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

Printing date 10/24/2022 Reviewed on 10/24/2022

1 Identification

· **Product identifier**

· **Trade name: COD / CSB 0-15000 mg/l**

· **Catalogue number:** 424438, 2420722, 420722, 2420727, 420727

· **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

Sensitization - Respiratory 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ Cell Mutagenicity 1B	H340 May cause genetic defects.
Carcinogenicity 1B	H350 May cause cancer.
Toxic to Reproduction 1B	H360 May damage fertility or the unborn child.
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.

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Sensitization - Skin 1 H317 May cause an allergic skin reaction.

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

GHS05 GHS06 GHS08 GHS09

· **Signal word** Danger
· **Hazard-determining components of labeling:**
sulphuric acid 61 %
mercury sulphate
potassium dichromate
· **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.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
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 EINECS: 231-639-5 Index number: 016-020-00-8 RTECS: WS5600000	sulphuric acid Corrosive to Metals 1, H290; Skin Corrosion 1A, H314	60–70%
CAS: 7783-35-9 EINECS: 231-992-5 Index number: 080-002-00-6 RTECS: OX 0500000	mercury sulphate 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–<1%
CAS: 10294-26-5 EINECS: 233-653-7	disilver(1+) sulfate Eye Damage 1, H318; Aquatic Acute 1, H400 (M=1000); Aquatic Chronic 1, H410 (M=100)	0.25–<1%

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CAS: 7778-50-9 EINECS: 231-906-6 Index number: 024-002-00-6 RTECS: HX 7680000	potassium dichromate 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–<0.3%

· **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.
risk of skin sensitization
risk of airways sensitization
· **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.

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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.
In case of fire, the following can be released:
Sulfur oxides (SOx)
mercury vapours
chromium oxides
Potassium oxide
· **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.
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.
Prevent formation of aerosols.
Work only in fume cabinet.
· **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 before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

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· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Keep only in original container.
· **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)

· **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:**	
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 *as thoracic fraction, A2
EL (Canada)	Long-term value: 0.2 mg/m³ 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 as Hg; see OSHA standard interpretation memo
REL (USA)	Long-term value: 0.05* mg/m³ Ceiling limit value: 0.1 mg/m³ as Hg; *Vapor; Skin
TLV (USA)	Long-term value: 0.025 mg/m³ as Hg; A4; Skin; BEI
EL (Canada)	Long-term value: 0.025 mg/m³ as Hg; Skin, R
CAS: 10294-26-5 disilver(1+) sulfate	
EL (Canada)	Short-term value: 0.03 mg/m³ Long-term value: 0.01 mg/m³ as Ag
CAS: 7778-50-9 potassium dichromate	
PEL (USA)	Long-term value: 0.005* mg/m³ Ceiling limit value: 0.1** mg/m³ *as Cr(VI) **as CrO3; see 29 CFR 1910.1026
REL (USA)	Long-term value: 0.0002 mg/m³ as Cr; See Pocket Guide Apps. A and C
TLV (USA)	Short-term value: 0.0005 mg/m³ Long-term value: 0.0002 mg/m³ as Cr(VI); inhalable, Skin; BEI, DSEN, RSEN
EL (Canada)	Long-term value: 0.025 mg/m³ Ceiling limit value: 0.1 mg/m³ as Cr; ACGIH A1, IARC 1; Skin; S(D), S(R)

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· **Ingredients with biological limit values:**

CAS: 7783-35-9 mercury sulphate	
BEI (USA)	20 µg/g creatinine Medium: urine Time: prior to shift Parameter: Mercury
CAS: 7778-50-9 potassium dichromate	
BEI (USA)	25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume) 10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (fume)

· **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:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device 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
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

· **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-brown
· **Odor:**	Recognizable
· **Odor threshold:**	Not determined.
· **pH-value at 20°C (68°F):**	1 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 applicable.

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· **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 : Oxidizing potential
· **Vapor Pressure:**	Not determined.
· **Density at 20°C (68°F):**	1.58 g/cm³ (13.19 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:**	30-40 %

· **Information with regard to physical hazard classes** May be corrosive to metals.

10 Stability and reactivity

· **Reactivity** see section "Possibility of hazardous reactions"
· **Chemical stability** Stable at ambient temperature (room temperature).
· **Possibility of hazardous reactions**
Corrosive action on metals.
Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)
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
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 $ATE_{(MIX)}$	736 mg/kg (.)
Dermal	GHS $ATE_{(MIX)}$	948 mg/kg (.)
Inhalative	GHS $ATE_{(MIX)}$	8 mg/l/4h (aerosol (dust, mist))

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· **LD/LC50 values that are relevant for classification:**

CAS: 7664-93-9 sulphuric acid		
Oral	LD50	2140 mg/kg (rat) (IUCLID)
Inhalative	LC 50	510 mg/m³/2h (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	LC50/4h	0.05 mg/l (ATE)
CAS: 10294-26-5 disilver(1+) sulfate		
Oral	LD50	>5000 mg/kg (rat) (OECD 401) (Registrant, ECHA)
CAS: 7778-50-9 potassium dichromate		
Oral	LD50	90.5 mg/kg (rat) (OECD 401) (ECHA, registrant: LD50 = 90.5 mg/kg female to 168.0 mg/kg male)
	LDLo	26 mg/kg (child)
		143 mg/kg (man)
Dermal	LD50	1170 mg/kg (rat) (IUCLID)
Inhalative	LC50/4h	0.094 mg/l (rat) (OECD 403, Aerosol)
	LD50 IPR	28 mg/kg (rat)

· **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)
CAS: 7778-50-9 potassium dichromate		
Irritation of skin	OECD 404	(rabbit: irritation)

· **Sensitization:**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

· **Information on components:**

CAS: 7778-50-9 potassium dichromate		
Sensitization	Patch test (human)	(positive) (IUCLID)

· **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.

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· **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 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 1B, Carcinogenicity 1B, Toxic to Reproduction 1B

· **Germ cell mutagenicity** May cause genetic defects.
· **Carcinogenicity** May cause cancer.
· **Reproductive toxicity** May damage fertility or 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**
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:**
CAS 7789-00-6 Potassium chromate / CAS 7778-50-9 Potassium dichromate
Main toxic effects [GESTIS]:
acute: irritation/damage to mucous membranes and skin, sensitizing effect (skin/respiratory tract). Damage to kidneys, blood and liver.
chronic: irritation/damage to the skin and mucous membranes, especially in the nose and throat. After penetration of the substance into wounds, these tend to form ulcers.
Allergic skin and respiratory diseases.
resorptive effects: primarily damage to the kidneys up to acute kidney failure; in addition, hemorrhagic diathesis, thrombocytopenia, anemia, possibly methemoglobinemia;
rarely: rapid onset of CNS damage or hepatitis as a late consequence; also promoting respiratory infections.
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) Main toxic effects Acute: Irritation up to chemical burns to the mucous membranes and skin, danger of serious damage to the eyes and lungs Chronic: Irritation to the eyes and airways, erosion of the teeth, damage to the skin Further Information: Concentrated S. differs considerably from dilute Sulfuric acid with regard to chemical properties and effects. With increased dilution Sulfuric acid acts less aggressively.
CAS: 7783-35-9 mercury sulphate	
.	(source: GESTIS) Main toxic effects: 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 chronic: skin and mucous membrane damage, kidney damage 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.

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12 Ecological information

· **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 (fathhead minnow)
CAS: 10294-26-5 disilver(1+) sulfate	
EC50	0.00022 mg/l/48h (Daphnia magna) (ECHA)
EC10	0.00214 mg/l (Daphnia magna) (ASTM) (ECHA: 21d, test substance: $AgNO_3$)
	0.00017 mg/l (rainbow trout) ECHA
	0.00039 mg/l (fathhead minnow) (ASTM E1241-98) (28d, test substance: $AgNO_3$, result in mg/l Ag)
	0.00041 mg/l /24h (Pseudokirchneriella subcapitata) ECHA
LC50	0.0012 mg/l/96h (fathhead minnow) US-EPA
CAS: 7778-50-9 potassium dichromate	
EC50	0.62 mg/l/48h (Daphnia magna) (OECD 202) (Merck)
NOEC	0.016–0.064 mg/l (Daphnia magna) (7d)
	6 mg/l (fathhead minnow) (7d)
IC50	0.16–0.59 mg/l/96 h (Chlorella vulgaris) (IUCLID)
EC50	0.31 mg/l/72h (Desmodesmus subspicatus)
LC50	58.5 mg/l/96h (byr)
	0.131 mg/l/96h (bluegill)
	160 mg/l/96h (guppy)
	26.13 mg/l/96h (fathhead minnow) (Merck/IUCLID)

· **Bacterial toxicity:**
sulfates toxic > 2.5 g/l

CAS: 7778-50-9 potassium dichromate	
EC50	58 mg/l (Photobacterium phosphoreum) (30 min; Microtox-Test)

· **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** No further relevant information available.

· **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.

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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, MERCURY SULPHATE), MARINE POLLUTANT
· **IATA**	CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	8 Corrosive substances
· **Label**	8, 6.1
· **IMDG**	
· **Class**	8 Corrosive substances
· **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:**	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**	(SGG1) Acids, (SGG7) heavy metals and their salts (including their organometallic compounds)
· **Stowage Category**	B
· **Stowage Code**	SW2 Clear of living quarters.

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· **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 On cargo aircraft only: 30 L
· **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

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
CAS: 7778-50-9	potassium dichromate

· **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

· **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

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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.

· **Recommended restriction of use:** professional/industrial use only

· **Date of preparation / last revision** 10/24/2022

· **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: 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)

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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)
RTECS (Registry of Toxic Effects of Chemical Substances)
GESTIS- Stoffdatenbank (Substance Database, Germany)

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