



MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT & COMPANY IDENTIFICATION

Product name: **LALLZYME C.**
Product code: 60007-60-40.
Description: Granulated fungal pectinase preparation.
Product use: Enzymes for oenology.
Manufacturer: **Lallemand Inc.**, 1620 Prefontaine, Montreal, QUEBEC, Montreal, Quebec, Canada, H1W 2N8.
Person responsible for marketing within the community: **Danstar Ferment A.G.**, Bahnhofstrae 7,C.P. 445 CH 6301 Zug, Switzerland.
Person responsible for MSDS preparation: **Lallemand Oenology.**
Information telephone: + 33 5 62 74 55 55
Emergency telephone: + 33 5 62 74 55 55
Date of MSDS preparation: March 2010

SECTION II - HEALTH HAZARD IDENTIFICATION

Signs and symptoms of overexposure to enzyme powder through primary routes of exposure:

Skin contact: May cause irritation on prolonged contact.
Eye contact: May cause eye irritation upon direct contact. Seek medical attention.
Inhalation: In some cases, repeated exposure may lead to allergic sensitization based on the exposure level, duration and susceptibility of the individual. Subsequent chronic or acute exposure in sensitized persons may cause a respiratory allergic reaction in minutes or delayed, or a mixture of both. Typical symptoms are respiratory irritation, breathlessness, coughing, chest tightness and difficulty breathing.
Ingestion: Excessive ingestion of enzyme could lead to intestinal discomfort (e.g. diarrhea, bloating, cramping, etc.).

SECTION III - DATA ON COMPONENTS

Product composition: Pectinases.
Microbial concentration: None
Classification: Xn Harmful R42

Name	IUB	%	CAS #	EINECS
Pectine Lyase	4.2.2.10	1-50	9033-35-6	232-894-5
Pectine Methylesterase	3.1.1.11	1-50	9025-98-3	232-807-0
Polygalacturonase	3.1.2.15	1-50	9032-75-1	232-885-6

SECTION IV - FIRST AID MEASURES (If any symptoms persist, seek medical attention)

Emergency and First aid procedures

Eye contact: Flush eyes for at least 15 minutes.
Skin contact: Wash affected area with soap and water.
Inhalation: Immediately remove person to fresh air.
Ingestion: Drink plenty of water.

Medical conditions likely to be aggravated by exposure: Asthma.
Delayed effect that can be expected after exposure: Unknown.



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SECTION V – FIRE FIGHTING MEASURES

Conditions of flammability:	Unknown.
Extinguishing media:	Water, foam, carbon dioxide, dry powder.
Flash point:	Not applicable.
Flammable limits:	Not applicable.
Autoignition temperature:	No data available.
Hazardous combustion products:	No data available.
Explosion – sensitivity to mechanical impact:	None.
Explosion – sensitivity to static discharge:	None.
Firefighting procedures:	Use self-contained breathing apparatus (SCBA) when exposed to confined or enclosed fires.

SECTION VI – ACCIDENTAL RELEASE MEASURES

In case material released or spilled, vacuum spill or dilute with water before removal. Collect waste in suitable container and wash surface with water. Avoid high pressure rinsing. Maintain good housekeeping practices. Biodegradable, may be discharged into sewer. No special disposal method required, except that it be in accordance with current local, state/provincial and federal regulations.

SECTION VII – HANDLING & STORAGE

Handling:	Avoid breathing dust . Avoid contact with eyes, skin and clothing. Wear protective equipment described in Section VIII if exposure conditions warrant. Wash thoroughly after handling.
Storage:	Refrigerated and dry conditions recommended. Containers should be kept sealed and dry.

SECTION VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory protection:	Protective mask with an assigned protection factor of at least 20 should be worn in conditions of excessive dusting .
Eye contact:	Protective glasses should be worn in conditions of excessive dusting. If eye contact occurs, rinse with water.
Clothing:	Suitable protective clothing. Follow current Good Manufacturing Practices when handling food or dietary supplement ingredients and materials.
Specific engineering controls:	None.
Environmental exposure control	None.

SECTION IX – PHYSICAL & CHEMICAL PROPERTIES

Microbial concentration:	None.
Physical state:	Solid (powder).
Appearance:	Beige granule.
Odour:	Not applicable.
Odour threshold:	Not applicable.
Specific gravity:	No data available.
Vapour pressure:	Not applicable.
Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Boiling point:	Not applicable.
Freezing point:	Not applicable.
Melting point:	Mixture.
pH:	4 to 5.
Partition coefficient:	Not applicable.
Viscosity:	Not applicable.
Solubility in water:	Partially soluble.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.



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SECTION X – STABILITY AND REACTIVITY

Stability:	Non-reactive (stable under normal conditions of use).
Incompatibility:	No hazardous incompatibilities.
Conditions to avoid:	Avoid high humidity.
Materials to avoid	None.
Hazardous decomposition products:	None.
Hazardous polymerization:	None.

SECTION XI – TOXICOLOGICAL INFORMATION

Product recognized as safe.	
Effects of short-term exposure:	None.
Effects of long-term exposure:	None.
Irritancy:	Prolonged skin contact may cause minor irritation.
Sensitization:	Possible allergic sensitization (see Section II).
Allergy:	Repeated inhalation of enzyme dust may cause allergic type reactions in sensitized individuals.
Carcinogenicity:	No listed as a carcinogen or potential by the NTP, IARC Monographs or OSHA.
Reproductive toxicity:	Unknown.
Teratogenicity:	Unknown.
Mutagenicity:	Unknown.
Toxicologically synergistic products:	Unknown.

SECTION XII – ECOLOGICAL INFORMATION

Adopt good working practices so that the product is not released into the environment.

SECTION XIII – DISPOSAL CONSIDERATIONS

Product can be removed and disposed of in regular trash or waste. No special disposal method required, except that it be in accordance with current local authority regulations.

SECTION XIV – TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION XV – REGULATORY INFORMATION

Labelling:	Xn (harmful) R42: may cause sensitization by inhalation S22: do not breathe dust S23: do not breathe spray
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SECTION XVI – OTHER INFORMATION

The information herein is based on current available data and is believed to be correct. No warranty, express or implied, is made regarding data accuracy, merchantability or hazards associated with product use. The user is responsible for determining product suitability, conditions of use and all associated hazards. Values listed in this document are not product specifications.