SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
- **Product Name**: Lysozyme, From Hen egg white source
- **Product Number**: HR7-110
- **REACH No.**: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
- **CAS Number**: 12650-88-3

1.2 Relevant identified uses of the substance or mixture and uses advised against
- **Identified uses**: Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the Safety Data Sheet
- **Company**: Hampton Research
  - 34 Journey
  - Aliso Viejo, CA 92656-3317
  - United States
- **Telephone**: 949 425 1321
  - Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.
- **Fax**: 949 425 1611
  - Fax Technical Support is available 24 hours a day.
- **e-mail**: tech@hrmail.com
  - e-mail Technical Support is available 24 hours a day.

1.4 Emergency telephone number
- **Emergency phone**: 949 425 1321
- **For CHEMTREC Assistance**: 800 424 9300
- **For CHEMTREC Assistance**: 703 527 3887 (International)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture
- Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements
- The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards : none
SECTION 3: Composition/Information On Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>Synonym</th>
<th>Formula</th>
<th>( M_n )</th>
<th>CAS #</th>
<th>EC #</th>
<th>Enzyme Commission (EC) Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lysozyme</td>
<td>• Mucopeptide-N-acetyl-muramoylhydrolase</td>
<td>N/A</td>
<td>N/A</td>
<td>12650-88-3</td>
<td>235-747-3</td>
<td>3.2.1.17</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>RTECS</th>
<th>Merck</th>
<th>Beilstein</th>
<th>SARA</th>
<th>MDL #</th>
<th>PubChem Substance ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>OL5989000</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>MFCD00131557</td>
<td>OL5989000</td>
</tr>
</tbody>
</table>

No components need to be disclosed according to the applicable regulations.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

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 as a precaution 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.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Fire Fighting 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
Nature of decomposition products not known.

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further Information
No data available
SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing vapors, mist or gas. For personal protection see section 8.

6.2 Environmental precautions
No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling And Storage

7.1 Personal Precautions
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature -20°C
Storage class (TRGS 510): Non Combustible Solids

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 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
General industrial hygiene practice.

Personal protective equipment
    Eye/face protection
    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.
Skin protection
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
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
No special environmental precautions required.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
a) Appearance Form: Lyophilized, white to off-white crystalline powder 3x crystallized
b) Odor no data available
c) Odor Threshold no data available
d) pH no data available
e) Melting point/freezing point no data available
f) Initial boiling point and boiling range no data available
g) Flash point no data available
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapor pressure no data available
l) Vapor density no data available
m) Relative density 1.05 g/mL at 25°C (lit.)
n) Water solubility no data available
(CONTINUED) - SECTION 9: Physical and Chemical Properties

o) Partition coefficient: no data available
   noctanol/water

p) Autoignition temperature no data available

q) Decomposition temperature no data available

r) Viscosity no data available

s) Explosive properties no data available

t) Oxidizing properties no data available

9.2 Other safety information

no data available

SECTION 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

no data available

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

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity

no data available

Inhalation: No data available

Dermal: No data available

Skin irritation / corrosion

no data available
(CONTINUED) - SECTION 11: Toxicological Information

Serious eye damage / eye irritation
no data available

Respiratory or skin sensitization
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity
no data available

Chronic exposure
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
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.
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.
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.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: OL5989000

SECTION 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
no data available
(CONTINUED) - SECTION 12: Ecological Information

12.6 Other adverse effects
   no data available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods
   Product
   Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a
   combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

   Contaminated packaging
   Dispose of as unused product.

SECTION 14: Transportation Information

   DOT
   Not dangerous goods

   IMDG
   Not dangerous goods

   IATA
   Not dangerous goods

SECTION 15: Regulatory Information

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

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

   SARA 311/312 Components
   No SARA Hazards

   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>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lysozyme (chicken egg white)</td>
<td>12650-88-3</td>
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</table>

   New Jersey Right To Know Components
<table>
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<th>CAS-No.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Lysozyme (chicken egg white)</td>
<td>12650-88-3</td>
</tr>
</tbody>
</table>

   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.
SECTION 16: Other Information

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

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

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For research use only. Not for drug, household, or other use.

WARRANTY
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