

## SAFETY DATA SHEET

Revision Date 08/04/2023

### 1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**  
 Product name : Fmoc-D-Asp(OBut)-OH  
 Product Number : FD3192  
 Brand : Advanced ChemTech  
 CAS-No. : 112883-39-3
- 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 aquatic toxicity (Category 1), H400  
 Chronic aquatic toxicity (Category 1), H410  
 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)**  
 H410 : Very toxic to aquatic life with long lasting effects.
- Precautionary statement(s)**  
 P273 : Avoid release to the environment.  
 P391 : Collect spillage.  
 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**  
 Synonyms : Fmoc-D-aspartic acid 4-tert-butyl ester  
 Formula : C<sub>23</sub>H<sub>25</sub>NO<sub>6</sub>  
 Molecular Weight : 411.45g/mole  
 CAS-No. : 112883-39-3  
 No components need to be disclosed according to the applicable regulations.  
 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.  
**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

- 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:** Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. 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:** 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. Protect from light

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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** 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** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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: 146 - 151 °C (295 - 304 °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	log Pow: 4.167
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:

### 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 oxidizing agents
- 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  
**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**

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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:** 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:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very 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. (Fmoc-D-aspartic acid 4- tert-butyl ester)

Marine pollutant: Marine pollutant

**IATA**

UN number: 3077                      Class: 9                      Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Fmoc-D-aspartic acid 4-tert-butyl ester)

**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:** No SARA Hazards

**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**

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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.**

H400                      Very toxic to aquatic life.

H410                      Very toxic to aquatic life with long lasting effects.

**HMIS Rating**

Health hazard:                      0

Chronic Health Hazard:

Flammability:                      0

Physical Hazard                      0

**NFPA Rating**

Health hazard:                      0

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. Advanced ChemTech shall not be liable for any damage resulting in the handling or from contact with the above product.