1 Identification

· Product identifier
  · Trade name: Lactate 100μg/mL in H2O
  · Article number: IC-LAC

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    High-Purity Standards
    PO Box 1727 Charleston, SC 29423 United States
    Telephone: +1-843-767-7900
    Fax: +1-843-767-7906
    highpuritystandards.com
    Email: info@highpuritystandards.com

· Information department: Product safety department

· Emergency telephone number:
  INFOTRAC
  Emergency telephone numbers 1-800-535-5053
  Other emergency telephone numbers 1-352-323-3500

2 Hazard(s) identification

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

· Label elements
  · 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 Health = 0
    FIRE Fire = 0
    REACTIVITY Reactivity = 0

· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.
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: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: 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: Use fire fighting measures that suit the environment.
  - Special hazards arising from the substance or mixture No further relevant information available.
  - Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Not required.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
- Protective Action Criteria for Chemicals

  - **PAC-1:**
    72-17-3 sodium lactate 7.6 mg/m³

  - **PAC-2:**
    72-17-3 sodium lactate 84 mg/m³

  - **PAC-3:**
    72-17-3 sodium lactate 790 mg/m³
7 Handling and storage

- **Handling:**
  - **Precautions for safe handling:** No special measures required.
  - **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.
    - **Further information about storage conditions:** None.

- **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:**
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **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:** Not required.

- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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.

- **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Liquid
      - **Color:** colorless
Safety Data Sheet
acc. to OSHA HCS

Trade name: Lactate 100μg/mL in H2O

(Contd. of page 3)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>· Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>· pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>100 °C (212 °F)</td>
</tr>
<tr>
<td>· Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>· Flammability (solid, gaseous)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>· Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Auto igniting</td>
<td>Product is not selfigniting</td>
</tr>
<tr>
<td>· Danger of explosion</td>
<td>Product does not present an explosion hazard</td>
</tr>
<tr>
<td>· Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Vapor pressure at 20 °C (68 °F)</td>
<td>23 hPa (17.3 mm Hg)</td>
</tr>
<tr>
<td>· Density at 20 °C (68 °F)</td>
<td>1.00003 g/cm³ (8.34525 lbs/gal)</td>
</tr>
<tr>
<td>· Bulk density</td>
<td>1,000 kg/m³</td>
</tr>
<tr>
<td>· Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Vapor density</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with Water</td>
<td>Not miscible or difficult to mix</td>
</tr>
<tr>
<td>· Partition coefficient (n-octanol/water)</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined</td>
</tr>
<tr>
<td>· Solvent content</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>100.0 %</td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td>0.0 g/l / 0.00 lb/gal</td>
<td></td>
</tr>
<tr>
<td>· Solids content</td>
<td>0.0 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>No further relevant information available</td>
</tr>
</tbody>
</table>

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.

(Contd. on page 5)
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - Primary irritant effect:
      - on the skin: No irritant effect.
      - on the eye: No irritating effect.
    - Sensitization: No sensitizing effects known.
  - Additional toxicological information:
    - The product is not subject to classification according to internally approved calculation methods for preparations:
      - 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.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - None of the ingredients is listed.
  - NTP (National Toxicology Program)
    - None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    - None of the ingredients is 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: Not hazardous for water.
  - 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: Smaller quantities can be disposed of with household waste.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Lactate 100μg/mL in H2O

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14 Transport information

- **UN-Number**
  - DOT, ADR, IMDG, IATA: not regulated

- **UN proper shipping name**
  - DOT, ADR, IMDG, IATA: not regulated

- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA: not regulated

- **Packing group**
  - DOT, ADR, IMDG, IATA: not regulated

- **Environmental hazards**: Not applicable.

- **Special precautions for user**: Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**: Not applicable.

- **UN "Model Regulation"**: not regulated

15 Regulatory information

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

- **Section 355 (extremely hazardous substances)**:
  - None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings)**:
  - None of the ingredients is listed.

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

- **Hazardous Air Pollutants**
  - None of the ingredients is listed.

- **Proposition 65**
  - **Chemicals known to cause cancer**:
    - None of the ingredients is listed.

- **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.

(Contd. on page 7)
49.4.3 · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is 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.

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: Environment protection department.
· Contact:
  High-Purity Standards
  Tel: 843-767-7900
  Fax: 843-767-7906
· Date of preparation / last revision 08/19/2019 / -
· Abbreviations and acronyms:
  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
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  VOC: Volatile Organic Compounds (USA, EU)
  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