

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

1.1. Product identifier

Product form	: Mixture
Trade name	: LAFAZYM® AROM
Type of product	: For œnological use
Product group	: Trade product

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	: β -glucosidase and pectinase preparation to favour varietal aroma expression.
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

LAFFORT FRANCE
P.O. Box CS 61611
33072 BORDEAUX CEDEX - FRANCE
T +33 (0)5 56 86 53 04 - F +33 (0)5 56 86 30 50
info@laffort.com - www.laffort.com

Distributor

LAFFORT CHILE
PARCELA 233, LOTE 2,
COLONIA KENNEDY, SECTOR HOSPITAL
9540000 PAINE - CHILE
T +56 22 979 1590 - F +56 9 5201 7140
info@laffort.com - www.laffort.com

Distributor

LAFFORT ITALIA
S.P. PER CASTELNUOVO SCRIVIA S.N.C.
15057 TORTONA AL
T +39 0131 863 608 - F +39 0131 821 305
laffortitalia@laffort.com - www.laffort.com

Distributor

LAFFORT SOUTH AFRICA
32 ZANDWYK PARK
7646 PAARL - SOUTH AFRICA
T +27 21 882 8106
info@laffort.com - www.laffort.com

Distributor

LAFFORT AUSTRALIA
23 BURWOOD AVENUE
WOODVILLE NORTH
5012 SOUTH AUSTRALIA - AUSTRALIA
T (08) 8360 2200
info@laffort.com - www.laffort.com

Manufacturer

LAFFORT ESPAÑA S.A.
TXIRRITA MALEO 12 APTDO 246
20100 RENTERIA (Guipúzcoa) - ESPAÑA
T 0034943344068 - F 0034943344281
info@laffort.com - www.laffort.com

Distributor

LAFFORT NEW ZEALAND
4/B GREENWOODS CLOSE
TITIRANGI
P.O. Box P.O. BOX 60-249
1000 AUCKLAND - NEW ZEALAND
T 64 (0) 21 322 290
info@laffort.com - www.laffort.com

Distributor

LAFFORT USA
1460 CADER LANE
SUITE C
CA 94954 PETALUMA - USA
T +1 (707) 775 4530
laffortusa@laffort.com - www.laffortusa.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 +56 2 2 247 3600	
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	

LAFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

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	
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	
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	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
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 токсикологии (РТИАС) Министерство здравоохранения Российской Федерации	3 Сухареvская Площадь Блок 7 129090 г. Москва	+7 495 628 1687 (только на русском)	
Slovenia	Center za klinično toksikologijo in farmakologijo Interna klinika, UKCL	Zaloška cesta 7 1525 Ljubljana	+386 41 650 500	
South Africa	Tygerberg Poison Information Centre	Division of Clinical Pharmacology Faculty of Medicine and Health Sciences Stellenbosch University - PO Box 241 8 000 Cape Town	0861 555 777 +56 2 2 247 3600	
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hfzışihha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 6590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.
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 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

LAFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

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

Hazardous ingredients :

Polygalacturonase enzyme; Beta-glucosidase enzyme

Hazard statements (CLP) :

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP) :

P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
P280 - Wear protective gloves, protective clothing/eye protection/face protection.
P284 - In case of inadequate ventilation wear respiratory protection.
P304+P340 - IF INHALED: Remove victim 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.

2.3. Other hazards

Other hazards not contributing to the classification :

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polygalacturonase enzyme	(CAS-No.) 9032-75-1 (EC-No.) 232-885-6 (EC Index-No.) IUB n°3.2.1.15	0,66 - 6,66	Resp. Sens. 1, H334
Beta-glucosidase enzyme	(CAS-No.) 9001-22-3 (EC-No.) 232-589-7 (EC Index-No.) 647-001-00-8	0,66 - 6,66	Resp. Sens. 1, H334

Full text of H-statements: see section 16

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.

First-aid measures after inhalation :

Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.

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.

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.

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.

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. Cough, difficult breathing or other symptoms of poisoning may occur within some hours.

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.

LAFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

General measures : Evacuate personnel to a safe area. Ensure adequate air ventilation.

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, mist or 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

Do not flush into surface water or sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Dust deposited may be vacuum cleaned or the area hosed down with water. Mechanically recover the product. Contain leaking substance, pump over in suitable containers. Clean contaminated surfaces with an excess of water.

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

Additional hazards when processed : Ensure good ventilation of the work station.

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.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. If on skin, take off contaminated clothing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

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.

7.3. Specific end use(s)

For oenological use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

LAFAZYM® AROM

DNEL/DMEL (Workers)

Long-term - local effects, inhalation 0,00006 mg/m³ Enzymes

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment:

Refer to protective measures listed in Sections 7 and 8.

Materials for protective clothing:

Long sleeved protective clothing

LFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

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

Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Dust	With side shields	EN 166

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Extra personal protection: P3 filter respirator for toxic particles

Personal protective equipment symbol(s):



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
Appearance	: Granulate.
Colour	: Off-white. brown.
Odour	: Product (article) characteristics.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 0,65
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

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.

LFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

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

Heat. flames or sparks. Moisture.

10.5. Incompatible materials

None to our knowledge.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. See Heading 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Polygalacturonase enzyme (9032-75-1)

LD50 oral	> 2000 mg/kg bodyweight OECD TG 401, 420
-----------	--

Beta-glucosidase enzyme (9001-22-3)

LD50 oral rat	> 5000 mg/kg
---------------	--------------

Skin corrosion/irritation	: Not irritating to skin (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not irritating to eyes (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Potential adverse human health effects and symptoms	: Sensitisation : contact can cause allergic reactions in humans.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Polygalacturonase enzyme (9032-75-1)

LC50 fish 1	58,3 - 326,7 mg/l
EC50 Daphnia 1	31,7 - 457 mg/l
ErC50 (algae)	> 5,2 mg/l 72h

12.2. Persistence and degradability

Polygalacturonase enzyme (9032-75-1)

Persistence and degradability	Readily biodegradable.
-------------------------------	------------------------

Beta-glucosidase enzyme (9001-22-3)

Persistence and degradability	Readily biodegradable.
-------------------------------	------------------------

12.3. Bioaccumulative potential

Polygalacturonase enzyme (9032-75-1)

Partition coefficient n-octanol/water (Log Pow)	< 0
Bioaccumulative potential	There is no bioaccumulation.

LAFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

Beta-glucosidase enzyme (9001-22-3)

Partition coefficient n-octanol/water (Log Pow)

< 0

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. Other adverse effects

Other adverse effects

: Do not allow to enter drains or water courses.

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 recommendations

: Empty remaining contents. Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR)

: Not applicable

UN-No. (IMDG)

: Not applicable

UN-No. (IATA)

: Not applicable

UN-No. (ADN)

: Not applicable

UN-No. (RID)

: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)

: Not applicable

Proper Shipping Name (IMDG)

: Not applicable

Proper Shipping Name (IATA)

: Not applicable

Proper Shipping Name (ADN)

: Not applicable

Proper Shipping Name (RID)

: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)

: Not applicable

IMDG

Transport hazard class(es) (IMDG)

: Not applicable

IATA

Transport hazard class(es) (IATA)

: Not applicable

ADN

Transport hazard class(es) (ADN)

: Not applicable

RID

Transport hazard class(es) (RID)

: Not applicable

14.4. Packing group

Packing group (ADR)

: Not applicable

Packing group (IMDG)

: Not applicable

Packing group (IATA)

: Not applicable

Packing group (ADN)

: Not applicable

Packing group (RID)

: Not applicable

14.5. Environmental hazards

Dangerous for the environment

: No

Marine pollutant

: No

Other information

: No supplementary information available

LFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol 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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance 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.

Contains no substance 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

Regulatory reference : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : Polygalacturonase enzyme, Beta-glucosidase enzyme are listed

SZW-lijst van mutagene stoffen : Polygalacturonase enzyme, Beta-glucosidase enzyme are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Skin corrosion/irritation - comment	Added	
	Serious eye damage/irritation - comment	Added	
4.2	Symptoms/ effects after inhalation	Added	
5.2	Hazardous decomposition products in case of fire	Added	
6.1	Emergency procedures	Added	
6.3	Methods for cleaning up	Modified	
7.1	Hygiene measures	Added	
7.1	Additional hazards when processed	Added	

LFAZYM® AROM

Safety Data Sheet

according to Regulation (EU) 2015/830

8.1	Long-term - local effects, inhalation	Added	
8.2	Appropriate engineering controls	Added	
9.1	Appearance	Modified	
9.1	Colour	Modified	
10.3	Possibility of hazardous reactions	Added	
10.5	Incompatible materials	Added	
10.6	Hazardous decomposition products	Added	
11	Reason for no classification	Added	

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.