

**MATERIAL SAFETY DATA SHEET**

**IDENTIFICATION:**

Catalog Number: PS3-H5-A  
Product Name: Fmoc-L-Ala-OH / HBTU  
Alternate Name: [N<sup>α</sup>-(9-fluorenylmethyloxycarbonyl)-L-alanine] / [2-(1H-Benzotriazole-1-yl)-1,1,3,3,-tetramethyluronium Hexafluorophosphate]  
Chemical Family: Fmoc Protected Amino Acid, Activator

**COMPOSITION AND INFORMATION ON INGREDIENTS:**

Component: Fmoc-L-Ala-OH  
CAS Number: 35661-39-3  
Composition: 1.0 mmol  
Empirical Formula: C<sub>18</sub>H<sub>17</sub>NO<sub>4</sub>  
Molecular Weight: 311.3

Component: HBTU  
CAS Number: 94790-37-1  
Composition: 1.0 mmol  
Empirical Formula: C<sub>11</sub>H<sub>16</sub>N<sub>5</sub>OPF<sub>6</sub>  
Molecular Weight: 379.3

**PHYSICAL DATA:**

Appearance: White to Off White Powder  
Solubility: Insoluble in water; soluble in most organic solvents  
Melting Point: 120-150°C

**HAZARDOUS INGREDIENTS**

Fmoc-L-Ala-OH  
HBTU

**TOXICITY HAZARDS:**

RTECS Number: No RTECS number has been assigned to this product.

**HEALTH HAZARD DATA:**

Acute Effects: May be harmful by ingestion, inhalation or absorption through skin

**FIRST AID:**

In cases of skin contact, wash with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes and wash before wearing. Consult a physician.

In cases of eye contact, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician.

In cases of inhalation, remove to fresh air and monitor breathing. If breathing becomes difficult or signs of toxicity exists, consult a physician. If breathing stops, give artificial respiration and consult a physician.

In cases of ingestion, consult the local poison center and a PHYSICIAN.

**FIRE AND EXPLOSION HAZARD DATA:**

Flash Point: N/A; non-volatile

Extinguishing Media: Dry chemical powder, carbon dioxide, polymer foam or water spray.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

Unusual Fire and Explosive Hazards: Upon thermal decomposition, it may EMIT TOXIC GASES.

**Reactivity Data:**

Stability: Stable under normal handling procedures

Incompatibilities and Conditions to Avoid: Strong oxidizing conditions.

Hazardous Combustion or Decomposition Products: Upon thermal decomposition, it may emit toxic gases including carbon monoxide, carbon dioxide.

**SPILL OR LEAK PROCEDURES:**

Steps to be Taken if Material is Released or Spilled:

Evacuate area and ventilate. Wear protective equipment as outlined below.

Sweep up and place in suitable container. Avoid raising dust.

Hold for appropriate disposal. Wash spill site.

**WASTE DISPOSAL METHOD:**

Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner or scrubber.

Note: Observe all Federal, State and Local Laws.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Storage Condition:  $\leq 25^{\circ}\text{C}$

Other precautions: Store in a tightly closed container in a dry, cool place. Avoid contact with material. Avoid prolonged or repeated exposure. Lab should be equipped with a safety shower and an eye wash station. Wash thoroughly after handling material. Material should only be handled by qualified, experienced professionals.

**SPECIAL PROTECTIVE EQUIPMENT:**

Protective Equipment: Wear suitable protective clothing, chemical resistant rubber gloves, rubber boots and chemical safety goggles.

Respiratory Protection and Ventilation: Self-contained breathing apparatus or NIOSH/MSHA approved respirator, handle in a chemical fume hood with adequate ventilation.

**ADDITIONAL PRECAUTIONS AND COMMENTS:**

Avoid contact with material. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Material should only be handled by qualified, experienced professionals.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide for experienced personnel. **PROTEIN TECHNOLOGIES, INC.** shall not be held liable for any damage resulting from the handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.