MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT(S) AND COMPANY IDENTIFICATION

Manufacturer Name: Biaffin GmbH & Co KG
Address: Heinrich-Plett-Strasse 40
D-34132 Kassel
Germany
For Information Call: +49 (0) 561 804 4661
Date Prepared: N/A

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

Quick Identifier (In-plant Common Name): PTP1B
Chemical Name: recombinant protein phosphatase PTP1B, active
Chemical Family: Protein
Cas Number(s): N/A
Ingredient Name: PTP1B
Principal Hazardous Component(s): N/A
Biologic Activity: Vari(ies)
Biologic Activity: Enzymes Proteins
Exposure Limit(s): Not established (Enzymes/Proteins may cause allergic reactions in certain sensitive individuals)

SECTION 3 - HAZARDS IDENTIFICATION

Threshold Limit Value: None known or reported
Signs and Symptoms of Exposure:
1. Acute Overexposure: May cause skin, eye or respiratory irritation upon contact
2. Chronic Overexposure: Allergic reactions may develop in certain sensitive individuals

Medical Conditions Generally Aggravated by Exposure:

Allergy-prone and asthmatic individuals should be particularly cautious with enzymes and other materials of biologic origin

Chemicals Listed as Carcinogen or Potential Carcinogen: No
National Toxicology Program: No
I.A.R.C. Monographs: No
OSHA: No
OSHA Permissible Exposure Limit: No
ACGIH Threshold Limit Value: N/A

SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures (Enzymes/Proteins may cause allergic reactions in certain sensitive individuals):
1. Inhalation: Remove person from source then obtain necessary medical attention
2. Eyes: Check for contact lenses and remove if present. Flush thoroughly with water while opening eyelids. If symptoms such as redness and irritation persist, obtain medical attention
3. Skin: Remove contaminated clothing. Wash material from skin with soap and water and rinse thoroughly with clean water. Obtain medical attention as needed or if irritation develops. Clean contaminated clothing before reuse.
4. Ingestion: May be harmful if swallowed. Obtain medical attention as needed.

SECTION 5 - FIRE AND EXPLOSION HAZARDS

Special Fire Fighting Procedures: None
Auto-Ignition Temperature: N/A
Flash Point: N/A
Flammable Limits in Air (% by Volume): N/A
Extinguisher Media: N/A
Unusual Fire and Explosion Hazards: None
Stability: Degradation products are not hazardous.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Precautions to be taken in Handling and Storage: Wear appropriate protective equipment
Other Precautions: None
Steps to be taken in case Material in Release or Spilled: Wear approved respirator and protective gloves. Vacuum or collect powdered spill into appropriate waste container for disposal. Avoid physical contact and dust during removal. Use normal clean-up procedures for liquid spillage and wash thoroughly with water. Wash contaminated clothing before reuse.

Waste Disposal Methods: Dispose of waste in accordance with all applicable Federal, State and local regulations. Refer to Section 13.

SECTION 7 - HANDLING & STORAGE

Storage: Refer to specific product label for storage conditions. Lyophilized proteins will absorb moisture under high humidity and/or moisture conditions. Keep containers tightly closed when not in use and store in a cool, dry area according to label conditions. Long-term storage temperatures should not exceed 6 degrees C for maximum stability.

Handling: Minimize dust and/or aerosol generation during use. Dry powders can build static electricity cause by excessive handling. Wear appropriate protective equipment as per Section 8.

SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION

Respiratory Protection (Specify Type): A protective dust mask is advisable to avoid breathing particulates when a powdered form of the product is being handled. Wear an appropriate respirator
Mechanical (General): Vent Fan
Ventilation: Advisable
Local Exhaust: As required
Special: None

Protective Gloves: Wear gloves to prevent skin contact

Other Protective Clothing or Equipment: Sensitive individuals should wear dust masks/respirators, protective glasses, eye protection, lab coat, apron or other protective clothing to minimize contact.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Appearance and Odor: Liquid - Clear, typical enzyme odor
Solubility in Water: Liquid - readily miscible in water
Boiling Point: Decomposes
Specific Gravity(H2O=1): Varies
Percent Volatile by Volume: N/A
Vapor Density(Air=1): N/A
Evaporation Rate: N/A
SECTION 10 - STABILITY & REACTIVITY

Hazardous Decomposition Products: None known  Hazardous Polymerization: Will not occur
Incompatibility (Materials to Avoid): None known

SECTION 11 - TOXICOLOGICAL INFORMATION

Refer to Section 3 for health effects information. The toxicological properties of this material have not been fully investigated. Always follow Good Laboratory and Industrial Hygiene Practices and wear proper personal protective equipment when handling chemicals. May cause irritation and/or allergic reaction(s).

Routes of Exposure: Inhalation, ingestion, skin and eye contact.
LD50: No oral LD50 is available
Carcinogenicity: Unknown
Mutagenic/Teratogenic Effects: Unknown

SECTION 12 - ECOLOGICAL INFORMATION

No data available. No environmental hazard is known.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with all applicable Federal, State and local regulations. Chemical residues are generally classified as special waste and, as such, the transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, State and local regulations. Rinse empty containers thoroughly before disposal and/or recycling.

SECTION 14 - TRANSPORT INFORMATION

Department of Transportation Requirements: Proper Shipping Name: Not regulated
Hazard Class: N/A
Packaging Group: N/A
Reportable Quantity: N/A
Labels Required: N/A
UN/NA Code: N/A

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations: Material(s) listed are exempt from the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory when supplied for research and development purposes or used under the supervision of a technically qualified individual as defined by 40 CFR720.3. The health risks have not been fully determined.
State Regulations: Based upon available information, material(s) listed are not known to be regulated by any state or listed on the New Jersey Right To Know Hazardous Substance List.
International Regulations: EC: Harmful; R42/43, May cause sensitization by inhalation and skin contact. S36, Wear suitable protective clothing.