# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

## 1 Identification

· **Product identifier**

· **Trade name: COD / CSB VLR 2-60 mg/l**

· **Catalogue number:** 424993, 2423100, 423100-0

· **Application of the substance / the mixture:** Reagent for water analysis

· **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany

· **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS06 Skull and crossbones

| | |
|---|---|
| Acute Toxicity - Dermal 3 | H311 Toxic in contact with skin. |

GHS08 Health hazard

| | |
|---|---|
| Specific Target Organ Toxicity - Repeated Exposure 2 | H373 May cause damage to organs through prolonged or repeated exposure. |

GHS05 Corrosion

| | |
|---|---|
| Corrosive to Metals 1 | H290 May be corrosive to metals. |
| Skin Corrosion 1A | H314 Causes severe skin burns and eye damage. |
| Eye Damage 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 Toxicity - Oral 4 | H302 Harmful if swallowed. |
| Acute Toxicity - Inhalation 4 | H332 Harmful if inhaled. |

· **Label elements**

· **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).

(Contd. on page 2)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 1)

· **Hazard pictograms**

GHS05 GHS06 GHS08 GHS09

· **Signal word** Danger
· **Hazard-determining components of labeling:**
sulphuric acid 87 %
mercury sulphate
· **Hazard statements**
H290 May be corrosive to metals.
H302+H332 Harmful if swallowed or if inhaled.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
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.
· **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.
P405 Store locked up.

· **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.
CAS 7783-35-9: Danger through skin absorption.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** sulfuric acid solution
· **Composition and Information on Ingredients:**
The percent content of the chromium compound mentioned below refers to the amount of the chromate ions dissolved in water.
The percent content of the mercury compound mentioned below refers to the amount of the pure mercury therein.
Cancer Status IARC: Strong inorganic acid mists containing sulphuric acid can cause cancer.
Percent ranges are used due to the confidential product information.

| | | |
|---|---|---|
| CAS: 7664-93-9<br>EINECS: 231-639-5<br>Index number: 016-020-00-8<br>RTECS: WS5600000 | sulphuric acid<br>Corrosive to Metals 1, H290; Skin Corrosion 1A, H314 | 80–90% |
| CAS: 7783-35-9<br>EINECS: 231-992-5<br>Index number: 080-002-00-6<br>RTECS: OX 0500000 | mercury sulphate<br>Acute Toxicity - Oral 2, H300; Acute Toxicity - Dermal 1, H310; Acute Toxicity - Inhalation 2, H330; Specific Target Organ Toxicity - Repeated Exposure 2, H373; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1) | 0.25–<2.5% |
| CAS: 10294-26-5<br>EINECS: 233-653-7 | disilver(1+) sulfate<br>Eye Damage 1, H318; Aquatic Acute 1, H400 (M=1000); Aquatic Chronic 1, H410 (M=100) | 0.25–<1% |
| CAS: 7778-50-9<br>EINECS: 231-906-6<br>Index number: 024-002-00-6<br>RTECS: HX 7680000 | potassium dichromate<br>Oxidizing Solids 2, H272; Acute Toxicity - Oral 3, H301; Acute Toxicity - Inhalation 2, H330; Sensitization - Respiratory 1, H334; Germ Cell Mutagenicity 1B, H340; Carcinogenicity 1B, H350; Toxic to Reproduction 1B, H360; Specific Target Organ Toxicity - Repeated Exposure 1, H372; Skin Corrosion 1B, H314; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1); Acute Toxicity - Dermal 4, H312; Sensitization - Skin 1, H317 | <0.1% |

(Contd. on page 3)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 2)

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

## 4 First-aid measures

· **Description of first aid measures**
· **General information:**
Personal protection for the First Aider.
Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness remove to fresh air, apply artificial respiration, and consult a physician.
· **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; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed**
burns
allergic reactions
resorption
after inhalation:
coughing
breathing difficulty
asthma attacks
damage to the affected mucous membranes
after swallowing:
strong caustic effect
sickness
vomiting
bloody diarrhoea
pain
cramps
after resorption:
cardiovascular disorders
unconsciousness
CNS disorders
methaemoglobin formation
· **Danger:**
Danger of circulatory collapse.
Danger of gastric perforation.
Danger of pulmonary edema.
· **Indication of any immediate medical attention and special treatment needed:**
If swallowed or in case of vomiting, danger of entering the lungs.
Later observation for pneumonia and pulmonary edema.
Symptoms of poisoning may even occur after several hours.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
$CO_2$, sand, extinguishing powder.
Water spray
· **For safety reasons unsuitable extinguishing agents:**
Water with full jet
--> exothermic reaction.
· **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.
Sulfur oxides (SOx)

(Contd. on page 4)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 3)

mercury vapours
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

## 6 Accidental release measures

· **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 respiratory protective device against the effects of fume/dust/aerosol.
· **Advice for emergency responders:** Protective equipment: see section 8

· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Use neutralizing agent.
Neutralize with diluted sodium hydroxide solution.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

· **Precautions for safe handling**
· **Advice on safe handling:**
Open and handle receptacle with care.
Work only in fume cabinet.
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 before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:** Store in a 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 locked up or with access restricted to technical experts or their assistants.
Ensure that persons do not handle until all safety precautions have been read and understood.
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
Protect from exposure to the light.
Protect from humidity and water.
· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

(Contd. on page 5)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)



(Contd. of page 4)

· **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

| | |
|---|---|
| **CAS: 7664-93-9 sulphuric acid** | |
| PEL (USA) | Long-term value: 1 mg/m³ |
| REL (USA) | Long-term value: 1 mg/m³ |
| TLV (USA) | Long-term value: 0.2* mg/m³<br>*as thoracic fraction, A2 |
| EL (Canada) | Long-term value: 0.2 mg/m³<br>thoracic, ACGIH A2; IARC 1 |
| EV (Canada) | Long-term value: 0.2 mg/m³ |
| **CAS: 7783-35-9 mercury sulphate** | |
| PEL (USA) | Long-term value: 0.1 mg/m³<br>as Hg; see OSHA standard interpretation memo |
| REL (USA) | Long-term value: 0.05* mg/m³<br>Ceiling limit value: 0.1 mg/m³<br>as Hg; *Vapor; Skin |
| TLV (USA) | Long-term value: 0.025 mg/m³<br>as Hg; A4; Skin; BEI |
| EL (Canada) | Long-term value: 0.025 mg/m³<br>as Hg; Skin, R |
| **CAS: 10294-26-5 disilver(1+) sulfate** | |
| EL (Canada) | Short-term value: 0.03 mg/m³<br>Long-term value: 0.01 mg/m³<br>as Ag |

| | |
|---|---|
| · **Ingredients with biological limit values:** | |
| **CAS: 7783-35-9 mercury sulphate** | |
| BEI (USA) | 20 µg/g creatinine<br>Medium: urine<br>Time: prior to shift<br>Parameter: Mercury |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **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 respiratory protective device against the effects of fume/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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**
Tightly sealed goggles
Face protection
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
· **Body protection:** Acid resistant protective clothing

(Contd. on page 6)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)



(Contd. of page 5)

· **Limitation and supervision of exposure into the environment:**
Avoid release to the environment.
Do not allow product to reach sewage system or any water course.

* 
## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **Appearance:** | |
| · **Form / Physical state:** | Solution |
| · **Color:** | Yellow |
| · **Odor:** | Recognizable |
| · **Odor threshold:** | Not determined. |
| · **pH-value at 20°C (68°F):** | <1<br>Strongly acidic |
| · **Melting point/freezing point:** | Not determined. |
| · **Initial boiling point and boiling range:** | >100°C (>212°F) |
| · **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. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Flammability or explosive limits:** | |
| · **Lower:** | Not applicable. |
| · **Upper:** | Not applicable. |
| · **Oxidizing properties:** | CAS 7664-93-9 :<br>Oxidizing potential |
| · **Vapor Pressure:** | Not determined. |
| · **Density at 20°C (68°F):** | 1.82 g/cm³ (15.19 lbs/gal) |
| · **Relative density:** | Not determined. |
| · **Vapor density:** | Not determined. |
| · **Evaporation rate:** | Not determined. |
| · **Solubility(ies)** | |
| · **Water:** | Fully miscible. |
| · **Partition coefficient (n-octanol/water):** | Not applicable (mixture). |
| · **Viscosity:** | |
| · **Kinematic:** | Not determined. |
| · **Other information** | |
| · **Solids content:** | < 5 % |
| · **Solvent content:** | |
| · **Organic solvents:** | 0 % |
| · **Water:** | < 20 % |

## 10 Stability and reactivity

· **Reactivity** see section "Possibility of hazardous reactions"
· **Chemical stability** Stable at ambient temperature (room temperature).
· **Possibility of hazardous reactions**
Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)
Corrosive action on metals.
When diluting, always add acid to water, never vice versa.
Diluting or dissolving in water always causes rapid heating.
Reacts with acids, alkalis and oxidizing agents.
Reacts with reducing agents.
Reacts with peroxides.
Reacts with halogenated compounds.
Reacts with ammonia ($NH_3$).
· **Conditions to avoid** strong heating
· **Incompatible materials:**
metals
combustible materials

(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)



(Contd. of page 6)

organic solvents
organic substances
· **Hazardous decomposition products:** see section 5

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:** Classification according to calculation procedure.

| · **Acute toxicity estimate ($ATE_{(MIX)}$) - Calculation method:** | | |
|---|---|---|
| Oral | GHS $ATE_{(MIX)}$ | 414 mg/kg (.) |
| Dermal | GHS $ATE_{(MIX)}$ | 497 mg/kg (.) |
| Inhalative | GHS $ATE_{(MIX)}$ | 5 mg/l/4h (aerosol (dust, mist)) |

| · **LD/LC50 values that are relevant for classification:** | | |
|---|---|---|
| **CAS: 7664-93-9 sulphuric acid** | | |
| Oral | LD50 | 2140 mg/kg (rat)<br>(IUCLID) |
| Inhalative | LC 50 | 510 mg/m³/2h (rat)<br>IUCLID |
| **CAS: 7783-35-9 mercury sulphate** | | |
| Oral | LD50 | 5 mg/kg (ATE) |
| | LD50. | 57 mg/kg (rat)<br>(RTECS) |
| Dermal | LD50 | 5 mg/kg (ATE) |
| | LD50. | 625 mg/kg (rat) |
| Inhalative | LC50/4h | 0.05 mg/l (ATE) |
| **CAS: 10294-26-5 disilver(1+) sulfate** | | |
| Oral | LD50 | >5000 mg/kg (rat) (OECD 401)<br>(Registrant, ECHA) |

· **Primary irritant effect:**

· **on the skin:** Causes severe skin burns.
· **on the eye:**
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) |

· **Sensitization:** Based on available data, the classification criteria are not met.
· **Information on components:**
CAS 7783-35-9: Sensitizing effect by skin contact is possible with prolonged exposure.
CAS 7778-50-9: Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.

· **Carcinogenic categories**

| · **IARC (International Agency for Research on Cancer)** | | |
|---|---|---|
| CAS: 7664-93-9 | sulphuric acid | 1 |
| CAS: 7783-35-9 | mercury sulphate | 3 |
| CAS: 7778-50-9 | potassium dichromate | 1 |

| · **NTP (National Toxicology Program)** | | |
|---|---|---|
| CAS: 7664-93-9 | sulphuric acid | K |
| CAS: 7778-50-9 | potassium dichromate | K |

| · **OSHA-Ca (Occupational Safety & Health Administration)** |
|---|
| None of the ingredients is listed. |

· **Other information:**
see section 8 / 15
Cancer Status of Sulfuric acid: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists

(Contd. on page 8)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)



(Contd. of page 7)

containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.
A2 (Suspected for humans) by ACGIH

· **Synergistic Products:** None

· **CMR effects (carcinogenity, 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 organs through prolonged or repeated exposure.

· **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.

| **CAS: 7664-93-9 sulphuric acid** |
|---|
| . (source: GESTIS)<br>Main toxic effects<br>Acute: Irritation up to chemical burns to the mucous membranes and skin, danger of serious damage to the eyes and lungs<br>Chronic: Irritation to the eyes and airways, erosion of the teeth, damage to the skin<br><br>Further Information:<br>Concentrated S. differs considerably from dilute Sulfuric acid with regard to chemical properties and effects.<br>With increased dilution Sulfuric acid acts less aggressively. |
| **CAS: 7783-35-9 mercury sulphate** |
| . (source: GESTIS)<br>Main toxic effects:<br>acute: irritant to corrosive effect on mucous membranes and skin, skin-sensitizing potential, damage to the airways and lungs, gastrointestinal complaints, circulatory disorders, kidney dysfunction<br>chronic: skin and mucous membrane damage, kidney damage<br><br>STOT: the use of mercury nitrate in ointments as an antiparasitic ingredient and experiments on rats (repeated high oral doses) have shown that the kidneys are the most sensitive target organ. |

· **Other information** Other dangerous properties can not be excluded.

## 12 Ecological information

· **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: 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 (fathhead minnow) |
| **CAS: 10294-26-5 disilver(1+) sulfate** | |
| EC50 | 0.00022 mg/l/48h (Daphnia magna)<br>(ECHA) |
| EC10 | 0.00214 mg/l (Daphnia magna) (ASTM)<br>( ECHA: 21d, test substance: $AgNO_3$) |

(Contd. on page 9)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 8)

| | |
|---|---|
| | 0.00017 mg/l (rainbow trout)<br>ECHA |
| | 0.00039 mg/l (fathhead minnow) (ASTM E1241-98)<br>(28d, test substance: $AgNO_3$, result in mg/l Ag) |
| | 0.00041 mg/l /24h (Pseudokirchneriella subcapitata)<br>ECHA |
| LC50 | 0.0012 mg/l/96h (fathhead minnow)<br>US-EPA |

· **Bacterial toxicity:** sulfates toxic > 2.5 g/l
· **Other information:**
Toxic for fish:
sulfates > 7 g/l
· **Persistence and degradability** .
· **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
· **Bioaccumulative potential** .
· **Mobility in soil** No further relevant information available.
· **Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Avoid transfer into the environment.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **DOT, IMDG, IATA** | UN2922 |
| · **UN proper shipping name** | |
| · **DOT** | Corrosive liquids, toxic, n.o.s. (Sulfuric acid, Mercury sulfates) |
| · **IMDG** | CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, disilver(1+) sulfate), MARINE POLLUTANT |
| · **IATA** | CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID) |
| · **Transport hazard class(es)** | |
| · **DOT** | |


| | |
|---|---|
| · **Class** | 8 Corrosive substances |
| · **Label** | 8, 6.1 |
| · **IMDG** | |


| | |
|---|---|
| · **Class** | 8 Corrosive substances |

(Contd. on page 10)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 9)

| | |
|---|---|
| · **Label** | 8/6.1 |
| · **IATA** | |
|  | |
| · **Class** | 8 Corrosive substances |
| · **Label** | 8 (6.1) |
| · **Packing group** | |
| · **DOT, IMDG, IATA** | II |
| · **Environmental hazards:** | Product contains environmentally hazardous substances: mercury sulphate |
| · **Marine pollutant:** | Yes<br>Symbol (fish and tree) |
| · **Special precautions for user** | Warning: Corrosive substances |
| · **Hazard identification number (Kemler code):** | 86 |
| · **EMS Number:** | F-A,S-B |
| · **Segregation groups** | (SGG1a) Strong acids, (SGG7) heavy metals and their salts (including their organometallic compounds), (SGG11) mercury and mercury compounds |
| · **Stowage Category** | B |
| · **Stowage Code** | SW2 Clear of living quarters. |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| · **Transport/Additional information:** | |
| · **DOT** | |
| · **Quantity limitations** | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 30 L |
| · **IMDG** | |
| · **Limited quantities (LQ)** | 1L |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |

## 15 Regulatory information

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

| · **Section 355 (Extremely hazardous substances):** | |
|---|---|
| CAS: 7664-93-9 | sulphuric acid |
| CAS: 7783-35-9 | mercury sulphate |

| · **Section 313 (Specific toxic chemical listings):** | |
|---|---|
| CAS: 7664-93-9 | sulphuric acid |
| CAS: 7783-35-9 | mercury sulphate |
| CAS: 10294-26-5 | disilver(1+) sulfate |

| · **TSCA (Toxic Substances Control Act):** |
|---|
| All components have the value ACTIVE. |

| · **Hazardous Air Pollutants** | |
|---|---|
| CAS: 7778-50-9 | potassium dichromate |

· **Proposition 65**

| · **Chemicals known to cause cancer:** | |
|---|---|
| CAS: 7778-50-9 | potassium dichromate |

(Contd. on page 11)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)

Printing date 09/01/2022 Reviewed on 09/01/2022

**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 10)

| · **Chemicals known to cause reproductive toxicity for females:** | |
|---|---|
| CAS: 7778-50-9 | potassium dichromate |

| · **Chemicals known to cause reproductive toxicity for males:** | |
|---|---|
| CAS: 7778-50-9 | potassium dichromate |

| · **Chemicals known to cause developmental toxicity:** | |
|---|---|
| CAS: 7783-35-9 | mercury sulphate |
| CAS: 7778-50-9 | potassium dichromate |

| · **New Jersey Right-to-Know List:** | |
|---|---|
| CAS: 7664-93-9 | sulphuric acid |
| CAS: 7783-35-9 | mercury sulphate |
| CAS: 7778-50-9 | potassium dichromate |

| · **New Jersey Special Hazardous Substance List:** | | |
|---|---|---|
| CAS: 7664-93-9 | sulphuric acid | CA, CO, R2 |
| CAS: 7778-50-9 | potassium dichromate | CA, MU |

| · **Pennsylvania Right-to-Know List:** | |
|---|---|
| CAS: 7664-93-9 | sulphuric acid |
| CAS: 7783-35-9 | mercury sulphate |
| CAS: 7778-50-9 | potassium dichromate |

| · **Pennsylvania Special Hazardous Substance List:** | | |
|---|---|---|
| CAS: 7664-93-9 | sulphuric acid | E |
| CAS: 7783-35-9 | mercury sulphate | E |
| CAS: 7778-50-9 | potassium dichromate | E |

| · **EPA (Environmental Protection Agency)** | | |
|---|---|---|
| CAS: 7783-35-9 | mercury sulphate | D |
| CAS: 7778-50-9 | potassium dichromate | A(inh), D(oral), K/L(inh), CBD(oral) |

| · **NIOSH-Ca (National Institute for Occupational Safety and Health)** | |
|---|---|
| CAS: 7778-50-9 | potassium dichromate |

· **Information about limitation of use:**
Observe national regulations where applicable:
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

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

## 16 Other information

This information is based on our present knowledge. However, this 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; oxidizer.
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.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
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.

(Contd. on page 12)

# Safety Data Sheet
## acc. to OSHA HCS (HazCom 2012)



**Trade name: COD / CSB VLR 2-60 mg/l**

(Contd. of page 11)

· **Date of preparation / last revision** 09/01/2022 / 1

· **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: hallf maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ACGIH® - American Conference of Governmental Industrial Hygienists
•A1 - Confirmed human carcinogen
•A2 - Suspected human carcinogen
•A3 - Confirmed animal carcinogen with unknown relevance to humans
•A4 - Not classifiable as a human carcinogen
•A5 - Not suspected as a human carcinogen
IARC - International Agency for Research on Cancer
•Group 1 - Carcinogenic to humans
•Group 2A - Probably carcinogenic to humans
•Group 2B - Possibly carcinogenic to humans
•Group 3 - Not classifiable as to carcinogenicity to humans
•Group 4 - Probably not carcinogenic to humans
NTP - National Toxicology Program, U.S. Department of Health and Human Services
•Group K - Known to be Human Carcinogens
•Group R - Reasonably Anticipated to be Human Carcinogens
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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Oxidizing Solids 2: Oxidizing solids – Category 2
Corrosive to Metals 1: Corrosive to metals – Category 1
Acute Toxicity - Oral 2: Acute toxicity – Category 2
Acute Toxicity - Oral 3: Acute toxicity – Category 3
Acute Toxicity - Dermal 1: Acute toxicity – Category 1
Acute Toxicity - Dermal 4: Acute toxicity – Category 4
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
Skin Corrosion 1B: Skin corrosion/irritation – Category 1B
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Sensitization - Respiratory 1: Respiratory sensitisation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B
Carcinogenicity 1B: Carcinogenicity – Category 1B
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1
Specific Target Organ Toxicity - Repeated Exposure 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
IUCLID (International Uniform Chemical Information Database)
GESTIS- Stoffdatenbank (Substance Database, Germany)
RTECS (Registry of Toxic Effects of Chemical Substances )
International Chemical Safety Cards (ICSCs)

· *** Data compared to the previous version altered.**