1 Identification of substance

- **Trade name:** COD Tube Test, 0 - 1,500 mg/l
- **Product use:** Reagent for water analysis
- **Catalogue number:** TT20721, TT20726
- **Manufacturer/Supplier:** Orbeco-Hellige, Inc.
  6456 Parkland Drive
  Sarasota, FL 34243
  USA
  phone: (941) 756-6410
  fax: (941) 727-9654
  www.orbeco.com
  Made in Germany
- **Emergency information:** Chemtrec: 800-424-9300

2 Hazards identification

- **Hazard description:**
  - T Toxic
  - C Corrosive

- **Canadian Hazard Symbols:**

- **WHMIS classification:**
  - D2A Very toxic material causing other toxic effects
  - D1A Very toxic material causing immediate and serious toxic effects
  - E Corrosive material

- **Information pertaining to particular dangers for man and environment:**
  The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  Avoid exposure - obtain special instructions before use.
  R 45 May cause cancer.
  R 46 May cause heritable genetic damage.
  R 23/24/25 Also toxic by inhalation, in contact with skin and if swallowed.
  R 33 Danger of cumulative effects.
  R 35 Causes severe burns.
  R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

- **Classification system:**
  The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

(Contd. on page 2)
NFPA ratings (scale 0 - 4)

Health = 4
Fire = 0
Reactivity = 2

The substance demonstrates unusual reactivity with water.

### 3 Composition / Data on components

**Description:** sulfic acid solution

**Composition and Information on Ingredients:**
The percent content of the chromium compound mentioned below refers to the amount of the pure chromium therein.
The percent content of the mercury compound mentioned below refers to the amount of the pure mercury therein.

<table>
<thead>
<tr>
<th>CAS</th>
<th>Composition</th>
<th>% Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>sulphuric acid</td>
<td>80-90%</td>
</tr>
<tr>
<td>231-639-5</td>
<td>(C; R 35)</td>
<td></td>
</tr>
<tr>
<td>016-020-00-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WS5600000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7783-35-9</td>
<td>mercury sulphate</td>
<td>0.1-1.0%</td>
</tr>
<tr>
<td>231-992-5</td>
<td>(T+, N; R 26/27/28-33-50/53)</td>
<td></td>
</tr>
<tr>
<td>080-002-00-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OX 0500000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7778-50-9</td>
<td>potassium dichromate</td>
<td>0.1-1.0%</td>
</tr>
<tr>
<td>231-906-6</td>
<td>(Carc. Cat. 2, Muta. Cat. 2,</td>
<td></td>
</tr>
<tr>
<td>2-8)</td>
<td>(Rep. Cat. 2; T+, C, O, N;</td>
<td></td>
</tr>
<tr>
<td>HX 7680000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10294-26-5</td>
<td>disilver(1+) sulphate</td>
<td>0.5-3.0%</td>
</tr>
<tr>
<td>233-653-7</td>
<td>(Xi; R 41)</td>
<td></td>
</tr>
<tr>
<td>0110000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity</td>
<td>10-20%</td>
</tr>
<tr>
<td>231-791-2</td>
<td>or of similar purity</td>
<td></td>
</tr>
<tr>
<td>ZC 0110000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### 4 First aid measures

**General information:**
Personal protection for the First Aider.
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

**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:**
Immediately wash with polyethylene glycol 400.
Immediately wash with water and soap and rinse thoroughly.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

**After eye contact:**
Rinse opened eye for several minutes (15 min) under running water.
Call a doctor immediately.

**After swallowing:**
Do not induce vomiting; immediately call for medical help.
Rinse out mouth and then drink plenty of water.
The following symptoms may occur:

- after inhalation:
  - breathing difficulty
  - coughing
  - damage to the affected mucous membranes
- after swallowing:
  - metallic taste
  - bloody diarrhoea
  - pain
  - strong caustic effect
  - unconsciousness

**Danger:**
- Danger of circulatory collapse.
- Danger of gastric perforation.

**Treatment**
- If swallowed or in case of vomiting, danger of entering the lungs.
- Later observation for pneumonia and pulmonary edema.

### 5 Fire fighting measures

- **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards caused by the material, its products of combustion or resulting gases:**
  - Formation of toxic gases is possible during heating or in case of fire.
  - nitrogen oxides
  - Sulfur oxides (SOx)
  - mercury vapours
  - chromium trioxide
  - potassium oxide
- **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.

### 6 Accidental release measures

- **Person-related safety precautions:**
  - Wear protective equipment. Keep unprotected persons away.
  - Ensure adequate ventilation
- **Measures for environmental protection:**
  - 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.
- **Measures for cleaning/collecting:**
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
  - Neutralize with diluted sodium hydroxide solution or by throwing on lime sand, lime or sodium carbonate.
  - Absorb with liquid-binding material (sand, diatomite, universal binders).
7 Handling and storage

- Handling:
  - Information for safe handling:
    Ensure good ventilation/exhaustion at the workplace.
  - Open and handle receptacle with care.
  - Prevent formation of aerosols.
  - Work only in fume cabinet.
- Information about protection against explosions and fires:
  - The product is not flammable.
  - Keep respiratory protective device available.

- Storage:
  - Requirements to be met by storerooms and receptacles: Store in a cool location.
  - Further information about storage conditions:
    - Store under lock and key and with access restricted to technical experts or their assistants only.
    - Keep receptacle tightly sealed.
    - Protect from heat and direct sunlight.
    - Protect from humidity and water.
    - Protect from exposure to the light.
    - This product is hygroscopic.
    - Store in dry conditions.
  - Recommended storage temperature: 20°C +/- 5°C

8 Exposure controls and personal protection

- Additional information about design of technical systems: No further data; see item 7.

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL (USA)</th>
<th>REL (USA)</th>
<th>TLV (USA)</th>
<th>EL (Canada)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9 sulphuric acid (80-90%)</td>
<td>1 mg/m³</td>
<td>1 mg/m³</td>
<td>0.2* mg/m³</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ACGIH A2; IARC 1</td>
</tr>
<tr>
<td>7783-35-9 mercury sulphate (0.1-1.0%)</td>
<td>Short-term value: C 0.1 mg/m³ as Hg</td>
<td>Short-term value: C 0.1 mg/m³ as Hg; Skin</td>
<td>0.025 mg/m³ as Hg; Skin; BEI</td>
<td>0.025 mg/m³ as Hg; Skin, R</td>
</tr>
<tr>
<td>7778-50-9 potassium dichromate (0.1-1.0%)</td>
<td>Short-term value: C 0.1* mg/m³ as CrO3</td>
<td>0.05 mg/m³ as Cr</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Personal protective equipment:
- General protective and hygienic measures:
  - Avoid contact with the eyes and skin.
  - Do not eat, drink, smoke or sniff while working.
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: Filter B

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: ≥ 0.7 mm

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Value for the permeation: Level ≥ 1 (10 min)

Eye protection:
Tightly sealed goggles

Body protection:
Acid resistant protective clothing

---

9 Physical and chemical properties

- Odor Threshold: Not applicable.
- Form: Liquid
- Color: Yellow-brown
- Odor: Recognizable
- Melting point/Melting range: Not applicable.
- Boiling point/Boiling range: Undetermined.
- Freezing Point: Not applicable.
- Flash point: Not applicable.

- Flammability (solid, gaseous):
  - Upper Flammable Limit: Not applicable.
  - Lower Flammable Limit: Not applicable.
- Ignition temperature: Undetermined.
- Sensitivity to Mechanical Impact: None
- Sensitivity to Static Discharge: None
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product does not present an explosion hazard.
- Vapor Density: Not applicable.
- Specific Gravity: Not applicable.
- Density at 20°C (68°F): 1.758 g/cm³
- Solubility in / Miscibility with Water: Fully miscible.
- Coefficient of Water / Oil Distribution: Not applicable.
- pH-value at 20°C (68°F): 1
- Solvent content:
  - Organic solvents: 0.0 %
  - Water: < 20 %
- Solids content: < 5 %

(Contd on page 6)
10 Stability and reactivity

· Thermal decomposition / conditions to be avoided: strong heating
· Materials to be avoided:
  organic substances
  ammonia (NH₃)
  alkali compounds
  alkalis
  acids
  metals
  halogen compounds
  combustible materials
  organic solvents
  nitriles
  peroxides
  reducing agents
  oxidizing agents
· Dangerous reactions
  Corrosive action on metals.
  When diluting, always add acid to water, never vice versa.
  Reacts with metals forming hydrogen.
  Forms hydrogen in aqueous solution with metals.
  --- Danger of explosion.
  Reacts with organic substances.
  Diluting or dissolving in water always causes rapid heating.
· Dangerous products of decomposition:
  nitrogen oxides
  Sulfur oxides (SOₓ)
  see chapter 5

11 Toxicological information

· Acute toxicity: Quantitative data on the toxicity of the preparation are not available.
· LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9 sulphuric acid</td>
<td>Oral</td>
<td>LD50 2140 (25%) mg/kg (rat) (IUCLID)</td>
</tr>
<tr>
<td></td>
<td>Inhalative</td>
<td>LC 50 510 (pure) mg/m³/2h (rat) (IUCLID)</td>
</tr>
<tr>
<td>7783-35-9 mercury sulphate</td>
<td>Oral</td>
<td>LD50 57 mg/kg (rat) (RTECS)</td>
</tr>
<tr>
<td></td>
<td>Dermal</td>
<td>LD50 625 mg/kg (rat)</td>
</tr>
<tr>
<td>7778-50-9 potassium dichromate</td>
<td>Oral</td>
<td>LD (human)</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>25 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>LDLo</td>
<td>26 mg/kg (child)</td>
</tr>
<tr>
<td></td>
<td>LDLo</td>
<td>143 mg/kg (man)</td>
</tr>
<tr>
<td></td>
<td>Dermal</td>
<td>LD50 1170 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td>Inhalative</td>
<td>LC50/4 h 0.094 mg/l (rat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD50 IPR 28 mg/kg (rat)</td>
</tr>
</tbody>
</table>
· **Primary irritant effect:**
  · **on the skin:** Strong caustic effect on skin and mucous membranes.
  · **on the eye:** Strong caustic effect
  · **Sensitization:** Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.

· **Experience with humans:**
  Can cause kidney damages.
  May cause lung damages.
  Can cause liver damage, lung cancer.

· **Additional toxicological information:**
  The product shows the following dangers according to internally approved calculation methods for preparations:
  - Toxic
  - Corrosive
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
  - Carcinogenic.
    - The product can cause inheritable damage.
    - Mercury compounds have a cytotoxic and protoplasmatoxic effect.
    - The principal signs manifest themselves in the CNS.
    - 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

· **Carcinogenicity:**
  - **NTP?**
  - **IARC Monographs?**
  - **OSHA Regulated?**
    - Potassium chromate, potassium dichromate:
      - ACGIH: A1 - Confirmed Human Carcinogen (listed as **undefined**)
      - California: carcinogen; initial date 2/27/87 (listed as **undefined**)
      - NTP: Known carcinogen (listed as **undefined**)
      - IARC: Group 1 carcinogen (listed as **undefined**)
    - Sulfuric acid: classified A2 (suspected by human) by ACGIH
      - (sulfuric acid contained in strong inorganic acid mists)
  - **Teratogenicity:** Not found.
  - **Mutagenicity:** Not found.
  - **Reproductive Toxicity:**
    - Potassium dichromate:
      - Oral, rat TDLo = 525 mg/kg (female 21 days after conception - literature)
  - **Synergistic Products:** None

### 12 Ecological information

· **Information about elimination (persistence and degradability):**
  · **Other information:**
    - Quantitative data on the ecological effect of this preparation are not available.
    - The following statements refer to the individual components.
    - Does not cause biologial oxygen deficit.

· **Ecotoxicological effects:**
  · **Aquatic toxicity:**
    - The following applies to the water-soluble matter contained in inorganic Hg compounds in general:
      - The toxicity of mercury(II) ions for water organism depends on the water hardness (IPCS).

#### 7664-93-9 sulphuric acid
- **Daphnia EC50**: 29 mg/l/24h (Daphnia magna)
- **LC50**: 16-29 mg/l/96h (Lepomis macrochirus)
- **MERCK**

#### 7783-35-9 mercury sulphate
- **EC50**: 0.005-3.6 mg/l/48h (Daphnia magna)
Material Safety Data Sheet
acc. to ISO/DIS 11014

Trade name: COD Tube Test, 0 - 1,500 mg/l

(Contd. of page 7)

<table>
<thead>
<tr>
<th></th>
<th>0.5 mg/l/48h (Leuciscus idus)</th>
<th>0.19 mg/l/96h (Pimephales promelas)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7778-50-9 potassium dichromate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC50</td>
<td>0.035 mg/l/48h (Daphnia magna)</td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>58.5 mg/l/96h (Brachydanio rerio)</td>
<td>160 mg/l/96h (Poecilia reticulata)</td>
</tr>
<tr>
<td></td>
<td>25-150 mg/l/96h (Pimephales promelas)</td>
<td></td>
</tr>
</tbody>
</table>

· **Remark:**
  Toxic for fish:
  sulfates > 7 g/l
  Forms corrosive mixtures with water even if diluted.
  Harmful to aquatic organisms
  toxic for algae
  **Algae toxicity:** CAS-No. 7778-50-9: Chlorella vulgaris IC50: 0.16 - 0.59 mg/l/96 h
  **Bacterial toxicity:** CAS-No. 7778-50-9: Photobacterium phosphoreum EC50: 58 mg/l/30 min Microtox-Test (MERCK)
  **Remark:** neutralization possible

· **General notes:**
  Water danger class 3 (Self-assessment): extremely hazardous for water
  Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  Danger to drinking water if even extremely small quantities leak into the ground.
  Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms.

13 Disposal considerations

· **Product:**
  **Recommendation:** 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

· **DOT regulations:**

· **Hazard class:** 8
· **Identification number:** UN2922
· **Proper shipping name (technical name):** CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)
· **Label** 8+6.1

· **Land transport ADR/RID (cross-border):**

· **ADR/RID class:** 8 (CT1) Corrosive substances
· **Danger code (Kemler):** 86

(Contd. on page 9)
Trade name: COD Tube Test, 0 - 1,500 mg/l

- **UN-Number:** 2922
- **Packaging group:** II
- **Description of goods:** 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)

### Maritime transport IMDG:

- **IMDG Class:** 8
- **UN Number:** 2922
- **Label:** 8+6.1
- **Packaging group:** II
- **EMS Number:** F-A,S-B
- **Marine pollutant:** Yes
- **Proper shipping name:** CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)

### Air transport ICAO-TI and IATA-DGR:

- **ICAO/IATA Class:** 8
- **UN/ID Number:** 2922
- **Label:** 8+6.1
- **Packaging group:** II
- **Proper shipping name:** CORROSIVE LIQUID, TOXIC, N.O.S. (SULPHURIC ACID, MERCURY SULPHATE)
- **Canadian TDG Class:** 8

### Environmental hazards:
- Marine pollutant

### 15 Regulations

- **Sara**
  - **Section 355 (Extremely hazardous substances):**
    - 7664-93-9 sulphuric acid
  - **Section 313 (Specific toxic chemical listings):**
    - This mixture contains Chromic acid, dipotassium salt [listed as **undefined** - Cr(VI)] which is subject to the reporting requirements of Section 313 SARA Title III and 40 CFR Part 372.
    - 7664-93-9 sulphuric acid

- **TSCA (Toxic Substances Control Act):**
  - 7664-93-9 sulphuric acid
  - 7732-18-5 water, distilled, conductivity or of similar purity
  - 7783-35-9 mercury sulphate
  - 10294-26-5 disilver(1+) sulphate
  - 7778-50-9 potassium dichromate

- **Proposition 65**
  - **Chemicals known to cause cancer:** Chromium (hexavalent) compounds are listed in California Proposition 65 as carcinogens.

(Contd. on page 10)
Trade name: COD Tube Test, 0 - 1,500 mg/l

- **Chemicals known to cause reproductive toxicity for females:**
  None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**
  None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**
  None of the ingredients is listed.

- **Canadian Ingredient Disclosure List**
  - **Limit 0.1%**
    - 7778-50-9 potassium dichromate
  - **Limit 1%**
    - 7664-93-9 sulphuric acid
    - 7783-35-9 mercury sulphate

- **Canadian Domestic Substances List (DSL)**
  - 7664-93-9 sulphuric acid
  - 7732-18-5 water, distilled, conductivity or of similar purity
  - 7783-35-9 mercury sulphate
  - 10294-26-5 disilver(1+) sulphate
  - 7778-50-9 potassium dichromate

- **EPA (Environmental Protection Agency)**
  - 7783-35-9 mercury sulphate

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

- **NTP (National Toxicology Program)**
  - 7664-93-9 sulphuric acid
  - 7778-50-9 potassium dichromate

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - Chromium, hexavalent [Cr(VI)]
    - 7778-50-9 potassium dichromate

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

- **ENCS List (MITI):**
  - 7664-93-9 sulphuric acid
  - 7783-35-9 mercury sulphate
  - 10294-26-5 disilver(1+) sulphate
  - 7778-50-9 potassium dichromate

- **Product related hazard informations:**
  The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**
  - **T** Toxic
  - **C** Corrosive

- **Hazard-determining components of labelling:**
  - potassium dichromate
  - mercury sulphate
  - sulphuric acid

---

(Contd. on page 11)
Risk phrases:
45 May cause cancer.
46 May cause heritable genetic damage.
23/24/25 Also toxic by inhalation, in contact with skin and if swallowed.
33 Danger of cumulative effects.
35 Causes severe burns.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:
53 Avoid exposure - obtain special instructions before use.
4 Keep away from living quarters.
9 Keep container in a well-ventilated place.
20 When using do not eat or drink.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Special labeling of certain preparations:
Only for trade users
Contains potassium dichromate. May produce an allergic reaction.

Additional classification according to Decree on Hazardous Materials:
Carcinogenic hazardous material group III (dangerous).

Information about limitation of use:
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

Water hazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.

CPR Classification:
Class E
Class D, Div. 1A, 2A

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

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 R-phrases
21 Harmful in contact with skin.
25 Toxic if swallowed.
26 Very toxic by inhalation.
26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
33 Danger of cumulative effects.
34 Causes burns.
35 Causes severe burns.
41 Risk of serious damage to eyes.
42/43 May cause sensitization by inhalation and skin contact.
45 May cause cancer.
46 May cause heritable genetic damage.
48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
60 May impair fertility
61 May cause harm to the unborn child
8 Contact with combustible material may cause fire.
Trade name: COD Tube Test, 0 - 1,500 mg/l

- **Recommended restriction of use:** professional/industrial use only
- **Contact:** Orbeco-Hellige, Inc., Quality Assurance Dept., Phone: 941-756-6410

**Sources**
- IUCLID (International Uniform Chemical Information Database)
- GESTIS-Stoffdatenbank
- International Chemical Safety Cards (ICSCs)

Data arise from manufacturers' data sheets, reference works and literature.

- * Data compared to the previous version altered.