1. **Product identifier**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Trade name</td>
<td>Lysozyme Hydrochloride Granulate (LG)</td>
</tr>
<tr>
<td>IUPAC name</td>
<td>Lysozyme, hydrochloride</td>
</tr>
<tr>
<td>EC no</td>
<td>232-954-0</td>
</tr>
<tr>
<td>CAS No.</td>
<td>9066-59-5</td>
</tr>
<tr>
<td>REACH registration No.</td>
<td>Not yet available</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Muramidase; Lysozyme hydrochloride LP; Mucopeptid e N-acetylmuramoyl hydrolase; Lysozyme</td>
</tr>
</tbody>
</table>

2. **Relevant identified uses of the substance or mixture and uses advised against**

2.1. Relevant identified uses

Main use category: Inactivation of bacteria in selected food products

2.2. Uses advised against

No uses advised against identified.

3. **Details of the supplier of the safety data sheet**

Bioseutica B.V. (Neova Technologies)

Landbouwweg 83

3899 BD - The Netherlands

T +31 (0) 365226300 - F +31 (0) 365226833

info@bioseutica.com

4. **Emergency telephone number**

Emergency number: +31 - (0)36 - 523 40 59 (business hours)

5. **Classifications and Labelling**

5.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Resp. Sens. 1 H334

Full text of H-phrases: see section 16

**Classification according to Directive 67/548/EEC or 1999/45/EC**

Xn; R42

Full text of R-phrases: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

5.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP): ☢️

Signal word (CLP): Danger

Hazard statements (CLP): H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements (CLP):

- P261 - Avoid breathing dust
- P285 - In case of inadequate ventilation wear respiratory protection
- P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- P501 - Dispose of contents/container to Comply with applicable local, national and international regulations

5.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed
SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
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</tr>
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<tr>
<td>Lysozyme, hydrochloride</td>
<td>(CAS No.) 9066-59-5 (EC no) 232-954-0</td>
<td>94</td>
<td>Xn; R42</td>
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<tr>
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<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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<td>(CAS No.) 9066-59-5 (EC no) 232-954-0</td>
<td>94</td>
<td>Resp. Sens. 1, H334</td>
</tr>
</tbody>
</table>

Full text of R-, H- and EUH-phrases: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Move the affected person away from the contaminated area and into the fresh air.

First-aid measures after skin contact: Rinse immediately with plenty of water for 15 minutes. Seek medical attention if tissue appears damaged or if pain or irritation persists.

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

First-aid measures after ingestion: Rinse mouth thoroughly with water. Seek medical attention if ill effect or irritation develops.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Water, Carbon dioxide (CO2), dry chemical powder, foam.

5.2. Special hazards arising from the substance or mixture
Reactivity: Stable under normal conditions.

5.3. Advice for firefighters
Protective equipment for firefighters: Use self-contained breathing apparatus and chemically protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Avoid breathing dust. Avoid generation of dust.

6.1.1. For non-emergency personnel
Emergency procedures: Avoid contact with skin and eyes. Avoid release to the environment.

6.1.2. For emergency responders
Protective equipment: Use personal protective equipment as required.

6.2. Environmental precautions
No special environmental precautions required.

6.3. Methods and material for containment and cleaning up
For containment: Do not allow to enter into surface water or drains.
Methods for cleaning up: Wash contaminated area with large amounts of water. Wash the spilled material carefully away with water under low pressure.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid generation of dust. Avoid breathing dust.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Provide adequate ventilation to minimize dust concentrations.
Storage condition(s): Store in dry, cool, well-ventilated area (<65% RH). Protect from sunlight.
Lysozyme Hydrochloride Granulate (LG)
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)

Special rules on packaging : Keep only in original container.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls : Avoid generation of dust. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

Personal protective equipment : Respiratory protection.
Hand protection : Wear suitable gloves tested to EN374 with prolonged, direct contact.
Eye protection : Chemical goggles if dust is generated.
Skin and body protection : Wear protective clothing.
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state : Solid
Appearance : Granular
Molecular mass : 14400 g/mol
Colour : White to off-white.
odour : Almost odourless; lightly sweetish.
Odour threshold : No data available
pH Iso electric point : 10.7
pH (2.0% aqua solution) : 3.0-3.6
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : None
Boiling point : No data available
Flash point : None
Self ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No flammable
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : 0.30-0.40 g/ml
Solubility : Soluble in water.
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : 7 mPa.s (Brookfield 20 °C) (22%)
Explosive properties : None known.
Oxidising properties : None known.
Explosive limits : No data available

9.2. Other information
Fat solubility : Insoluble

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.
10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
No hazardous decomposition products under suitable storage and usage conditions as prescribed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

Lysozyme Hydrochloride Granular (LG) (9066-59-5)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH</td>
<td>3.0-3.6</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH</td>
<td>3.0-3.6</td>
</tr>
</tbody>
</table>
| Respiratory or skin sensitisation          | May cause allergy or asthma symptoms or breathing difficulties if inhaled.
| Germ cell mutagenicity                     | Not classified            |
| Carcinogenicity                             | Not classified            |
| Reproductive toxicity                      | Not classified            |
| Specific target organ toxicity (single exposure) | Not classified            |
| Specific target organ toxicity (repeated exposure) | Not classified            |
| Aspiration hazard                          | Not classified            |

11.2. Toxicity
Ecology - general: The product does not have any known adverse effects on the environment.

12.1. Toxicity
Ecology - general: The product does not have any known adverse effects on the environment.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
Lysozyme Hydrochloride Granular (LG) (9066-59-5)
PBT: not yet assessed

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Regional legislation (waste): Dispose of contents/container to Comply with applicable local, national and international regulations.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number
No dangerous good in sense of transport regulations.

14.2. UN proper shipping name
Not applicable

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable
14.5. Environmental hazards
No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport
No additional information available

14.6.2. Transport by sea
No additional information available

14.6.3. Air transport
No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Contains no REACH candidate substance

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
CSA has not been established

SECTION 16: Other information

Sources of Key data: Classification is based on the harmonized classification of enzymes according to “AMFEP Fact Sheet on Enzymes and the EU Regulation on classification, labelling and packaging of substances and mixtures (EC No 1272/2008, "CLP Regulation")”.

Other information: Bioseutica B.V.’s SDS. The information presented in this Safety Data Sheet is based on current knowledge and is believed to be complete and accurate. It describes the product for the purposes of health, safety and environment requirements only and shall, therefore, be used only as a guide. The data refers to a specific product and may not be valid for combined uses with other products. It is the user’s obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

Full text of R-, H- and EUH-phrases:

<table>
<thead>
<tr>
<th>Resp. Sens. 1</th>
<th>Respiratory sensitisation Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>R42</td>
<td>May cause sensitization by inhalation.</td>
</tr>
<tr>
<td>Xn</td>
<td>Harmful</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.