SAFETY DATA SHEET

1. PRODUCT

1.1 Product identifiers

Name: 2,5-Dihydroxybenzaldehyde
CAS-No.: 1194-98-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitisation (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Signal word</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Pictogram" /></td>
<td>Warning</td>
<td>H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statement(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. P321 Specific treatment (see supplemental first aid instructions on this label). P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P362 Take off contaminated clothing and wash before reuse. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available
3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: Gentisaldehyde
Formula: C₇H₆O₃
CAS-No.: 1194-98-5
EC-No.: 214-789-6

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,5-Dihydroxybenzaldehyde</td>
<td>Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; STOT SE 3; Aquatic Acute 3; Aquatic Chronic 3; H315, H317, H319, H335, H412</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.2 Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Air sensitive. Store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| Eye/face protection | Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| Skin protection                  | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
|                               | **Full contact**
|                               | **Material:** Nitrile rubber
|                               | **Minimum layer thickness:** 0.11 mm
|                               | **Break through time:** 480 min
|                               | **Material tested:** Dermatril® (KCL 740 / Aldrich Z677272, Size M)
|                               | **Splash contact**
|                               | **Material:** Nitrile rubber
|                               | **Minimum layer thickness:** 0.11 mm
|                               | **Break through time:** 480 min
|                               | **Material tested:** Dermatril® (KCL 740 / Aldrich Z677272, Size M)
|                               | **data source:** KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
|                               | If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

| Body Protection                | Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
| Respiratory protection         | For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
| Control of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Form: crystalline</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>Melting point/range: 97 - 99 °C (207 - 210 °F) - lit.</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>log Pow: 0.81</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>

#### 9.2 Other safety information

- no data available

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

- no data available

#### 10.2 Chemical stability

- Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
Exposure to air may affect product quality.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>no data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation: no data available</td>
<td></td>
</tr>
<tr>
<td>Dermal: no data available</td>
<td></td>
</tr>
<tr>
<td>no data available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>no data available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Serious eye damage/eye irritation</th>
<th>no data available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Respiratory or skin sensitisation</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Germ cell mutagenicity</th>
<th>no data available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</td>
<td></td>
</tr>
<tr>
<td>ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.</td>
<td></td>
</tr>
<tr>
<td>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</td>
<td></td>
</tr>
<tr>
<td>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reproductive toxicity</th>
<th>no data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>no data available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific target organ toxicity - single exposure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation - May cause respiratory irritation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific target organ toxicity - repeated exposure</th>
<th>no data available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Aspiration hazard</th>
<th>no data available</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Additional Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RTECS: Not available</td>
<td></td>
</tr>
<tr>
<td>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</td>
<td></td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available
12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.</td>
</tr>
<tr>
<td>Contaminated packaging</td>
<td>Dispose of as unused product.</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,5-Dihydroxybenzaldehyde</td>
<td>1194-98-5</td>
<td></td>
</tr>
</tbody>
</table>

New Jersey Right To Know Components
California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute Acute aquatic toxicity
Aquatic Chronic Chronic aquatic toxicity
Eye Irrit. Eye irritation
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H402 Harmful to aquatic life.

HMIS Rating
Health hazard: 2
Chronic Health Hazard:
Flammability: 0
Physical Hazard 0

NFPA Rating
Health hazard: 2
Fire Hazard: 0
Reactivity Hazard: 0

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,5-Dihydroxybenzaldehyde</td>
<td>1194-98-5</td>
<td>7</td>
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</table>

Component | CAS-No. | Revision Date |
---|---------|---------------|
2,5-Dihydroxybenzaldehyde | 1194-98-5 | 7 |