

MATERIAL SAFETY DATA SHEET

Section 1 - Identification

Product identifier	Fmoc-D-Glu(OtBu)-OH
Catalog No.	AS3029
Other identifiers	Fmoc-D-Glu(OtBu)-OH; Fmoc-D-glutamic acid 5-tert-butyl ester
Recommended use	Laboratory research and peptide synthesis, including Fmoc solid-phase peptide synthesis (SPPS).
Restrictions on use	For research use only. Not for human or veterinary use, therapeutic use, diagnostic use, food, household, or consumer applications.
Responsible party	Alan Scientific Inc.
U.S. address	9031 Shady Grove Court, Gaithersburg, MD 20877 U.S.
Contact	+1 888-757-1116 contactus@alanscientific.com www.alanscientific.com
Emergency telephone	+1 888-757-1116

Section 2 - Hazard(s) Identification

OSHA HCS classification	Not classified as hazardous under OSHA HCS based on the primary reference supplier information reviewed for this draft. Final release should remain aligned with the lot-specific upstream supplier MSDS.
Signal word	None assigned in this draft.
Hazard statements	None assigned under OSHA HCS in this draft.
Pictograms	None assigned in this draft.
Precautionary statements	Use standard laboratory precautions. Avoid dust generation, inhalation, ingestion, and unnecessary skin or eye contact.
Classification note	No specific OSHA HCS health-hazard classification was identified in the primary reference supplier summary reviewed for this draft.

Section 3 - Composition / Information on Ingredients

Substance / mixture	Substance
Chemical name	N-alpha-Fmoc-D-glutamic acid gamma-tert-butyl ester
CAS No.	104091-08-9
Molecular formula	C ₂₄ H ₂₇ NO ₆
Purity / concentration	Product-specific; refer to Certificate of Analysis (COA).
Hazard-contributing impurities	No product-specific impurity classification assigned in this draft; refer to lot-specific COA and upstream supplier documentation.

Section 4 - First-Aid Measures

Inhalation: Move to fresh air. Obtain medical attention if symptoms occur or persist. Skin contact: Remove contaminated clothing and wash skin thoroughly with soap and water. Eye contact: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do, then continue rinsing. Ingestion: Rinse mouth. If conscious, give water. Do not give anything by mouth to an unconscious person. Symptoms/effects: No specific product symptoms are established in this draft. Treat symptomatically and supportively.

Section 5 - Fire-Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide, as appropriate for the surrounding fire. Specific hazards: Combustion or thermal decomposition may generate carbon oxides and nitrogen oxides; sulfur-containing products may additionally generate sulfur oxides. Firefighter protection: Wear self-contained breathing apparatus and appropriate protective equipment when conditions warrant.

Section 6 - Accidental Release Measures

Avoid dust formation and inhalation. Provide ventilation and use appropriate personal protective equipment. Collect material carefully without generating dust and place in a suitable closed container for disposal. Avoid unnecessary environmental release.

Section 7 - Handling and Storage

Handle using good laboratory practice. Avoid inhalation of dust and contact with eyes, skin, and clothing. Store tightly closed in a cool, dry, well-ventilated area and follow the lot-specific label / COA. Protect from moisture, contamination and strong oxidizing agents.

Section 8 - Exposure Controls / Personal Protection

Engineering controls: Use general laboratory ventilation; local exhaust may be appropriate where dust is generated. Personal protective equipment: laboratory coat, safety glasses and suitable chemical-resistant gloves. Respiratory protection is normally not required under controlled handling; use suitable particulate protection if airborne dust is generated and engineering controls are insufficient.

Section 9 - Physical and Chemical Properties

Physical state	Solid
Appearance	White to off-white powder or crystalline solid; lot-specific appearance should be confirmed by COA.
Odor	No data available
pH	No data available
Melting point	No harmonized lot-specific value assigned in this draft
Boiling point / range	No data available
Flammability	No data available
Flash point	No data available
Explosion / flammability limits	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Vapor pressure	No data available
Density / relative density	No data available
Solubility	Product / lot-specific; consult COA or technical data
Partition coefficient	No data available
Kinematic viscosity	Not applicable to supplied solid
Particle characteristics	No data available
Molecular weight	425.47 g/mol

Section 10 - Stability and Reactivity

Reactivity: No specific reactivity data available. Chemical stability: Expected to be stable under recommended storage conditions. Hazardous reactions: No hazardous polymerization is known under recommended handling conditions. Conditions to avoid: Heat, moisture, contamination and conditions inconsistent with the lot-specific storage recommendation. Incompatible materials: Strong oxidizing agents. Hazardous decomposition products: Carbon oxides and nitrogen oxides; sulfur oxides may form for sulfur-containing compounds.

Section 11 - Toxicological Information

Likely exposure routes	Possible routes include inhalation of dust, eye contact, skin contact and ingestion.
Acute toxicity	No numerical product-specific acute-toxicity data assigned in this draft.
Skin corrosion / irritation	No product-specific data assigned in this draft.
Eye damage / irritation	No product-specific data assigned in this draft.
Respiratory / skin sensitization	No product-specific data assigned in this draft.
Germ cell mutagenicity	No product-specific data assigned in this draft.
Carcinogenicity	No product-specific carcinogenicity conclusion is assigned beyond currently reviewed reference information.
Reproductive toxicity	No product-specific data assigned in this draft.
STOT - single exposure	No product-specific data assigned in this draft.
STOT - repeated exposure	No product-specific data assigned in this draft.
Aspiration hazard	Not applicable to the supplied solid based on current information.
Additional information	Chemical, physical and toxicological properties may not be fully characterized. Use good laboratory safety practice.

Section 12 - Ecological Information

Ecotoxicity: No quantitative product-specific data assigned in this draft. Persistence / degradability: No data available. Bioaccumulation: No data available. Mobility in soil: No data available. Other adverse effects: Avoid unnecessary environmental release.

Section 13 - Disposal Considerations

Dispose of product, residues and contaminated packaging in accordance with applicable federal, state, local and institutional requirements. Do not mix with incompatible waste streams.

Section 14 - Transport Information

Transport status	Not assigned as regulated dangerous goods in this draft based on currently reviewed reference information; verify current carrier and jurisdiction requirements before shipment.
UN number	Not assigned in this draft.
Proper shipping name	Not assigned in this draft.
Hazard class	Not assigned in this draft.
Packing group	Not assigned in this draft.
Environmental hazards	See Section 12.
Special precautions	Handle in accordance with good laboratory and industrial hygiene practice.

Section 15 - Regulatory Information

OSHA HCS	Prepared in consideration of 29 CFR 1910.1200. Final product classification must remain aligned with the actual supplied material and lot-specific upstream documentation.
U.S. / state considerations	Inventory, reporting and state-specific status should be confirmed for the specific transaction and intended use.

Section 16 - Other Information

Revision	2.4
Date of preparation / revision	2026-09-05
Revision summary	D-Form amino-acid MSDS prepared using the current Alan Scientific no-logo MSDS template and 9031 Gaithersburg address.
Data / assessment basis	Alan Scientific product identity; current public reference-supplier technical and safety information; PubChem records where available; OSHA HCS (29 CFR 1910.1200).

Safety information notice: This document is intended to support safe laboratory handling of the identified research material. Final external release should be reconciled with the actual upstream supplier MSDS and lot-specific composition / specification. It is not a product specification or warranty.