

# **MATERIAL SAFETY DATA SHEET**

Bacterial Protease  
CAROLINA BIOLOGICAL

Revised: 01/22/08  
Replaces: 01/22/08  
Printed: 01/22/08

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## **1. PRODUCT DESCRIPTION**

Product Name: Bacterial Protease  
Product Code(s): 20-2300, 20-2305, 20-2330, 20-2390  
Size: Various  
Chemical Name: Subtilisin  
CAS Number: 9014-01-1  
Formula: No data available  
Synonyms: Protease Enzyme, Alcalase  
Distributor: Carolina Biological Supply Company  
2700 York Road  
Burlington, NC 27215

Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)  
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

## **2. COMPOSITION/INFORMATION ON INGREDIENTS**

Principal Hazardous Components: Protease  
TLV and PEL units:  
ACGIH-TLV: 0.00006 mg/m3 as 100% protease

## **3. HAZARD IDENTIFICATION**

Emergency Overview:  
Potential Health Effects:  
Eyes: May cause irritation.  
Skin: May cause irritation.  
Ingestion: May cause gastrointestinal discomfort.  
Inhalation: May cause irritation to respiratory tract.

## **4. FIRST AID MEASURES**

Emergency and First Aid Procedures:  
Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.  
Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.  
Ingestion - If swallowed, if conscious, give plenty of water. Immediately call a physician or poison control center. Never give anything by mouth to an unconscious person.  
Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm and quiet, and get medical attention.

## **5. FIREFIGHTING PROCEDURES**

Flash Point(Method Used): N/A  
HMIS Rating: Health = 1  
Flammability = 1  
Reactivity = 0

Extinguisher Media:

Use dry chemical, CO2 or appropriate foam.

Flammable Limits in Air % by Volume: N/A

Autoignition Temperature: N/A

Special Firefighting Procedures:

Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: N/A

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### **6. SPILL OR LEAK PROCEDURES**

Steps to be Taken in Case Material is Released or Spilled:  
Spilled product should be removed immediately to avoid the formation of dust. Remove by mechanical means (ie. vacuuming). Dilute remainder with plenty of water (avoid formation of aerosols). Ensure proper ventilation.

### **7. SPECIAL PRECAUTIONS**

Precautions to be Taken in Handling or Storing: Avoid skin contact. Avoid formation of aerosols and dust of dried material. Store in a cool place.

### **8. SPECIAL PROTECTION INFORMATION**

Respiratory Protection (Specify Type):  
None needed under normal conditions of use with adequate ventilation. NIOSH approved equipment should be worn if PELs are exceeded.

Ventilation:

Local Exhaust: Yes  
Mechanical (General): Yes  
Special: No  
Other: No

Protective Gloves:

Rubber, neoprene, PVC, or equivalent.

Eye Protection:

Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:

Lab coat, eye wash, and safety shower.

### **9. PHYSICAL DATA**

Molecular Weight:	No information available
Melting Point:	No information available
Boiling Point:	No information available
Vapor Pressure:	No information available
Vapor Density (Air=1):	>1
Specific Gravity (H <sub>2</sub> O=1):	>1
Percent Volatile by Volume:	No information available
Evaporation Rate (H <sub>2</sub> O=1):	No information available
Solubility in Water:	Readily soluble in water
Appearance and Odor:	Off-White to Brown granules with a slight fermentation odor

### **10. REACTIVITY DATA**

Stability: Stable

Conditions to Avoid: Aerosol and dust formation

Incompatibility (Materials to Avoid): No data available

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur

### **11. TOXICITY DATA**

Toxicity Data: Oral rat LD-50: 2000 mg/kg

Effects of Overexposure:

Acute: See section 3

Chronic: No data available

Conditions Aggravated by Overexposure: Respiratory infections and allergies. Irritating to the eyes.

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Target Organs: eyes, lungs  
Primary Route(s) of Entry: inhalation, contact, ingestion

## **12. ECOLOGICAL DATA**

EPA Waste Numbers: None  
Product is readily biodegradable.

## **13. DISPOSAL INFORMATION**

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations.  
Always contact a permitted waste disposer (TSD) to assure compliance.

## **14. TRANSPORT INFORMATION**

Not Regulated

## **15. REGULATORY INFORMATION**

EPA TSCA Status: On TSCA Inventory  
Hazard Category for SARA Section 311/312 Reporting: Acute

	SARA EHS Sec. 302 TPQ	SARA Sec. 313 Chemicals Name List	Chemical Category	CERCLA Sec. 103 RQ lbs.	RCRA Sec. 261.33
Bacterial Protease	No	No	No	No	No

## **16. ADDITIONAL INFORMATION**

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

### Glossary

ACGIH.....American Conference of Governmental Industrial Hygienists  
CAS Number..Chemical Abstracts Service Number  
CERCLA.....Comprehensive Environmental Response, Compensation, and Liability Act  
DOT.....U.S. Department of Transportation  
IARC.....International Agency of Research on Cancer  
mppcf.....million particles per cubic foot  
N/A.....Not Available  
NTP.....National Toxicology Program  
OSHA.....Occupational Safety and Health Administration  
PEL.....Permissible Exposure Limit  
ppm.....parts per million  
RCRA.....Resource Conservation and Recovery Act  
SARA.....Superfund Amendments and Reauthorization Act  
TLV.....Threshold Limit Value  
TSCA.....Toxic Substances Control Act