1 (8)
· 14.4 Packing group	0.1 (0)
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant: · Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
14.6 Special precautions for user	Warning: Toxic substances.
Kemler Number:	68 FASB
· EMS Number: · Stowage Category	F-A,S-B B
· Stowage Code	SW2 Clear of living quarters.
 14.7 Maritime transport in bulk according t instruments 	o IMO Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ) · Excepted quantities (EQ)	100 ml Code: E4
Excepted qualitities (EW)	Maximum net quantity per inner packaging: 1 ml
· Transport category	Maximum net quantity per outer packaging: 500 ml 2
i i ali sport outsgory	-

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· Tunnel restriction code D/E

· Limited quantities (LQ) 100 ml Excepted quantities (EQ) Code: E4

Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Poisons Act UK
- Regulated explosives precursors

Products containing less than 1% of any of the reportable substances are in general of no concern:

CAS: 7664-93-9 sulphuric acid

Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148:

All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see https://ec.europa.eu

explosives precursors - ANNEX I

CAS 7664-93-9: c < 15%

CAS: 7664-93-9 sulphuric acid

Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

CAS: 7790-84-3 Sulfuric acid, cadmium salt (1:1), hydrate (3:8)

Annex I Part 1 Annex I Part 2

Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

CAS: 7664-93-9 sulphuric acid

3

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors CAS: 7664-93-9 sulphuric acid

REGULATION (EU) 2024/590 on substances that deplete the ozone layer

None of the ingredients is listed.

3

REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

- · Substances of very high concern (SVHC) according to REACH, Article 57 see item 3 SVHC
- · Substances of very high concern (SVHC) according to UK REACH see item 3 SVHC
- · Directive 2012/18/EU (SEVESO III):
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- Seveso category

H2 ACUTE TOXIC

- E1 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 23, 72

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· Information about limitation of use:

Employment restrictions concerning young persons must be observed (94/33/EC).

Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· Training hints Provide adequate information, instruction and training for operators.

· Relevant phrases

May be corrosive to metals. H290

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

Causes serious eye irritation. H319

H330 Fatal if inhaled.

H340 May cause genetic defects.

H350 May cause cancer.

H360FD May damage fertility. May damage the unborn child.

Causes damage to organs through prolonged or repeated exposure. H372

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of

Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Met. Corr.1: Corrosive to metals – Category 1

Acute Tox. 3: Acute toxicity – Category 3 Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Muta. 1B: Germ cell mutagenicity – Category 1B

Carc. 1B: Carcinogenicity – Category 1B Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 1: Specific target organ toxicity (repeated exposure) - Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1

· Sources Data arise from safety data sheets, reference works and literature.