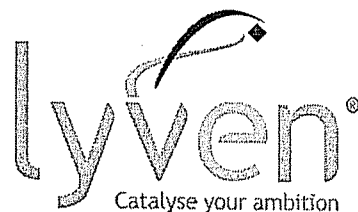


MATERIAL SAFETY DATA SHEET

ENZYME PREPARATION



1. Substance/Preparation and company identification

Product name: SCOTTZYME HC

Synonyms: Liquid enzyme preparation (enzyme proteins)

Use: Industrial processing aid

Company: LYVEN - ZAC NORMANDIAL – 14460 COLOMBELLES
France – Tel: +33 (0)2 31 35 05 30

**Emergency
Phone number:** +33 (0)2 31 35 05 30 (business hours)

MSDS contact Email: fguillamin.lyven@soufflet-group.com

2. Hazard identification

EC Classification: Xn; R42

Health hazard:
May cause sensitization by inhalation

Environmental hazard:
No known hazard in the current state of knowledge.

Physical and chemical hazard:
No known hazard in the current state of knowledge.

3. Composition/Information on components

Substance/Preparation: Preparation

Chemical name	CAS N°	CE N°	%	Classification
Polygalacturonase	9032-75-1	232-885-6	10-15%	R42
Pectin esterase	9025-98-3	232-807-0	3-8%	R42
Pectin lyase	9033-35-6	232-894-5	1-5%	R42
Cellulase	9012-54-8	232-734-4	3-8%	R42

The components which are not given here are not hazardous.

4. First aid measures

Effects and symptoms

Inhalation: Inhalation of dust or aerosol may cause respiratory tract irritation and sensitization by inhalation. Sensitive people may develop asthma following inhalation of this substance.

Ingestion: No effect known.

Skin contact: Prolonged or repeated skin contact may cause irritation.

Eye contact: May cause eye irritation.

First aid measures

General points:	Rescuer protection: wear suitable protective equipment (see Section 8). Remove indisposed people from exposure to fresh air. Take off contaminated clothes and shoes.
Inhalation:	Remove to fresh air. Prevent cooling of the person. Keep the victim to rest in a reclining position. In the absence of breathing, give artificial respiration. Seek medical advice.
Ingestion:	In case of ingestion, Rinse mouth thoroughly with water (only if the person is conscious). If symptoms occur, seek medical advice.
Skin contact:	Rinse with plenty of water. Take off contaminated clothes and shoes. If symptoms occur, seek medical advice.
Eye contact:	Rinse with plenty of water. If symptoms occur, seek medical advice.
First aid measures	ensure that eyewash automatic and safety showers are located near the location of workstations.

5. Fire-fighting measures

Suitable extinguishing means

- Little fire:** Use chemical powder or carbonic gas.
Big fire: Use surrounding material suitable means.

Unusual fire/explosion risk

No particular hazard.

Risk related to thermal decomposition products

In case of fire, may induce toxic or corrosive decomposition products.

Special fire-fighting measures

Water used for fire-fighting which have been contaminated by this product must be stored in a closed place and must not be poured out in aquatic environment or in sewage system.

Intervener's protection

Wear suitable protective clothing and autonomous respiratory system.

6. Accidental release measures

Personal precautions: Avoid eye, skin and clothes contact. Use suitable protective equipment (Section 8). Seek immediately advice from a specialist.

Environmental precaution: No special measure required.

Cleaning means

Little accidental release: Absorb with suitable material. Place in a suitable container. Clean the area with plenty of water.

Big accidental release: Avoid to flow in sewage system, in under ground and in confined places. Absorb the product with inert material (dry sand or dry soil) and place in a chemical waste container. Recycle if possible.

Remark: see section 8 for individual protective equipment and section 13 for wastes disposal.

7. Handling and storage

Handling: Wherever possible use in closed process. Use suitable ventilation. Use suitable protective equipment. Avoid contact with eyes, skin, respiratory tract and.

Storage: Keep in a cool and dry place.

8. Exposure controls/Personal protection

Professional exposure limits

- Technical measures:** Assure good ventilation of the room when handling.
- Hygienic measures:** Do not eat, drink or smoke during use. Wash your hands after use of the product and before to eat, smoke, go to the toilets and at the end of the working day.

Personal protective equipment

- Respiratory tract :** Mask with p3 filter.
- Skin and body:** Wear suitable protective clothing.
- Eyes:** Full mask.
- Hands:** Wear suitable gloves.
- Recommended material:**
> 8 hours (time before product goes through the material)
Example: nitrile rubber, butyl rubber, neoprene, VITON, PVC. Remove damaged gloves.

The recommendations of personal protection are valid for the high exposure levels. Adapt the personal protection according to the exposure risk.

9. Physical and chemical properties

- Physical state:** Liquid.
- Colour:** Brown.
- Odour:** Slight fermentation odour.
- pH :** 4,5 (concentration 100%).
- Solubility :** Soluble in water.

10. Stability and reactivity

- Stability:** Stable in recommended storage and handling conditions
- Conditions to avoid:** No special recommendation.
- Material to avoid:** No special recommendation.

11. Toxicological information

Potential acute health effects

- Inhalation:** May cause sensitization by inhalation.
- Ingestion:** neither important effect nor critical hazard known.
- Skin contact:** neither important effect nor critical hazard known.
- Eye contact:** neither important effect nor critical hazard known.

- Acute toxicity:** No specific data.

Irritation/Corrosion

Sensitization

Potential chronic health effects

- Chronic effects:** Once sensitized, a strong allergic reaction may occur with a low exposure level.
- Carcinogenicity:** Neither important effect nor critical hazard known.
- Mutagen impact:** Neither important effect nor critical hazard known.
- Teratogenicity:** Neither important effect nor critical hazard known.
- Effects on development:** Neither important effect nor critical hazard known.
- Effects on fertility:** Neither important effect nor critical hazard known.
- Chronic toxicity:** No specific data.
- Carcinogenicity:** No specific data.
- Mutagen impact:** No specific data.
- Teratogenicity:** No specific data.

Toxicity on reproduction: No specific data.

12. Ecological information

Effects on environment: Neither important effect nor critical hazard known.

Eco toxicity on aquatic environment: No specific data.

Persistence/degradability: No specific data.

Other negative impacts: Neither important effect nor critical hazard known.

Mobility: For the data on physical state and solubility, see section 9.

Remarks : The preparation is considered as non hazardous for environment, the mobility, persistency, degradability, bio accumulative potential, aquatic toxicity and other data relating to the eco toxicity.

13. Disposal considerations

Wastes treatment methods

Dispose the wastes in accordance with current national/local authority regulation.

14. Transport information

International regulation

ADR/RID: not applicable.

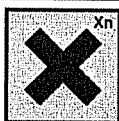
IMDG: not applicable.

ADNR: not applicable.

IATA: not applicable.

15. Regulatory information

Symbol of danger :



Harmful

Risk phrase(s) : R42 – May cause sensitization by inhalation.

Safety phrases: S23 – Do not breath aerosols.
S24 – Avoid contact with skin
S36/37 – Wear suitable protective clothing and gloves.

16. Other data

The information contained in this material 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 do not represent analytical specifications, for which please refer to our technical data sheet.

Purpose of review: complete revision.

The format of this material safety data sheet complies with regulation CE/1907/2006 (REACH), Annex II.