

SAFETY DATA SHEET

Revision Date 08/04/2023

1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**
 Product name : Fmoc-Trp(Boc)-OH
 Product Number : FW2527
 Brand : Advanced ChemTech
 CAS-No. : 143824-78-6
- 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 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) | |
| 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. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P321 | Specific treatment (see supplemental first aid instructions on this label). |
| 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 (HNOC) or not covered by GHS – none**

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**
 Synonyms : N α -Fmoc-N(in)-Boc-L-tryptophan
 N(in)-Boc-N α -Fmoc-L-tryptophan
 Formula : C₃₁H₃₀N₂O₆
 Molecular Weight : 526.59g/mole
 CAS-No. : 143824-78-6

Component	Classification	Concentration
N- α -Fmoc-N-in-tert-Boc-L-tryptophan	Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 2; H317, H411	-

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.
- 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)

SAFETY DATA SHEET

- 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. 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
 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 | ca.97 °C (207 °F) - Decomposes before melting. |
| 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 | 0.00009 g/l at 20 °C (68 °F) |
| 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: LD50 Oral - rat - > 2,000 mg/kg
Inhalation: No data available
Dermal: LD50 Dermal - rat - > 2,000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation: Skin - rabbit Result: No skin irritation (OECD Test Guideline 404)
Serious eye damage/eye irritation: Eyes - rabbit Result: No eye irritation (OECD Test Guideline 405)

SAFETY DATA SHEET

Respiratory or skin sensitization: - guinea pig May cause sensitisation by skin contact

Germ cell mutagenicity: Result: Not mutagenic in Ames Test.

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 Effects due to ingestion may include:, Gastrointestinal disturbance, Changes in the blood count, Liver injury may occur.

12. ECOLOGICAL INFORMATION

- 12.1 Toxicity:** Toxicity to fish LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h
 Toxicity to algae EbC50 - Desmodesmus subspicatus (green algae) - 7.9 mg/l - 72 h
- 12.2 Persistence and degradability:** Biodegradability Result: 27 % - 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. (N- α -Fmoc-N-in-tert-Boc-Ltryptophan)
 Marine pollutant: Marine pollutant

IATA
 UN number: 3077 Class: 9 P Packing group: III
 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (N- α -Fmoc-N-in-tert-Boc-L-tryptophan)
Further information: EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packaging and combination packaging containing inner packaging 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

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	143824-78-6	

New Jersey Right to Know Components

Fmoc-Trp(Boc)-OH	CAS-No.	Revision Date
	143824-78-6	

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.

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
Skin Sens.	Skin sensitisation

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard:	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0

SAFETY DATA SHEET

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.