

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

1.1. Product identifier

Product form	: Substance
Trade name	: Lysozyme Hydrochloride Granulate (LG)
IUPAC name	: Lysozyme, hydrochloride
EC no	: 232-954-0
CAS No.	: 9066-59-5
REACH registration No.	: Not yet available
Synonyms	: Muramidase; Lysozyme hydrochloride LP; Mucopeptide N-acetylmuramoyl hydrolase; Lysozyme

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

1.2.1. Relevant identified uses

Main use category : Inactivation of bacteria in selected food products

1.2.2. Uses advised against

No uses advised against identified.

1.3. 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

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. 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

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

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.

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

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according to Regulation (EC) No. 1907/2006 (REACH)

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Lysozyme, hydrochloride	(CAS No.) 9066-59-5 (EC no) 232-954-0	94	Xn; R42

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Lysozyme, hydrochloride	(CAS No.) 9066-59-5 (EC no) 232-954-0	94	Resp. Sens. 1, H334

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.

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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 : No data available

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.

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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)

LC50 inhalation rat (ppm)	5800 ppm IRP-MUS
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Skin corrosion/irritation : Not classified
pH: 3.0-3.6

Serious eye damage/irritation : Not classified
pH: 3.0-3.6

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

SECTION 12: Ecological information

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

vPvB: 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

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14.5. Environmental hazards

Other information : 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::

Resp. Sens. 1	Respiratory sensitisation Category 1
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
R42	May cause sensitization by inhalation.
Xn	Harmful

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.