

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878 Issue date: 30/01/2018 Revision date: 05/03/2021 Supersedes version of: 30/01/2018 Version: 2.0

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

1.1. Product identifier

Product form : Substance

Trade name : LACTICIDE LYSOZYME

EC-No. : 232-954-0 CAS-No. : 9066-59-5

Type of product : For œnological use

Formula : C616H963N193O182S10 x HCl

Synonyms : Lysozyme hydrochloride; Muramidase

Product group : Trade product

Other means of identification : E1105

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

1.2.1. Relevant identified uses

Main use category : Professional use

Industrial/Professional use spec : For professional users only

Use of the substance/mixture : Enzyme with endo-glucosidase activity; hen egg white extract. Enzyme to delay

or prevent malolactic fermentation by degrading lactic bacterial cell walls (Gram

+).

Use of the substance/mixture : For œnological use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

LAMOTHE-ABIET

Avenue Ferdinand de Lesseps ZA-ACTIPOLIS

33610 CANEJAN - FRANCE

T+33557779292 - F+33556864002

contact@lamothe-abiet.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145 Westmead	13 11 26	
Canada	Ontario Poison Centre (OPC)	The Hospital for Sick Children 555 University Avenue ON M5G 1X8 Toronto	1-800-268-9017 (416) 813-5900	
Canada	BC Drug and Poison Information Centre (DPIC)	655 West 12th Avenue BC V5Z 4R4 Vancouver	1-800-567-8911 (604) 682-5050	

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China	National Poison Control Center	Chinese Center for Disease Control and Prevention Nanwei road, No.29 100050 Beijing	+86 10 831 32 046	
Croatia	Centar za kontrolu otrovanja Institut za medicinska istraživanja i medicinu rada	Ksaverska Cesta 2 p.p. 291 10000 Zagreb	+385 1 234 8342	Information available 24/7 in Croatian and English
Czech Republic	Toxikologické informační středisko Klinika pracovního lékařství VFN a 1. LF UK	Na Bojišti 1 120 00 Praha 2	+420 224 919 293 +420 224 915 402	
Denmark	Giftlinjen	Bispebjerg Bakke 23 Opgang 20 C 2400 København NV	+45 82 12 12 12	
Georgia	National Toxicology Information Advisory Center	Tbilisi State Medical University Department of Toxicology - 7 Asatiani St. 380 077 Tbilisi	+995 99 533320	
Greece	Poisons Information Centre Children's Hospital P&A Kyriakou	11762 Athens	+30 2 10 779 3777	
Hungary	Országos Kémiai Biztonsági Intézet Egészségügyi Toxikológiai Tájékoztató Szolgálat	Nagyvárad tér 2. 1437 Budapest, Pf. 839 1097 Budapest	+36 80 20 11 99	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Japan	Japan Poison Information Center	Tsukuba Medical Center 1-1-1 Amakubo 305-0005 Tsukuba City, Ibaraki	+81-29-856-3566 +81-72-727-2499	
Jordan	National Drug & Poison Information Center of Jordan		0798506755 00962-6-5353444	
Kazakhstan	Republican Toxicology Center	Tole-bi 93 480083 Almaty	+7 3272 925 868	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	

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New Zealand	National Poisons Centre	Dunedin School of Medicine, University of Otago PO Box 913 9054 Dunedin	0800 764 766 +56 2 2 247 3600	
Poland	National Poisons Information Centre The Nofer Institute of Occupational Medicine (Łódź)	ul. Teresy 8 P.O. BOX 199 90950 Łódź	+48 42 63 14 724	
Romania	Department of Clinical Toxicology Spitalul de Urgenta Floreasca	Calea Floreasca Bucuresti	+40 21 230 8000	
Russia	Информационно- консультативный центр по токсикология (RTIAC) Министерство здравоохранения Российской Федерации	3 Сухаревская Площадь Блок 7 129090 г. Москва	+7 495 628 1687 (только на русском)	
Serbia	Nacionalni centar za kontrolu trovanja - VMA	Crnotravska 17 11000 Beograd	+381 11 360 84 40	
Slovenia	Center za klinično toksikologijo in farmakologijo Interna klinika, UKCL	Zaloška 7 1000 Ljubljana	+386 522 52 83	
South Africa	Tygerberg Poison Information Centre	Division of Clinical Pharmacology Faculty of Medicine and Heath Sciences Stellenbosch University - PO Box 241 8 000 Cape Town	0861 555 777 +56 2 2 247 3600	
Sweden	Giftinformationscentralen	Solna Strandväg 21 171 54 Solna	112 – begär Giftinformation	
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzısıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	

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United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	
United Kingdom	National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0344 892 0111	
United States of America	American Association of Poison Control Centers	515 King St., Suite 510 VA 22314 Alexandria	1-800-222-1222 +56 2 2 247 3600	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Respiratory sensitisation, Category 1 H334

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

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Precautionary statements (CLP) : P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.

P285 - In case of inadequate ventilation wear respiratory protection.

P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or

doctor/physician.

P304+P341 - IF INHALED: if breathing is difficult, remove victim to fresh air and

keep at rest in a position comfortable for breathing.

2.3. Other hazards

Other hazards which do not result in classification

: May cause sensitization by inhalation and skin contact. mild eye irritation. mild

skin irritation.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent
Name : LACTICIDE LYSOZYME

CAS-No. : 9066-59-5 EC-No. : 232-954-0

Name	Product identifier	%
Lysozyme (E1105)	(CAS-No.) 9066-59-5	100
	(EC-No.) 232-954-0	
	(REACH-no) 01-2120086351-59	

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If symptoms persist call a doctor. Sensitisation : contact can cause allergic

reactions in humans. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If symptoms

persist, call a physician. If experiencing respiratory symptoms: Call a poison

center or a doctor.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and

wash immediately with plenty of water and soap. If symptoms persist, call a

physician. Wash skin with plenty of water.

First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Rinse eyes with water as a

precaution.

First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Do not

induce vomiting. Immediately give plenty of water. Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel

unwell.

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4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : More detailed information: See section 11.

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Slight irritation.
Symptoms/effects after eye contact : mild eye irritation.

Symptoms/effects after ingestion : May cause irritation to the digestive tract.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : carbon dioxide (CO2), powder, alcohol-resistant foam, water spray. Water

spray. Dry powder. Foam.

Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case : Toxic fumes may be released.

of fire

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-

contained breathing apparatus. Complete protective clothing.

Other information : Do not contaminate ground and surface water. Dispose in a safe manner in

accordance with local/national regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear personal protective equipment.

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing

dust/fume/gas/mist/vapours/spray.

Measures in case of dust release : Avoid dust formation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For

further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Do not flush into surface water or sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Contain leaking substance, pump over in

suitable containers. Clean contaminated surfaces with an excess of water.

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Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Store tightly closed in a dry and cool place. Ensure good

ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after

handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep only in the original container.

Storage conditions : Keep in a well-ventilated room. Store in a dry, cool place. Keep out of direct

sunlight. Keep container tightly closed to prevent moisture pick-up. Store in a

well-ventilated place. Keep cool.

Heat and ignition sources : Keep away from ignition sources (including static discharges).

7.3. Specific end use(s)

For œnological use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Refer to protective measures listed in Sections 7 and 8.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:				
Safety glasses				
Туре	Field of application	Characteristics	Standard	
Safety glasses	Dust	With side shields	EN 166	

8.2.2.2. Skin protection

Skin and body protection:	
Wear suitable protective clothing	

Hand protection:

In case of repeated or prolonged contact wear gloves. Nitrile rubber gloves. Butyl rubber gloves. Latex gloves. Wash hands immediately after handling the product

Туре	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.4		EN ISO 374

Other skin protection

Materials for protective clothing:

Long sleeved protective clothing

8.2.2.3. Respiratory protection

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Dust production: dust mask with filter type P1. EN 149

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Do not allow into drains or water courses. Avoid release to the environment. May be discharged to wastewater treatment installation.

Other information:

Do not eat, drink or smoke during work. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Colour : White to off-white.

Appearance : Powder.

Odour : Product (article) characteristics.

Odour threshold : Not available Melting point : Not available Freezing point : Not applicable **Boiling point** : Not available Flammability : Non flammable. **Explosive limits** : Not applicable Lower explosive limit (LEL) : Not applicable Upper explosive limit (UEL) : Not applicable Flash point : Not applicable : Not applicable Auto-ignition temperature

Decomposition temperature : 208 °C

pH : Not available
pH solution : 3 – 3,6 2%
Viscosity, kinematic : Not applicable

Solubility : Soluble in water. Insoluble in oils/fats.

Water: 285 g/l 20°C - pH 4

: Not available

Partition coefficient n-octanol/water (Log

Kow)

Vapour pressure : 147 Pa 20° C

Vapour pressure at 50° C : Not available

Density : Not available

Relative density : $\approx 0,988 \ 20^{\circ}$ C

Relative vapour density at 20° C : Not applicable

Particle size : Not available

Particle size distribution : Not available

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Particle shape : Not available
Particle aspect ratio : Not available
Particle aggregation state : Not available
Particle agglomeration state : Not available
Particle specific surface area : Not available
Particle dustiness : Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat and direct sunlight. Heat. flames or sparks. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

See Heading 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Lysozyme (E1105) (9066-59-5)	
LD50 oral rat	> 5050 mg/kg
LD50 dermal rabbit	> 5050 mg/kg

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LC50 Inhalation - Rat	> 2,51 mg/l/4h
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Skin corrosion/irritation : Not classified Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity : Not classified : Not classified Carcinogenicity

: Not classified Reproductive toxicity

Lysozyme (E1105) (9066-59-5)	
NOAEL (animal/male, F0/P)	> 200 mg/kg

STOT-single exposure : Not classified

: Not classified STOT-repeated exposure

Lysozyme (E1105) (9066-59-5)	
NOAEL (oral, rat, 90 days)	> 500 mg/kg bodyweight/day

Aspiration hazard : Not classified

LACTICIDE LYSOZYME (9066-59-5)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

11.2.2 Other information

Potential adverse human health effects and : Sensitisation : contact can cause allergic reactions in humans

symptoms

SECTION 12: Ecological information

12.1. Toxicity

: The product is not considered harmful to aquatic organisms nor to cause long-Ecology - general

term adverse effects in the environment.

Hazardous to the aquatic environment,

short-term (acute)

: Not classified

Hazardous to the aquatic environment, long- : Not classified

term (chronic)

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Lysozyme (E1105) (9066-59-5)	
LC50 - Fish [1]	> 1 g/l Cyprinus carpio
LC50 - Fish [2]	> 1 g/l Danio rerio
EC50 - Crustacea [1]	> 1 mg/l Daphnia magna
ErC50 algae	> 97 mg/l 72h - Desmodesmus subspicatus

12.2. Persistence and degradability

Lysozyme (E1105) (9066-59-5)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Lysozyme (E1105) (9066-59-5)	
Partition coefficient n-octanol/water (Log Pow)	< 0,01 25°C
Bioaccumulative potential	There is no bioaccumulation.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Other adverse effects : Do not allow to enter drains or water courses, Not dangerous for the ozone layer

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting

instructions.

Sewage disposal recommendations : No known adverse effects on the functioning of water treatment plants under

normal use conditions as recommended.

Product/Packaging disposal : Empty remaining contents. Dispose of contents/container in accordance with

recommendations licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

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14.1. UN number or ID number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

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Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

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

LACTICIDE LYSOZYME is not on the REACH Candidate List

LACTICIDE LYSOZYME is not on the REACH Annex XIV List

LACTICIDE LYSOZYME is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

LACTICIDE LYSOZYME is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling

Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : LACTICIDE LYSOZYME is listed SZW-lijst van mutagene stoffen : LACTICIDE LYSOZYME is listed NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen - Borstvoeding

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen -

Vruchtbaarheid

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen - Ontwikkeling

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

No chemical safety assessment has been carried out

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SECTION 16: Other information		
Full text of H- and EUH-statements:		
Resp. Sens. 1	Respiratory sensitisation, Category 1	
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	

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.