

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

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

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

##### 1.1 Product identifier

Product name: COD / CSB Mercury Free, 0-1500 mg/l

Catalog number: 420711, 420716, 2420711, 2420716

##### 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  
e-mail: sales@aqualytic.de

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: produktsicherheit@tintometer.de  
Product Safety Department

##### 1.4 Emergency telephone number:

Poison Center Berlin, Germany  
phone: 0049 30 30686 790  
Languages: English and German

#### SECTION 2: Hazards identification

##### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 1B                      H340 May cause genetic defects.  
Carc. 1B                      H350 May cause cancer.



GHS05 corrosion

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.

(Contd. on page 2)

GB

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## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 1)



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

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

### 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



GHS08



GHS09

**Signal word** Danger

### Hazard-determining components of labelling:

sulphuric acid 82 %

potassium dichromate

### Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H340 May cause genetic defects.

H350 May cause cancer.

H410 Very toxic to aquatic life with long lasting effects.

### Precautionary statements

P260 Do not breathe dusts or mists.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.

P405 Store locked up.

### Additional information:

EUH208 Contains potassium dichromate. May produce an allergic reaction.

Restricted to professional users.

### 2.3 Other hazards

Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

Acid burns have to treated immediately, as it may otherwise cause badly curing wounds.

### 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.

|   |   |           |
|---|---|-----------|
| CAS: 7664-93-9<br>EINECS: 231-639-5<br>Index No: 016-020-00-8<br>Reg.nr.: 01-2119458838-20-XXXX | sulphuric acid<br>Met. Corr. 1, H290; Skin Corr. 1A, H314   | 80-90%    |
| CAS: 10294-26-5<br>EINECS: 233-653-7  | disilver(1+) sulphate<br>Eye Dam. 1, H318; Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100)   | 0.1-1.0%  |
| CAS: 7778-50-9<br>EINECS: 231-906-6<br>Index No: 024-002-00-6<br>Reg.nr.: 01-2119454792-32-XXXX | potassium dichromate<br>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-<0.3% |

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 2)

**· SVHC**

CAS: 7778-50-9 | potassium dichromate

**· 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:

coughing

breathing difficulty

asthma attacks

damage to the affected mucous membranes

after swallowing:

sickness

vomiting

diarrhoea

irritations

pain

strong caustic effect.

methaemoglobinaemia

unconsciousness

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** CO<sub>2</sub>, sand, extinguishing powder.

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

**· 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.

Can be released in case of fire:

Sulphur oxides (SO<sub>x</sub>)

chromium trioxide

Dipotassium oxide

(Contd. on page 4)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 3)

### · 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.

### · 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.

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

#### · 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.

This product is hygroscopic.

Store under dry conditions.

#### · Recommended storage temperature: 20°C +/- 5°C

(Contd. on page 5)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 4)

 · **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 <sup>3</sup><br>*mist: defined as thoracic fraction           |
| IOELV (European Union) | Long-term value: 0.05 mg/m <sup>3</sup>   |
| OEL (Sweden)           | Short-term value: 0.2 mg/m <sup>3</sup><br>Long-term value: 0.1 mg/m <sup>3</sup><br>C, V |

**CAS: 10294-26-5 disilver(1+) sulphate**

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

**CAS: 7778-50-9 potassium dichromate**

|                     |  |
|---------------------|--|
| WEL (Great Britain) | Long-term value: 0.05 mg/m <sup>3</sup><br>as Cr; Carc, Sen, BMGV  |
| OEL (Sweden)        | Short-term value: 0.015 mg/m <sup>3</sup><br>Long-term value: 0.005 mg/m <sup>3</sup><br>totaldamm; C,S,V; som Cr; |

 · **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**
**CAS: 7664-93-9 sulphuric acid**

|            |      |  |
|------------|------|--|
| Inhalative | DNEL | 0.1 mg/m <sup>3</sup> (Worker / acute / local effects)     |
|            |      | 0.05 mg/m <sup>3</sup> (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**
**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: 7778-50-9 potassium dichromate**

|                      |   |
|----------------------|---|
| BMGV (Great Britain) | 10 µmol/mol creatinine<br>Medium: urine<br>Sampling time: post shift<br>Parameter: chromium |
|----------------------|---|

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

 · **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.

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 5)

**Personal protective equipment**
**Breathing equipment:**

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

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

**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

Fluorocarbon rubber (Viton)

nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.3$  mm
**Penetration time of glove material**

Value for the permeation: Level = 1 ( &lt; 10 min )

The exact break through 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:** 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:**

&lt; 1

**Melting point/Freezing point:**

Not determined

**Initial boiling point and boiling range:** < 100 °C

**Flash point:**

Not applicable

**Flammability (solid, gas):**

Not applicable.

**Ignition temperature:**

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:**

Oxidising potential

**Vapour pressure:**

Not determined.

**Density at 20 °C:**
1.76 g/cm<sup>3</sup>
**Relative density:**

Not determined.

**Vapour density:**

Not determined.

**Evaporation rate:**

Not determined.

**Solubility(ies):**
**Water:**

Fully miscible

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

Not determined.

(Contd. on page 7)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 6)

|                                |  |
|--------------------------------|--|
| · <b>Solvent content:</b>      |  |
| <b>Organic solvents:</b>       | 0.0 %                                      |
| <b>Water:</b>                  | < 20 %                                     |
| <b>Solids content:</b>         | < 5 %                                      |
| · <b>9.2 Other information</b> | 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
- **10.4 Conditions to avoid** strong heating
- **10.5 Incompatible materials:**
  - metals
  - organic substances
  - Ammonia (NH<sub>3</sub>)
  - alkali compounds
  - alkalis
  - acids
  - halogen compounds
  - combustible substances
  - organic solvents
  - nitriles
  - peroxides
  - reducing agents
  - oxidizing agents
- **10.6 Hazardous decomposition products:**
  - Sulphur oxides (SO<sub>x</sub>)
  - see section 5

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:**
  - The following statements refer to the individual components.

|  |          |   |
|--|----------|---|
| <b>CAS: 7664-93-9 sulphuric acid</b>         |          |   |
| Oral   | LD50     | 2140 mg/kg (rat)<br>(IUCLID)  |
|  | LC 50    | 510 mg/m <sup>3</sup> /2h (rat)<br>IUCLID   |
| <b>CAS: 10294-26-5 disilver(1+) sulphate</b> |          |   |
| Oral   | LD50     | >5000 mg/kg (rat) (OECD 401)<br>(Registrant, ECHA)  |
| <b>CAS: 7778-50-9 potassium dichromate</b>   |          |   |
| Oral   | LD50     | 90.5 mg/kg (rat) (OECD 401)<br>(ECHA, registrant: LD50 = 90.5 mg/kg female to 168.0 mg/kg male) |
|  | LDLo     | 26 mg/kg (child)<br>143 mg/kg (man)   |
| Dermal                                       | LD50     | 1170 mg/kg (rat)<br>(IUCLID)  |
| Inhalative                                   | LC50     | 0.094 mg/l/4h (rat) (OECD 403, Aerosol)   |
|  | LD50 IPR | 28 mg/kg (rat)  |

(Contd. on page 8)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 7)

- **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+) sulphate**

|                    |          |                         |
|--------------------|----------|-------------------------|
| Irritation of skin | OECD 404 | (rabbit: no irritation) |
| Irritation of eyes | OECD 405 | (rabbit: burns)         |

**CAS: 7778-50-9 potassium dichromate**

|                    |          |                      |
|--------------------|----------|----------------------|
| Irritation of skin | OECD 404 | (rabbit: irritation) |
|--------------------|----------|----------------------|

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Information on components:**  
CAS 7778-50-9: Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.

**CAS: 7778-50-9 potassium dichromate**

|               |                    |                        |
|---------------|--------------------|------------------------|
| Sensitisation | Patch test (human) | (positive)<br>(IUCIID) |
|---------------|--------------------|------------------------|

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Germ cell mutagenicity**  
May cause genetic defects.
- **Carcinogenicity**  
May cause cancer.
- **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** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**  
Inhalable chromium (VI) compounds have clearly shown themselves to be carcinogenic in animal experiments.  
Poor tendency for ulcers to heal following penetration of substance into the wound.  
Lethal dose (man): 0.5 g  
Antidotes: chelating agents such as EDTA, DMPS  
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
- **Experience with humans:**  
CAS 7778-50-9: Can cause liver damages.  
CAS 7778-50-9: Can cause kidney damages.  
CAS 7778-50-9: May cause lung damages.  
CAS 7778-50-9: Can cause cardiac damages.

## SECTION 12: Ecological information

**12.1 Toxicity**
**Aquatic toxicity:**
**CAS: 7664-93-9 sulphuric acid**

|      |  |
|------|--|
| EC50 | >100 mg/l/48h (Daphnia magna) (OECD 202)<br>(ECHA) |
| LC50 | 16–29 mg/l/96h (bluegill)<br>(Merck)               |

**CAS: 10294-26-5 disilver(1+) sulphate**

|      |  |
|------|--|
| EC50 | 0.0045 mg/l/48h (Daphnia magna)<br>(GESTIS)                                      |
| EC50 | 0.0049 mg/l/96h (fathead minnow)   |
| EC10 | 0.00214 mg/l (Daphnia magna) (ASTM)<br>(21d, test substance: AgNO <sub>3</sub> ) |

(Contd. on page 9)

GB



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 8)

|  |  |
|--|--|
|  | 0.00039 mg/l (fathhead minnow) (ASTM E1241-98)<br>(28d, test substance: AgNO <sub>3</sub> , result in mg/l Ag)                 |
| <b>CAS: 7778-50-9 potassium dichromate</b> |  |
| EC50                                       | 0.62 mg/l/48h (Daphnia magna) (OECD 202)<br>(Merck)  |
| NOEC                                       | 0.016–0.064 mg/l (Daphnia magna) (7d)<br>6 mg/l (fathhead minnow) (7d)   |
| IC50                                       | 0.16–0.59 mg/l/96 h (Chlorella vulgaris)<br>(IUCLID)   |
| EC50                                       | 0.31 mg/l/72 h (Desmodemus subspicatus)  |
| LC50                                       | 58.5 mg/l/96h (byr)<br>0.131 mg/l/96h (bluegill)<br>160 mg/l/96h (guppy)<br>26.13 mg/l/96h (fathhead minnow)<br>(Merck/IUCLID) |

**Bacterial toxicity:****CAS: 7778-50-9 potassium dichromate**

EC50 58 mg/l (Photobacterium phosphoreum) (30 min; Microtox-Test)

**Other information:**

Toxic for fish:

sulphates &gt; 7 g/l

**12.2 Persistence and degradability** No further relevant information available.**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+) sulphate**BCF 2.5 (rainbow trout)  
(8d, 15°C, test substance: AgNO<sub>3</sub>)**CAS: 7778-50-9 potassium dichromate**

BCF 17.4 (rainbow trout)

**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**

Forms corrosive mixtures with water even if diluted.

Harmful effect due to pH shift.

Neutralisation possible in waste water treatment plants.

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

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

(Contd. on page 10)

— GB —

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5






Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 9)

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

### SECTION 14: Transport information

|  |   |
|--|---|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>  | UN1830  |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br>· <b>IMDG</b><br>· <b>IATA</b>  | 1830 SULPHURIC ACID, ENVIRONMENTALLY HAZARDOUS<br>SULPHURIC ACID, MARINE POLLUTANT<br>SULPHURIC ACID                                |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR</b>   |   |
|                  |   |
| · <b>Class</b><br>· <b>Label</b>   | 8 (C1) Corrosive substances.<br>8   |
| · <b>IMDG</b>  |   |
|                |   |
| · <b>Class</b><br>· <b>Label</b>   | 8 Corrosive substances.<br>8  |
| · <b>IATA</b>  |   |
|   |   |
| · <b>Class</b><br>· <b>Label</b>   | 8 Corrosive substances.<br>8  |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>  | II  |
| · <b>14.5 Environmental hazards:</b><br>· <b>Marine pollutant:</b><br>· <b>Special marking (ADR):</b>  | Product contains environmentally hazardous substances:<br>disilver(1+) sulphate<br>Symbol (fish and tree)<br>Symbol (fish and tree) |
| · <b>14.6 Special precautions for user</b><br>· <b>Kemler Number:</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b> | Warning: Corrosive substances.<br>80<br>F-A,S-B<br>Acids<br>E<br>SW15 For metal drums, stowage category B.                          |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>   | Not applicable.   |
| · <b>Transport/Additional information:</b>   |   |
| · <b>ADR</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>  | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml               |
| · <b>Transport category</b><br>· <b>Tunnel restriction code</b>  | 2<br>E  |

(Contd. on page 11)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 09.01.2018

Version number 5

Revision: 09.01.2018

**Product name: COD / CSB Mercury Free, 0-1500 mg/l**

(Contd. of page 10)

|                                   |  |
|-----------------------------------|--|
| · <b>IMDG</b>                     |  |
| · <b>Limited quantities (LQ)</b>  | 1L   |
| · <b>Excepted quantities (EQ)</b> | 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 689/2008 concerning the export and import of dangerous chemicals:

None of the ingredients is listed.

##### · 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.

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

##### · LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

CAS: 7778-50-9 | potassium dichromate

##### · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 28, 47

##### · 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.  |
| H301   | Toxic if swallowed.  |
| 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 organs through prolonged or repeated exposure.            |
| 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:

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

(Contd. on page 12)

GB

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Revision: 09.01.2018

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**Product name: COD / CSB Mercury Free, 0-1500 mg/l**


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(Contd. of page 11)

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

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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

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

Ox. Sol. 2: Oxidizing solids – Category 2

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

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

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.

GESTIS- Stoffdatenbank (Substance Database, Germany)

IUCLID (International Uniform Chemical Information Database)

· \* Data compared to the previous version altered.