

SAFETY DATA SHEET

Revision Date 09/24/2019

1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**
 Product name : Fmoc-Asp(OBut)-OH
 Product Number : FD2192
 Brand : Advanced ChemTech
 CAS-No. : 71989-14-5
- 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 : +1 833-317-5260
 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:** Not a hazardous substance or mixture.
2.2 GHS Label elements, including precautionary statements: Not a hazardous substance or mixture.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**
 Synonyms : Fmoc-L-aspartic acid 4-tert-butyl ester
 Formula : $C_{23}H_{25}NO_6$
 Molecular Weight : 411.45g/mole
 CAS-No. : 71989-14-5
 No ingredients are hazardous according to OSHA criteria.
 No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

- 4.1 Description of first aid measures**
If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact: Wash off with soap and plenty of water.
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.
- 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 vapors, mist or gas. 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:** 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. Recommended storage temperature: 2 - 8 °C 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 General industrial hygiene practice.
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.

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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 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: 148 - 150 °C (298 - 302 °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: 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: RTECS: Not available

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.

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods

IMDG Not dangerous goods

IATA Not dangerous goods

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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

HMIS Rating

Health hazard:	0
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Chronic Health Hazard:	
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Flammability:	0
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Physical Hazard	0
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NFPA Rating

Health hazard:	0
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Fire Hazard:	0
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Reactivity Hazard:	0
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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. Advanced ChemTech shall not be liable for any damage resulting in the handling or from contact with the above product.