



## SAFETY DATA SHEET

### 1. Identification of the Substance / Preparation and Company

**Klenzyme®** (Registered Trademark in US and Canada)

Enzymatic Presoak and Cleaner

**Product No. 1673**

SDS No. 1673

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**2. Hazards Identification:** May cause skin irritation. Risk of serious damage to eyes. May cause sensitization by inhalation.

### 3. Composition/Information on Ingredients

Hazardous Component(s)	% By Wt.	CAS No.	EU No.	Symbol	R Phrases	Oral LD50	Inhalation LC50
Subtilisins (Proteolytic enzymes)	0.1-1.0	9014-01-1	232-752-2	X <sub>i</sub> , X <sub>n</sub>	37,38, 41, 42	>2g/kg b.w. (rat)	ND
Sodium tetraborate, decahydrate	1 – 5	1303-96-4	NA	NA	NA	4500-5000 mg/kg (rat)	>2.0mg/L (rat)
Triethanolamine	7 - 13	102-71-6	203-049-8	[X <sub>i</sub> ]	[36]	8.57 ml/kg (male rat)	0/5 mortality (male & female rats)

### 4. First Aid Measures

**Eye Contact:** Flush eyes immediately with water for at least 15 minutes. Get medical attention.

**Skin Contact:** Flush skin immediately with water for at least 15 minutes. Get medical attention if irritation persists.

**Inhalation:** Remove patient to fresh air. If not breathing, give artificial respiration. Get medical attention.

**Ingestion:** Do not induce vomiting. Get medical attention. Do not give anything by mouth to an unconscious person. If conscious, drink a large quantity of milk or water.

### 5. Fire-Fighting Measures

**Conditions of Flammability/Flash Point/Auto-ignition Temperature:** NA

**Upper Flammable Limit:** ND **Lower Flammable Limit:** ND

**Special Hazards:** None known. **Explosibility Data:** ND

**Extinguishing Media:** Suitable for surrounding fire.

**Special Fire Fighting Procedures:** None known.

**Hazardous Combustion Products:** aldehydes, CO and CO<sub>2</sub> in fire situations.

**6. Accidental Release Measures:** Spills may be picked up with a mop and followed by a water rinse. Small spills may be flushed to a sanitary sewer with copious amounts of water if in accordance with National and local regulations.

### 7. Handling and Storage

**7.1 Handling:** Wash hands thoroughly after use.

**7.2 Storage:** Avoid exposure to high temperature or humidity. Keep container closed when not in use.

### 8. Exposure Control/Personal Protection

#### 8.1 Occupational Exposure Limits

Triethanolamine: ACGIH TLV = 5 mg/m<sup>3</sup>; Subtilisins: ACGIH TLV = 0.06 ppb (protease as dust)

### 8.2 Personal Protection

**Respirator Protection:** Not required for normal use. If product is applied by means of spraying and ventilation is not sufficient to maintain levels below exposure limits, a NIOSH N95 is the minimum required respirator type.

**Eye Protection:** Safety glasses.

**Protective Gloves:** Rubber.

**Other Protective Clothing and Equipment:** Clothes sufficient to avoid contact.

**Engineering Controls/Ventilation:** Adequate to maintain levels below exposure limits.

### 9. Physical and Chemical Properties

**Solubility in Water:** Complete **Specific Gravity:** Approximately 1.086

**Physical State/Appearance/Odor:** Amber liquid/spicy floral fragrance. **pH:** Approximately 7.5 – 8.0

**Odor Threshold, Vapor Pressure, Vapor Density, Evaporation Rate, Boiling Point and Freezing Point:** ND

**Coefficient of Water/Oil Distribution:** ND

### 10. Stability and Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur.

**Incompatible Materials:** Strong oxidizers.

**Conditions to Avoid/Conditions of Reactivity:** Heat and light.

**Hazardous Decomposition or Byproducts:** aldehydes, CO and CO<sub>2</sub> in fire situations.

### 11. Toxicological Information

#### 11.1 Acute (Primary Routes of Exposure)

**Eyes (Irritancy):** Upon contact, mildly irritating to eyes.

**Skin (Irritancy or Sensitization):** Prolonged or repeated contact may irritate skin. Not a skin sensitizer.

**Inhalation:** Subtilisins in dust form may result in sensitization as respiratory irritation, coughing and/or difficulty in breathing. If product is applied by means of spraying, the potential for similar sensitization cannot be ruled out.

**Ingestion:** May cause upset to gastrointestinal tract.

#### 11.2 Long Term Exposure

**Carcinogenicity:** IARC, NTP and OSHA do not list this product or its ingredients as carcinogens.

**Reproductive Toxicity/Teratogenicity/Mutagenicity/Toxicologically Synergistic Products:** Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction.

### 12. Ecological Information:

Product is ready biodegradable as per OECD Method 301B.  
The surfactant contained in this preparation complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

**13. Disposal Considerations:** Dispose in accordance with local, state, and Federal regulations. Empty containers should be rinsed and discarded in a waste container or offered for recycling if possible. Do not use empty containers for other purposes.

### 14. Transport Information

**Ground:** Non-hazardous

**Sea:** IMDG Class: Non-hazardous

**Air:** ICAO/IATA Class: NONE, but the Bag in Box product packaging is not suitable for air shipment.

### 15. Regulatory Information

**EEC Classification:** IRRITANT **Hazard Symbol:** Xi

**Risk Phrases:** R38: Irritating to skin. R41: Risk of serious damage to eyes. R42: May cause sensitization by inhalation.

**Safety Phrases:** S24: Avoid contact with skin. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S2: Keep out of reach of children

This preparation is classified as dangerous as defined by the UK Chemicals (Hazard Information and Packaging for Supply) Regulations. These regulations implement a number of EC Directives including the Dangerous Substances Directive (67/548/EEC and amendments), the Dangerous Preparations Directive (1999/45/EEC and amendments) and the Safety Data Sheets Directive (91/155/EEC and amendment).

**State Regulations:** May contain trace amounts of chemicals found on the California Prop. 65 list.

**WHMIS Classification:** D2 – Materials Causing Other Toxic Effects (Irritant)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulation.

### 16. Other Information:

The information is intended to provide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions or recommendations are not followed.

NA - Not Applicable ND - No Data