

Material Safety Data Sheet

1. Identification

| | |
|--------------------------|---------------------------------|
| a) Product Name | ACTIONZYME-ALK AMYL L |
| b) Synonyms: | None |
| c) Recommended Use: | Enzyme for Detergent industries |
| d) Uses advised against: | None |
| e) Data on Ingredients: | Protein |

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| Company Information |
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2. Hazards Identification

Classification

| | |
|---|------------|
| a) Skin Corrosion/irritation | Category 2 |
| b) Serious Eye Damage/Eye Irritation | Category 2 |
| c) Respiratory Sensitization | Category 1 |
| d) Specific target organ toxicity (single exposure) | Category 3 |

Label Elements

Signal Word

Danger



Precautionary Statements:

1. Avoid breathing dust/mist/vapor/spray.
2. Use only outdoors or in a well – ventilated area.
3. Wear respiratory protection.
4. Avoid contact with Skin, Eyes and Clothing.
5. Wear protective gloves and safety glasses with side – shields.
6. Ensure regular cleaning of equipment, work area and clothing.
7. Do not ingest.

3. Composition and Information on Ingredients

| | |
|-------------------------|----------------------------------|
| a) Product Name: | ACTIONZYME-ALK AMYL L |
| b) Product description: | Protein |
| c) Product Use: | Enzyme for detergent application |
| d) Active components | Amylase enzyme |
| e) Hazardous component | None |
| f) Chemical Name: | Amylase enzyme |
| g) CAS No.: | 9000-90-2 |
| h) E C No.: | 3.2.1.0 |

4. First Aid Measurement

Inhalation:

In case of vapor inhaled, remove from contaminated area to fresh air. Report the situation. Seek medical attention if allergic response is exhibited.

Eye contact:

In Case of contact with eyes, flush eyes with low pressure water for at least 15 minutes. If irritation develops, seek medical attention.

Skin Contact:

In case of contact with skin, wash skin with soap and cold water. Remove contaminated clothing and wash.

Ingestion:

If swallowed, rinse mouth and throat thoroughly with tap water. Drink water.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

Standard procedure for chemicals fires. Foam. Water.

Non-suitable extinguishing media:

None.

Specific exposure hazards:

None.

Protective equipment:

No special requirements.

Personal precautions/ Emergency procedures:

Use only with adequate ventilation/personal protection. Avoid breathing dust or spray mist. Avoid formation of dust and aerosols. (See section 8).

Containment methods:

Prevent further leakage or spillage if safe to do so.

Cleanup procedures:

Contain and remove spilled product by mechanical means or with a vacuum cleaner equipped with a high efficiency filter. Avoid formation of aerosol.

7. HANDLING AND STORAGE

Safe handling:

Never handle liquid without appropriate personal protective equipment in accordance with Section 8. Avoid splashing and high pressure washing. Ensure good ventilation of the room when handling.

Storage:

Keep container tightly closed in a cool, dry, well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls:

Adequate ventilation.

Eye/Face protection:

Wear protective glasses or eye shield.

Skin protection:

Impermeable gloves recommended.

Respiratory protection:

Use NIOSH approved respiratory protection such as full-face mask.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-----------------------------|
| Appearance | Brown Liquid. |
| Odor: | Characteristic enzyme odor. |
| Odor Threshold | Not available |
| Ph | Not available |
| Melting point/freezing point | Not available |
| Initial boiling point and boiling range | Not available |
| Flash point | Not available |
| Evaporation rate | Not available |
| Flammability (solid, gas) | Not available |
| Upper/ lower flammability or explosive limits | Not available |
| Vapor Pressure | Not available |
| Vapor Density | Not available |
| Relative Density | Not available |
| Solubility | Miscible |
| Partition coefficient: n-octanol/water | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | Not available |

10. STABILITY AND REACTIVITY

Reactivity:

Not available.



Chemical stability:

Stable under normal storage conditions.

Hazardous to reactions:

Not available.

Conditions to avoid:

Not available.

Incompatible materials:

Not available.

Hazardous decomposition products:

Not available.

11. TOXICOLOGICAL INFORMATION

Routes of exposure:

Eye contact, skin contact, ingestion, vapor inhalation.

Symptoms:

Immediate:

Can cause irritation to the eyes, skin, mucus membranes, and the upper respiratory tract.

Delayed:



Vapor inhalation exposure may lead to allergic sensitization based on exposure level, duration, and susceptibility.

Acute toxicity: Not available.

Eye irritation: May cause minor irritation.

Skin irritation: May cause minor irritation.

Respiratory irritation: May cause minor irritation.

Sensitization towards product:

Inhalation of vapor may cause allergic respiratory reactions, including asthma, in susceptible individuals on repeated exposure.

Germ cell mutagenicity: Not available

Reproductive toxicity: Not expected to produce reproductive toxicity

Carcinogenicity: Not classified as a carcinogen by IARC, OSHA, or NTP

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence and degradability: Product is readily Biodegradable.

Bio accumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

No Special disposal method required, except that in accordance to all application federal, state, and local regulations.



14. TRANSPORT INFORMATION

UN Number: Not Classified.

UN Proper Shipping Name: Not Classified.

Transportation Hazard Class: Not Classified.

Packing Group: Not classified.

Transport Environmental Hazard: Not classified.

Transport Special Precautions: Not Classified.

MARPOL: Not classified.

15. REGULATORY INFORMATION

All components of this product are listed or exempt from listing on the TSCA Inventory.

16. OTHER INFORMATION

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|----------------------|------------------------|
| Prepared by | QA/QC Department, MCES |
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