

ENZYME MATERIAL SAFETY DATA SHEET (MSDS)

LALLZYME EX
(GRANULATED ENZYME)

Revision date : April 4, 2002

Revision number : 003

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Commercial product name : **LALLZYME EX**
 Description : enzyme preparation
 Manufacturer : **LALLEMAND SA**
 Parc d'Activité de Font Grasse
 BP 59
 19 rue des Briquetiers, 31700 BLAGNAC, FRANCE
 Phone : +33 5 62 74 55 55 Fax : +33 5 62 74 55 00
 Emergency phone number : +33 5 62 74 55 55

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization of active component : granulated fungal pectinases enzyme preparation
 IUB number : 3.2.1.15 ; 3.1.1.11 ; 4.2.2.10
 CAS number : 9032-75-1 ; 9025-98-3 ; 9033-35-6
 EINECS number : 232-885-6 ; 232-807-0 ; 232-894-5
 Classification : X_n (harmful), R 42

3. HAZARD IDENTIFICATION

Repeated inhalation of enzyme dust may induce sensitization and may cause allergic type reactions in sensitized individuals. The product may be irritant to eyes. Prolonged skin contact may cause minor irritation.

4. FIRST AID MEASURES

Skin contact : Wash off with plenty of water. If irritation occurs, seek medical advice.
 Eye contact : Rinse with plenty of water for at least 15 minutes. If irritation occurs, seek medical advice.
 Ingestion : Rinse mouth and throat thoroughly with water. Should irritation occur seek medical advice.
 Inhalation : Remove from exposure. If irritation or allergic response occurs, consult a doctor.

5. FIRE-FIGHTING MEASURES

Suitable fire extinguishing media : water, foam, halones
 Non-suitable media : none
 Special exposure hazards : none
 Protection against fire and explosions : no special requirements

6. ACCIDENTAL RELEASE MEASURES

After spillage avoid raising dust or aerosols. Pick up by mechanical means or by a vacuum equipped with a high efficiency filter. Dilute remainder with plenty of water. Never use high pressure water jet. Assure sufficient ventilation. Wash contaminated clothing.

7. HANDLING AND STORAGE

Avoid the formation of dust and aerosols. Assure good ventilation of the room, when handling this product. Store container in a dry and cool place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment:

Respiratory protection	:	respirator approved for these types of dust and potential airborne concentrations (mask with P3 filter)
Hand protection	:	impermeable gloves
Eye protection	:	protecting glasses or eye shield

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	beige granule
Odor	:	slight fermentation odor
pH	:	from 4.0 to 5.0 when dissolved in distilled water (1%)
Solubility	:	readily soluble
Explosive properties	:	potential risk of dust explosion

10. STABILITY AND REACTIVITY

The material is stable under normal conditions of use.

Conditions to avoid	:	none
Materials to avoid	:	none
Hazardous decomposition products	:	none

11. TOXICOLOGICAL INFORMATION

Repeated inhalation of enzyme dust may cause sensitization and may cause allergic type reactions in sensitized individuals. The product may be irritant to eyes. Prolonged skin contact may cause minor irritation.

12. ECOLOGICAL INFORMATION

Product is believed not to be dangerous to the environment with respect to mobility, persistency and degradability, bioaccumulative potential, aquatic toxicity and other data relating to ecotoxicity.

13. DISPOSAL CONSIDERATIONS

No special disposal method required, except that it be in accordance with current local authority regulations.

14. TRANSPORT INFORMATION

UN No.	:	not applicable
Sea	:	not applicable
Road/Rail	:	not applicable
Air	:	not applicable

15. REGULATORY INFORMATION

Preparation does not contain ingredients listed as a dangerous substance in Annex I of the EEC Directive 67/548. It is a dangerous preparation with the meaning of the EEC Directive (88/379).

Labelling : X_n (harmful)
R42: May cause sensitization by inhalation
S22: Do not breathe dust
S23: Do not breathe spray

16. OTHER INFORMATION

The information contained in this Safety Data Sheet, as of the issue date, is believed to be true and correct. However, the accuracy or completeness of this information and any recommendations or suggestions are made without warranty or guarantee. Since the conditions of use are beyond the control of our company, it is the responsibility of the user to determine the conditions of safe use of this product. The information in this sheet does not represent analytical specifications, for which please refer to our technical data sheet.

The format of this enzyme Material Safety Data Sheet complies both with the EEC Directive 91/155/EEC and ISO standard 11014-1 and is recommended by the Association of Microbial Food Enzyme Producers "AMFEP".