

MATERIAL SAFETY DATA SHEET

Section 1 - Identification

Product identifier	Fmoc-Cl
Catalog No.	AS2001
Other identifiers	9-Fluorenylmethyl chloroformate (Fmoc-Cl)
Recommended use	Laboratory research, peptide/organic synthesis, building-block or research applications as applicable.
Restrictions on use	For research use only. Not for human or veterinary therapeutic, diagnostic, food, household or consumer use.
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 / GHS classification	Skin corrosion Category 1B / serious eye damage Category 1, based on current reference supplier data.
Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage.
Pictogram	GHS05 - Corrosion
Other hazards	Moisture-reactive chloroformate. Protect from water and humid conditions.
Precautionary summary	Do not breathe dust. Wear chemical-resistant gloves, protective clothing and eye/face protection. Obtain immediate medical attention after significant exposure.

Section 3 - Composition / Information on Ingredients

Substance / mixture	Substance
Chemical / product name	9-Fluorenylmethyl chloroformate (Fmoc-Cl)
CAS No.	28920-43-6
Molecular formula	C ₁₅ H ₁₁ ClO ₂
Molecular weight	258.70 g/mol
Purity / concentration	Product-specific; refer to lot-specific Certificate of Analysis (COA).

Section 4 - First-Aid Measures

Inhalation: Move to fresh air and obtain medical advice if symptoms occur. Skin contact: Remove contaminated clothing and wash thoroughly with soap and water; for corrosive materials rinse immediately with plenty of water and seek medical attention. Eye contact: Rinse cautiously with water for at least several minutes, remove contact lenses if easy to do, and seek prompt medical attention if irritation or injury is suspected. Ingestion: Rinse mouth; do not induce vomiting unless directed by medical personnel. Obtain medical advice if unwell.

Section 5 - Fire-Fighting Measures

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide as appropriate for the surrounding fire. Wear self-contained breathing apparatus when conditions warrant. Carbon oxides and hydrogen chloride may form during hydrolysis, combustion or thermal decomposition.

Section 6 - Accidental Release Measures

Avoid dust generation and unnecessary exposure. Provide ventilation and wear suitable PPE. Collect dry material carefully into a closed container for disposal. Prevent unnecessary release to drains or the environment.

Section 7 - Handling and Storage

Handle using good laboratory practice. Avoid breathing dust and avoid contact with skin and eyes. Store tightly closed at 2-8 C in a dry location. Protect from moisture.

Section 8 - Exposure Controls / Personal Protection

Occupational exposure limits	No substance-specific OSHA PEL or ACGIH TLV identified in the reviewed data.
Engineering controls	Use general laboratory ventilation; local exhaust is appropriate where dust or reactive vapors may be generated.
Eye / face protection	Safety glasses; use chemical splash goggles/face protection for corrosive or splash-risk operations.
Skin protection	Suitable chemical-resistant gloves and laboratory clothing. Select glove material for the actual solvent/reagent system.
Respiratory protection	Normally not required under controlled handling. If dust or vapor control is inadequate, use an appropriate NIOSH-approved respirator as determined by risk assessment.

Section 9 - Physical and Chemical Properties

Physical state	Solid
Appearance	Solid
Odor	No data available
pH	No data available / not applicable to dry solid
Melting point	60-67 C (reference supplier range)
Boiling point / range	No data available
Flammability	No data available unless otherwise classified
Flash point	No data available / not applicable
Decomposition temperature	No data available
Vapor pressure	No data available
Density / relative density	No data available
Solubility	No data available
Partition coefficient	No data available
Particle characteristics	No data available
Molecular weight	258.70 g/mol

Section 10 - Stability and Reactivity

Reactivity: Product-specific reactivity data are limited. Chemical stability: Expected to be stable under the recommended storage conditions unless otherwise noted. Conditions to avoid: heat, contamination and conditions inconsistent with the storage guidance; moisture should be avoided for moisture-reactive reagents. Incompatible materials: strong oxidizing agents; additional incompatibilities depend on the specific chemistry. Hazardous decomposition products: Carbon oxides and hydrogen chloride may form during hydrolysis, combustion or thermal decomposition.

Section 11 - Toxicological Information

Likely exposure routes	Inhalation of dust or vapor, skin contact, eye contact and ingestion.
Acute toxicity	Product-specific numerical data are generally unavailable unless indicated by the hazard classification.
Skin corrosion / irritation	See Section 2 classification; otherwise data not available.
Eye damage / irritation	See Section 2 classification; otherwise data not available.
Respiratory / skin sensitization	No product-specific data available unless identified in Section 2.
Germ cell mutagenicity	No data available.
Carcinogenicity	Not identified as a listed carcinogen by IARC, NTP or OSHA in the information reviewed for this draft.
Reproductive toxicity	No data available.
STOT - single exposure	See Section 2 where applicable; otherwise no data available.
STOT - repeated exposure	No data available.
Additional information	Chemical and toxicological properties may not have been fully investigated. Handle in accordance with good laboratory safety practice.

Section 12 - Ecological Information

Ecotoxicity, persistence, bioaccumulation and mobility data are generally unavailable for the supplied research material unless a specific classification is stated in Section 2. Avoid unnecessary environmental release.

Section 13 - Disposal Considerations

Dispose of contents and contaminated packaging in accordance with applicable federal, state and local requirements. Do not mix with incompatible waste streams. Corrosive or reactive residues should be managed through an appropriate hazardous-waste program.

Section 14 - Transport Information

Transport status	UN3261; Class 8; Packing Group II (reference supplier classification; confirm current lot/carrier requirements)
UN number	See transport status above.
Proper shipping name	See transport status above.
Hazard class	See transport status above.
Packing group	See transport status above.
Special precautions	Confirm the current lot-specific and carrier-specific transport classification before shipment.

Section 15 - Regulatory Information

OSHA HCS	See Section 2 for hazard classification used in this research-use MSDS.
TSCA / inventory status	No definitive inventory statement is made in this document. Confirm transaction-specific U.S. import/use obligations where applicable.
State / local requirements	Users are responsible for applicable state and local requirements.

Section 16 - Other Information

Revision	1.0
Date of preparation / revision	2026-09-06
Revision summary	Product-specific MSDS prepared using Alan Scientific product identity and reviewed public supplier/database safety information.
Data / assessment basis	Alan Scientific product information; current public supplier documentation and chemical databases where available; OSHA Hazard Communication Standard (29 CFR 1910.1200).
Important limitation	Where public supplier classifications differ or exact product-specific data are incomplete, this document uses a conservative research-use approach. Final release should be aligned with the actual upstream lot-specific safety documentation.

Safety information notice: Information is provided in good faith for laboratory handling of the supplied research material and is based on information reasonably available as of the revision date. It is not a product specification or warranty. Users are responsible for determining suitability, controls and regulatory obligations for their specific use.