

SAFETY DATA SHEET

Revision Date 08/04/2023

1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**
 Product name : Fmoc-Cl
 Product Number : RC8014
 Brand : Advanced ChemTech
 CAS-No. : 28920-43-6
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Identified uses : Laboratory chemicals, Manufacture of substances
- 1.3 Details of the supplier of the safety data sheet**
 Company : Advanced ChemTech
 5609 Fern Valley Rd, Louisville, KY 40228 USA
 Telephone : +1 833-317-5620
 Fax : +1 502-968-1000
- 1.4 Emergency telephone number** : +1 800-424-9300 Chemtrec

2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
 Skin corrosion (Category 1B), H314
 Serious eye damage (Category 1), H318
 For the full text of the H-Statements mentioned in this Section, see Section 16.
- 2.2 GHS Label elements, including precautionary statements:**
 Pictogram



- Signal word : Danger
- Hazard statement(s)**
 H314 : Causes severe skin burns and eye damage.
- Precautionary statement(s)**
 P260 : Do not breathe dust or mist.
 P264 : Wash skin thoroughly after handling.
 P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P330 + P331 : IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 : Immediately call a POISON CENTER or doctor/ physician.
 P321 : Specific treatment (see supplemental first aid instructions on this label).
 P363 : Wash contaminated clothing before reuse.
 P405 : Store locked up.
 P501 : Dispose of contents/ container to an approved waste disposal plant.
- 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS** – none

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**
 Formula : $C_{15}H_{11}ClO_2$
 Molecular Weight : 258.70g/mole
 CAS-No. : 28920-43-6
- Hazardous Components**

Component	Classification	Concentration
9H-Fluoren-9-ylmethyl chloroformate	Skin Corr. 1B; Eye Dam. 1; H314	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

- 4.1 Description of first aid measures**
General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area
If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician
In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
- 4.2 Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11
- 4.3 Indication of any immediate medical attention and special treatment needed:** No data available

5. FIREFIGHTING MEASURES

- 5.1 Extinguishing media**
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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- 5.2 Special hazards arising from the substance or mixture:** Carbon oxides, Hydrogen chloride gas
5.3 Advice for firefighters: Wear self-contained breathing apparatus for fire fighting if necessary.
5.4 Further information: No data available

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal Precautions, protective equipment, and emergency procedure:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2 Environmental precautions: Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal
6.4 Reference to other sections: For disposal see section 13.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling:** Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 2 - 8 °C Store under inert gas. Moisture sensitive. Handle and open container with care. Exposure to moisture.
7.3 Specific end use(s): Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
Components with workplace control parameters: Contains no substances with occupational exposure limit values.
8.2 Exposure controls
Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure: Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties**
- | | |
|---|--|
| a) Appearance | Form: White to Off-White powder |
| b) Odor | no data available |
| c) Odor Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | Melting point/range: 62 - 64 °C (144 - 147 °F) |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapor pressure | no data available |
| l) Vapor density | no data available |
| m) Relative density | no data available |
| n) Water solubility | no data available |
| o) Partition coefficient: n- octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |
| 9.2 Other safety information: | no data available |

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** No data available
10.2 Chemical stability: Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions: No data available
10.4 Conditions to avoid: No data available
10.5 Incompatible materials: Alcohols, Amines
10.6 Hazardous decomposition products: Other decomposition products - no data available. In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects**
Acute toxicity: No data available
Inhalation: No data available
Dermal: No data available

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Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Additional Information: RTECS: LQ6250000

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No data available

12.2 Persistence and degradability: No data available

12.3 Bioaccumulative potential: No data available

12.4 Mobility in soil: No data available

12.5 Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects: No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3261

Class: 8

Packing group: II

Proper shipping name: Corrosive solid, acidic, organic, n.o.s. (9H-Fluoren-9-ylmethyl chloroformate)

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 3261

Class: 8

Packing group: II

EMS-No: F-A, S-B

Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (9H-Fluoren-9-ylmethyl chloroformate)

Marine pollutant: No

IATA

UN number: 3261

Class: 8

Packing group: II

Proper shipping name: Corrosive solid, acidic, organic, n.o.s. (9H-Fluoren-9-ylmethyl chloroformate)

15. REGULATORY INFORMATION

SARA 302 Components: SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: Acute Health Hazard

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

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New Jersey Right to Know Components

Fmoc-Cl

CAS-No.

Revision Date

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California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Eye Dam.

Serious eye damage H314 Causes severe skin burns and eye damage.

H318

Causes serious eye damage.

Skin Corr.

Skin corrosion

HMIS Rating

Health hazard:

3

Chronic Health Hazard:

Flammability:

0

Physical Hazard

1

NFPA Rating

Health hazard:

3

Fire Hazard:

0

Reactivity Hazard:

1

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Advanced ChemTech shall not be liable for any damage resulting in the handling or from contact with the above product.