

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 84

Revision: 17.07.2018

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

1.1 Product identifier**Product name:** COD / CSB 0-150 mg/l**Catalog number:** 424433, 2420720, 420720, 2420725, 420725**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
www.lovibond.com

phone: +49 231 94510-0
e-mail: sales@tintometer.de

Tintometer GmbH
Division AQUALYTIC®
Schleefstr. 12
44287 Dortmund
Made in Germany
www.aqualytic.de

phone: +49 231 94510-755
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The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@tintometer.com

Informing department:

e-mail: sds@tintometer.de
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. 3 H311 Toxic in contact with skin.



GHS08 health hazard

STOT RE 2 H373 May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.



GHS05 corrosion

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Met. Corr.1 H290 May be corrosive to metals.
 Skin Corr. 1A H314 Causes severe skin burns and eye damage.
 Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
 Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

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 CLP regulation.

Hazard pictograms



GHS05



GHS06



GHS08



GHS09

• **Signal word** Danger

Hazard-determining components of labelling:

sulphuric acid 82 %
 mercury sulphate

Hazard statements

H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H373 May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P310 IF exposed or concerned: Immediately call a POISON CENTER/doctor.

2.3 Other hazards

Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.
 Acid burns have to be treated immediately, as it may otherwise cause badly curing wounds.
 CAS 7783-35-9: Danger by skin resorption.

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.


SECTION 3: Composition/information on ingredients

3.2 Mixtures

• **Description:** sulfuric acid solution

Dangerous components:

The percent content of the chromium compound mentioned below refers to the amount of chromate ions dissolved in water.
 The percent content of the mercury compound mentioned below refers to the amount of the pure mercury therein.

CAS: 7664-93-9	sulphuric acid	80–90%
EINECS: 231-639-5	 Met. Corr.1, H290; Skin Corr. 1A, H314	
Index No: 016-020-00-8		
Reg.nr.: 01-2119458838-20-XXXX		

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CAS: 7783-35-9 EINECS: 231-992-5 Index No: 080-002-00-6	mercury sulphate ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.25–1%
CAS: 10294-26-5 EINECS: 233-653-7	disilver(1+) sulfate ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100)	0.25–1%
CAS: 7778-50-9 EINECS: 231-906-6 Index No: 024-002-00-6 Reg.nr.: 01-2119454792-32-XXXX	potassium dichromate ⚠ Ox. Sol. 2, H272; ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1B, H350; Repr. 1B, H360FD; STOT RE 1, H372; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312; Skin Sens. 1, H317	<0.1%

• **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; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

• After skin contact

Wash with polyethylene glycol 400 and then rinse with copious amounts of water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

• After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

• After swallowing

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

Do not induce vomiting; instantly call for medical help.

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

burns

absorption

after inhalation:

breathing difficulty

coughing

asthma attacks

damage to the affected mucous membranes

after swallowing:

metallic taste

sickness

vomiting

bloody diarrhoea

pain

strong caustic effect.

unconsciousness

methaemoglobin formation

cramps

• Danger

Danger of system failure.

Danger of gastric perforation.

Danger of pulmonary oedema.

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

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

Subsequent observation for pneumonia and pulmonary oedema

SECTION 5: Firefighting measures

• 5.1 Extinguishing media

• **Suitable extinguishing agents** CO₂, sand, extinguishing powder.

• **For safety reasons unsuitable extinguishing agents** Water.

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5.2 Special hazards arising from the substance or mixture

The product is not combustible.
 Formation of toxic gases is possible during heating or in case of fire.
 Sulphur oxides (SO_x)
 mercury vapours

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.
 Prevent material from reaching sewage system, holes and cellars.
 Inform respective authorities in case product reaches water or sewage system.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
 Use neutralising agent.
 Neutralize with diluted sodium hydroxide solution.
 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.
 Prevent formation of aerosols.

Hygiene measures:

Do not inhale gases / fumes / aerosols.
 Do not get in eyes, on skin, or on clothing.
 Take off immediately all contaminated clothing.
 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
Storage
Requirements to be met by storerooms and containers: Store in cool location.
Information about storage in one common storage facility:

Store away from metals.
 Do not store together with alkalis (caustic solutions).
 Store away from flammable substances.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.
 Store in cool, dry conditions in well sealed containers.
 Protect from heat and direct sunlight.
 Protect from the effects of light.
 Protect from humidity and keep away from water.

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This product is hygroscopic.

Store under dry conditions.

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

SECTION 8: Exposure controls/personal protection

• 8.1 Control parameters

• Components with limit values that require monitoring at the workplace:

CAS: 7664-93-9 sulphuric acid

WEL (Great Britain)	Long-term value: 0.05* mg/m ³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m ³
OEL (Sweden)	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ C, V

CAS: 7783-35-9 mercury sulphate

WEL (Great Britain)	Long-term value: 0.02 mg/m ³ as Hg
IOELV (European Union)	Long-term value: 0.02 mg/m ³ as Hg
OEL (Sweden)	Long-term value: 0.02 mg/m ³ inhalerbart damm, som Hg; B

CAS: 10294-26-5 disilver(1+) sulfate

WEL (Great Britain)	Long-term value: 0.01 mg/m ³ as Ag
OEL (Sweden)	Long-term value: 0.1 mg/m ³ som Ag, totaldamm

• Regulatory information

WEL (Great Britain): EH40/2011

IOELV (European Union): (EU) 2017/164

OEL (Sweden): AFS2015:7

- **Additional information:** IOELV = Indicative Occupational Exposure Limit

• DNELs

Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid

Inhalative	DNEL	0.1 mg/m ³ (Worker / acute / local effects)
		0.05 mg/m ³ (Worker / acute / systemic effects)

• 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.

• PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7664-93-9 sulphuric acid

PNEC	8.8 mg/l (Sewage treatment plant)
	0.00025 mg/l (Marine water)
	0.0025 mg/l (Fresh water)
PNEC	0.002 mg/kg (Marine sediment)
	0.002 mg/kg (Fresh water sediment)

• Ingredients with biological limit values:

CAS: 7783-35-9 mercury sulphate

BMGV (Great Britain)	20 µmol/mol creatinine
	Medium: urine
	Sampling time: random
	Parameter: mercury

- **Regulatory information** BMGV (Great Britain): EH40/2011

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- **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.
- **Personal protective equipment**
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Combination filter B-P2
- **Protection of hands:**
Acid resistant 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**
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.3 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.
- **Eye protection:**
Tightly sealed safety glasses.
Face protection
- **Body protection:** Acid resistant protective clothing
- **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or water bodies.
Avoid release to the environment.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Liquid
Colour:	Yellow-brown
· Odour:	Recognisable
· Odour threshold:	Not determined.
· pH-value at 20°C:	1
· Melting point/Freezing point:	Not determined
· Initial boiling point and boiling range:	> 100°C
· Flash point:	Not applicable
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product is not explosive.
· Flammability or explosive limits:	
Lower:	Not applicable
Upper:	Not applicable
· Oxidising properties:	CAS 7664-93-9 : Oxidising potential
· Vapour pressure:	Not determined.
· Density at 20°C:	1.76 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies):	
Water:	Fully miscible

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· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	Not determined.
· Solvent content:	
Organic solvents:	0 %
Water:	< 20 %
Solids content:	< 5 %
· 9.2 Other information	No further relevant information available.

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 metals forming hydrogen (--> Explosive!)
 - When diluting, always add acid to water, never vice versa
 - Diluting or dissolving in water always causes rapid heating
 - Reacts with reducing agents
 - Reacts with acids, alkalis and oxidizing agents
 - Reacts with peroxides
 - Reacts with halogenated compounds
 - Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** strong heating
- **10.5 Incompatible materials:**
 - metals
 - combustible substances
 - organic solvents
 - organic substances
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
 - Harmful if swallowed.
 - Toxic in contact with skin.

· Acute toxicity estimate (ATE_(MIX)) - Calculation method:		
Oral	CLP ATE _(MIX)	694 mg/kg (.)
Dermal	CLP ATE _(MIX)	694 mg/kg (.)
Inhalative	CLP ATE _(MIX)	6.9 mg/l/4h (aerosol)
· LD/LC50 values that are relevant for classification:		
CAS: 7664-93-9 sulphuric acid		
Oral	LD50	2140 mg/kg (rat) (IUCLID)
	LC 50	510 mg/m ³ /2h (rat) IUCLID
CAS: 7783-35-9 mercury sulphate		
Oral	LD50	5 mg/kg (ATE)
	LD50.	57 mg/kg (rat) (RTECS)
Dermal	LD50	5 mg/kg (ATE)
	LD50.	625 mg/kg (rat)
Inhalative	LC50	0.05 mg/l/4h (ATE)

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CAS: 10294-26-5 disilver(1+) sulfate		
Oral	LD50	>5000 mg/kg (rat) (OECD 401) (Registrant, ECHA)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
Risk of blindness!

Information on components:		
CAS: 10294-26-5 disilver(1+) sulfate		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: burns)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**
CAS 7783-35-9: Sensitizing effect by skin contact is possible by prolonged/repeated exposure.
CAS 7778-50-9: Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure**
May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
Mercury compounds have a cytotoxic and protoplasmatoxic effect.
The principal signs manifest themselves in the CNS.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The aerosol is corrosive to the eyes, the skin and the respiratory tract. Inhalation of aerosols may cause lung oedema.
Sulfuric acid: erosion of the teeth, cancer

SECTION 12: Ecological information

• 12.1 Toxicity

Aquatic toxicity:	
CAS: 7664-93-9 sulphuric acid	
EC50	>100 mg/l/48h (Daphnia magna) (OECD 202) (ECHA)
LC50	16–29 mg/l/96h (bluegill) (Merck)
CAS: 7783-35-9 mercury sulphate	
LC50	0.5 mg/l/48h (gold orfe)
EC50	0.005–3.6 mg/l/48h (Daphnia magna)
LC50	0.19 mg/l/96h (fathead minnow)
CAS: 10294-26-5 disilver(1+) sulfate	
EC50	0.0045 mg/l/48h (Daphnia magna) (GESTIS)
EC50	0.0049 mg/l/96h (fathead minnow)
EC10	0.00214 mg/l (Daphnia magna) (ASTM) (21d, test substance: AgNO ₃) 0.00039 mg/l (fathead minnow) (ASTM E1241-98) (28d, test substance: AgNO ₃ , result in mg/l Ag)

- **Bacterial toxicity:** sulphates toxic > 2.5 g/l
- **Other information:**
Toxic for fish:

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sulphates > 7 g/l

- **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**

BCF = Bioconcentration factor

CAS: 10294-26-5 disilver(1+) sulfate

BCF	2.5 (rainbow trout) (8d, 15°C, test substance: AgNO ₃)
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- **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 Other adverse effects**

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

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 dangerous substances
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- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN2922

- **14.2 UN proper shipping name**

- **ADR**

2922 CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE), ENVIRONMENTALLY HAZARDOUS CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE), MARINE POLLUTANT CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)

- **IMDG**

- **IATA**

- **14.3 Transport hazard class(es)**

- **ADR**



- **Class**

8 (CT1) Corrosive substances.

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· Label	8+6.1
· IMDG	
  	
· Class	8 Corrosive substances.
· Label	8/6.1
· IATA	
 	
· Class	8 Corrosive substances.
· Label	8 (6.1)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Kemler Number:	86
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 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

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.· **Seveso category** E1 Hazardous to the Aquatic Environment· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 18

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Information about limitation of use:

Observe employment restrictions for pregnant and nursing mothers according to the 'mother protection guideline' (92/85/EEC).
Employment restrictions concerning young persons must be observed.

• **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.

Relevant phrases

H272 May intensify fire; oxidiser.
H290 May be corrosive to metals.
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties 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 respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
H373 May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

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

Abbreviations and acronyms:

EC50: effective concentration, 50 percent (in vivo)
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 européen sur le transport 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
DOT: US Department of Transportation
IATA: International Air Transport Association
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
Ox. Sol. 2: Oxidizing solids – Category 2
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 1: Acute toxicity – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
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
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
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.
ECHA: European Chemicals Agency <http://echa.europa.eu>

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Safety data sheet

according to 1907/2006/EC, Article 31

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IUCLID (International Uniform Chemical Information Database)
GESTIS- Stoffdatenbank (Substance Database, Germany)
RTECS (Registry of Toxic Effects of Chemical Substances)
International Chemical Safety Cards (ICSCs)

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