1 Identification

- Product identifier
  - Trade name: Morpholinoethane sulfonic acid, monohydrate
  - Article number: 29830
  - CAS Number: 145224-94-8
  - EC number: 224-632-3
- Application of the substance / the mixture Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de

- Information department: Product Safety department
  Tel.: +49 6221 13840-35
- Emergency telephone number:
  Medical Emergency Information in case of poisoning:
  Poison Information Center Mainz - Phone: +49 (0) 6131 19240
  (advisory service in German or English language)

2 Hazard(s) identification

- Classification of the substance or mixture
  The substance is not classified according to the Globally Harmonized System (GHS).

  - GHS label elements Void
  - Hazard pictograms Void
  - Signal word Void
  - Hazard statements Void
  - Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
- Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  145224-94-8 2-morpholinoethanesulphonic acid monohydrate
- Identification number(s)
- EC number: 224-632-3
- Description:
- Empirical formula: C₆H₁₃N O₄ S * H₂O
- MW: 195.25

4 First-aid measures

- Description of first aid measures
- General information: No special measures required.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing:
  Rinse out mouth and then drink plenty of water.
  If symptoms persist consult doctor.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed: No further relevant information available.
- Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
  Carbon monoxide (CO)
  Sulphur dioxide (SO₂)
  Nitrogen oxides (NOₓ)
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Wear protective clothing.
- Environmental precautions: Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up: Pick up mechanically.
- Reference to other sections: No dangerous substances are released.

7 Handling and storage

- Handling:
  Precautions for safe handling: Prevent formation of dust.
  Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities:
- Storage:
  Requirements to be met by storerooms and receptacles: No special requirements.
  Information about storage in one common storage facility: Not required.
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acc. to OSHA HCS

Trade name: Morpholinoethane sulfonic acid, monohydrate

Further information about storage conditions: Store in dry conditions.
Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.
Control parameters
Components with limit values that require monitoring at the workplace: Not required.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Suitable respiratory protective device recommended.
Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:
Natural rubber, NR
Nitrile rubber, NBR
Eye protection: Safety glasses
Body protection: Protective work clothing

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Powder
Color: White
Odor: Recognizable
pH-value (100 g/l) at 20 °C (68 °F): 2.5 - 4.0
Change in condition
Melting point/Melting range: > 300 °C (> 572 °F)
Boiling point/Boiling range: Undetermined.
Flash point: Not applicable.
Flammability (solid, gaseous): Product is not flammable.
Danger of explosion: Product does not present an explosion hazard.
Density: Not determined.
Bulk density at 20 °C (68 °F): ca. 57 kg/m³
Trade name: Morpholinoethane sulfonic acid, monohydrate

- Solubility in / Miscibility with
  Water at 20 °C (68 °F): 100 g/l
- Other information
  No further relevant information available.

10 Stability and reactivity
- Reactivity
  No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided
  No decomposition if used according to specifications.
- Possibility of hazardous reactions
  No dangerous reactions known.
- Conditions to avoid
  No further relevant information available.
- Incompatible materials
  No further relevant information available.
- Hazardous decomposition products
  No dangerous decomposition products known.

11 Toxicological information
- Information on toxicological effects
- Acute toxicity
  - LD/LC50 values that are relevant for classification:
    
    | Dermal | LD50 |
    |--------|------|
    |        | > 2000 mg/kg (rabbit) |

  - Primary irritant effect
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization
    - No sensitizing effects known.
  - Additional toxicological information
    When used and handled according to specifications, the product does not have any harmful effects
    according to our experience and the information provided to us.
    The substance is not subject to classification.
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    Substance is not listed.
  - NTP (National Toxicology Program)
    Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    Substance is not listed.

12 Ecological information
- Toxicity
- Aquatic toxicity
  No further relevant information available.
- Persistence and degradability
  No further relevant information available.
- Behavior in environmental systems
- Bioaccumulative potential
  No further relevant information available.
- Mobility in soil
  No further relevant information available.
- Additional ecological information
- General notes
  Water hazard class 1 (Assessment by list): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage
  system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects
  No further relevant information available.
### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

### 14 Transport information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN-Number</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>DOT, ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
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<tr>
<td><strong>UN proper shipping name</strong></td>
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<tr>
<td><strong>Transport hazard class(es)</strong></td>
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<tr>
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<td>Void</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>DOT, ADR, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td>Not dangerous according to the above specifications.</td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;:</strong></td>
<td>Void</td>
</tr>
</tbody>
</table>

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Section 355 (extremely hazardous substances): Substance is not listed.
  - Section 313 (Specific toxic chemical listings): Substance is not listed.
  - TSCA (Toxic Substances Control Act): Substance is listed.
  - Proposition 65 Substance is not listed.
  - Chemicals known to cause cancer: Substance is not listed.
  - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
  - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
  - Chemicals known to cause developmental toxicity: Substance is not listed.

- **Carcinogenicity categories**
  - EPA (Environmental Protection Agency) Substance is not listed.
  - TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
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Trade name: Morpholinoethane sulfonic acid, monohydrate

(Contd. of page 5)

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.

- Department issuing SDS: Product safety department
- Contact: +49 6221 13840-35
- Date of preparation / last revision 05/03/2018 / 2
- Abbreviations and acronyms:
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - ICAO: International Civil Aviation Organisation
  - PBT: persistent, bioaccumulative, toxic substance (REACH)
  - vPvB: very persistent, very bioaccumulative substance (REACH)
  - REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
  - CLP: Regulation on classification, labelling and packaging of substances and mixtures
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
- * Data compared to the previous version altered.