



MATERIAL SAFETY DATA SHEET

Identity: The following information applies to these ProZyme products:

- PB11 C-Phycocyanin (*Spirulina platensis*)
- PB2X Allophycocyanin (*Spirulina platensis*)
- PB31 R-Phycoerythrin (red algae)
- PB70 B-Phycoerythrin (*Porphyridium* sp.)

Hazardous Ingredients: We are unaware of any hazards for these products other than those associated with the sodium azide and ammonium sulfate used as stabilizers.

PROZYME has evaluated all of its products to ensure compliance with OSHA regulations. Per section 1910.1200 of Title 29 CFR the OSHA Hazard Communication Standard, the products named herein do not contain sodium azide above 1% or any carcinogens above 0.1% and do not require a material safety data sheet (MSDS). We recommend treating all chemicals with caution.

The following MSDS information pertains to Ammonium Sulfate suspension, CAS# 7783-20-2.

Synonyms: Ammonium sulfate; diammonium sulfate; sulfuric acid, diammonium salt.

Label Precautionary Statements:

Harmful; harmful if swallowed; irritating to eyes, respiratory system and skin; in case of contact with eyes, rinse immediately with plenty of water and seek medical advice; wear suitable protective clothing.

Fire and Explosion Hazard Data:

Extinguishing Media—water, CO₂, dry chemicals or appropriate foam

Special Fire Fighting Procedures—wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual Fire & Explosion Hazards—emits toxic fumes under fire conditions.

Health Hazard Data: May be harmful by inhalation, ingestion, or skin absorption. Causes eye irritation. May cause skin irritation.

Medical Conditions Aggravated by Exposure—unknown

Emergency and First Aid Procedure

In case of contact: immediately flush eyes with copious amounts of water for at least 15 minutes; immediately wash skin with soap and copious amounts of water.

Inhalation: remove to fresh air. Give oxygen if breathing becomes difficult. Give artificial respiration if not breathing.

Ingestion: wash out mouth with water. Call a physician.

Reactivity Data:

Stability—stable

Conditions to Avoid—excessive heat

Incompatibility—strong oxidizing agents, strong bases

Hazardous Decomposition/Byproducts—toxic fumes of sulfur oxides, ammonia, nitrogen oxides

Additional information: the addition of sodium hypochlorite to a solution of acidified ammonium sulfate leads to the formation of nitrogen trichloride and may result in an explosion. Contact of potassium or sodium-potassium alloy with a mixture of ammonium sulfate and ammonium nitrate results in an explosion. Heating a mixture of potassium chlorate and ammonium sulfate results in decomposition with incandescence. Mixing ammonium sulfate with fused potassium nitrite results in a vigorous reaction with flames. Decomposes at 455°F releasing ammonia and sulfur trioxide.

Precautions for Safe Handling and Use:

Spill—wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

Absorb on sand or vermiculite and place in a closed container for disposal. Ventilate area and wash spill site after material pickup is complete.

Waste Disposal Method—incinerate in a furnace equipped with an afterburner and scrubber.

Observe all federal, state and local laws.

Handling and Storage—wear appropriate NIOSH/MSHA approved respirator, chemical resistant gloves, safety goggles and other protective clothing.

Control Measures:

Respiratory Protection—NIOSH/MSHA approved respirator

Local Exhaust—yes

Mechanical Exhaust—yes. Keep mist levels low.

Protective Gloves—chemical resistant Eye Protection—safety goggles

Other Protective Clothing or Equipment—suitable protective clothing, safety shower, eyewash

Work/Hygienic Practices—avoid contact with eyes, skin and clothes.

Acute Effects:

Harmful if swallowed; may be harmful if inhaled, may be harmful if absorbed through the skin; vapor or mist is irritating to the eyes, mucous membranes and upper respiratory tract; causes skin irritation.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

The above information is supplied in good faith and is believed to be correct. It is intended to be used only as a guide and does not purport to be all-inclusive. ProZyme shall not be held liable for any damage resulting from handling or contact from this product.