

## SAFETY DATA SHEET

Revision Date 08/04/2023

### 1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**  
 Product name : Fmoc-OSu  
 Product Number : RC8015  
 Brand : Advanced ChemTech  
 CAS-No. : 82911-69-1
- 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)**  
 Acute toxicity, Oral (Category 4), H302  
 Skin sensitisation (Category 1), H317  
 Acute aquatic toxicity (Category 2), H401  
 Chronic aquatic toxicity (Category 2), H411  
 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:

Warning

**Hazard statement(s)**

H302

Harmful if swallowed.

H317

May cause an allergic skin reaction.

H411

Toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

P261

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264

Wash skin thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P272

Contaminated work clothing should not be allowed out of the workplace.

P273

Avoid release to the environment.

P280

Wear protective gloves.

P301 + P312

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P321

Specific treatment (see supplemental first aid instructions on this label).

P330

Rinse mouth.

P333 + P313

If skin irritation or rash occurs: Get medical advice/ attention.

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

P501

Dispose of contents/ container to an approved waste disposal plant.

- 2.3 Hazards not otherwise classified (HNO) or not covered by GHS – none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**  
 Formula : C<sub>19</sub>H<sub>15</sub>NO<sub>5</sub>  
 Molecular Weight : 337.31g/mole  
 CAS-No. : 82911-69-1

Component	Classification	Concentration
1-[[[9H-Fluoren-9-ylmethoxy]carbonyl]oxy]-2,5-pyrrolidinedione	Acute Tox. 4; Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 2; H302, H317, H411	90-100%

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:** Wash off with soap and plenty of water. Consult a physician.  
**In case of eye contact:** Flush eyes with water as a precaution.  
**If swallowed:** 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

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- 5.1 Extinguishing media**  
**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2 Special hazards arising from the substance or mixture:** Carbon oxides, nitrogen oxides (NOx)
- 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. Avoid breathing dust. For personal protection, see section 8.
- 6.2 Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 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:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. 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. Keep in a dry place.
- 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** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).  
**Control of environmental exposure** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 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: 150 - 153 °C (302 - 307 °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                             | 0.0007 g/l at 20 °C (68 °F)                      |
| o) Partition coefficient: n- octanol/water      | log Pow: 2.8 at 20 °C (68 °F)                    |
| 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:** Strong acids
- 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**

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**Acute toxicity:** LD50 Oral - rat - > 200 mg/kg

**Inhalation:** No data available

**Dermal:** LD50 Dermal - rat - > 2,000 mg/kg (OECD Test Guideline 402)

**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: Not available

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

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity:

Toxicity to fish: LC50 - Danio rerio (zebra fish) - 2.4 mg/l - 96.0 h  
LC100 - Danio rerio (zebra fish) - 3.7 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - > 4.6 mg/l - 48 h  
EC50 - Desmodesmus subspicatus (green algae) - > 6 mg/l - 72 h

#### 12.2 Persistence and degradability:

Biodegradability: Result: 15 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301)

#### 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:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging:** Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)** Not dangerous goods

**IMDG**

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1-[[[9H-Fluoren-9-ylmethoxy]carbonyl]oxy]-2,5-pyrrolidinedione)

Marine pollutant: Marine pollutant

**IATA**

UN number: 3077 Class: 9 Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (1-[[[9H-Fluoren-9-ylmethoxy]carbonyl]oxy]-2,5-pyrrolidinedione)

**Further Information:** EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

### 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

Fmoc-OSu CAS-No. Revision Date

82911-69-1

#### New Jersey Right to Know Components

Fmoc-OSu CAS-No. Revision Date

82911-69-1

#### 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

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Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
<b>HMIS Rating</b>	
Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0
<b>NFPA Rating</b>	
Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

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.