Safety Data Sheet

1. Identification of Substance/ Identification of Company

Product: Fmoc-Thr(tBu)-OH
Catalog #: AFT105
Chemical Formula: $C_{23}H_{27}NO_5$
Synonyms: N-Fmoc-O-tert-butyl-L-threonine

Relevant Identified Uses: Laboratory chemicals, manufacture of substances

Supplier: AAPPTec, LLC
6309 Shepherdsville Road
Louisville, Kentucky USA
40228
Telephone: 502-968-2223
Fax: 502-968-3338
Emergency: 502-968-2223

2. Hazards Identification

GHS Classification in Accordance with 29 CFR 1910 (OSHA)
Acute Aquatic Toxicity (Category 1), H400
Chronic Aquatic Toxicity (Category 1), H410
Specific Target Organ Toxicity - Single Exposure (Category 3) Respiratory System, H335

GHS label elements
Pictogram:



Signal word: Warning
Hazard statements:

H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P273	Avoid release into the environment.
P391	Collect spillage
P280	Wear protective gloves/eye protection/face protection
P501	Dispose of contents/container to an approved waste disposal plant.

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3. Composition/ information on ingredients

Substance/preparation: Substance
Chemical Name: N-Fmoc-O-tert-butyl-L-threonine
Chemical Formula: $C_{23}H_{27}NO_5$
Molecular Weight: 648.77
CAS #: 71989-35-0
EC #: 276-261-1

Hazardous Components

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to applicable regulations.

4. First Aid Measures

First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the physician in attendance. Move out of the dangerous area.

Inhalation: If inhaled, move person to fresh air. If not breathing, give artificial respiration. Consult a physician

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Skin Contact: Wash off with soap and plenty of water. Consult a physician.

Eye Contact: Rinse thoroughly with water for 15 minutes and consult a physician.

Effects and Symptoms, Both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of Immediate Medical Attention and Special Treatment Needed

No data available

5. Fire-fighting Measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special **Hazards Arising From the Substance or Mixture:** carbon oxides, nitrogen oxides (NOx).

Advice for Fiferfighters: Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Further Information: No data available.

6. Accidental Release Measures

Personal Precautions: 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.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not allow product to enter drains. Discharge into the environment must be avoided.

Methods and Materials for Containment and Clean Up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to Other Sections: For disposal see Section 13

7. Handling and Storage

Handing: Provide appropriate exhaust ventilation at places where dust is formed. For precautions see Section 2.

Conditions for Safe Storage: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: 2 - 8 ˚C.

Specific End Uses: Apart from the uses mentioned in Section 1, no other specific uses are stipulated.

8. Exposure Controls/Personal Protection

Control Parameters: Contains no substances with occupational exposure limit values.

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: Safety glasses with side-shields conforming to EN166 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.

Full contact Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Splash contact Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Impervious clothing, 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 allow product to enter drains. Discharge into the environment must be avoided..

9. Physical and Chemical Properties

Apperance: White crystals or powder
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point: 131-134 °C (268-272 °F)
Boiling Point and Boiling Range: No data available
Flash Point: No data available
Evaporation Rate: No data available
Flammability (solid, gas): No data available
Vapor Pressure: No data available
Vapor Density: No data available
Relative Density: No data available
Water Solubility: No data available
Partition Coefficient n-Octanol/Water: Log Pow: 4.644
Auto-Ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Explosive Properties: No data available
Oxidizing Properties: No data available

10. Stability and Reactivity

Reactivity: No data available
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: No data available
Conditions to Avoid: No data available
Hazardous Decomposition Products
Other Decomposition Products: No data available
In Event of Fire: See Section 5

11. Toxicological Information

Acute Toxicity: No data available
Dermal: No data available
Skin Corrosion/Irritation: No data available
Serious Eye Damage/Eye Irritation
Respiratory or Skin Sensitisation: No data available
Germ Cell Mutagenicity
Carcinogenity:
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
Inhalation – May cause respiratory irritation
Specific Target Organ Toxicity – Repeated Exposure: No data available
Aspiration Hazard: No data available
Additional Information: RTECS Not available

12. Ecological Information

Toxicity: No data available
Persistence and Degradation: No data available
Bioaccumulative Potential: No data available
Mobility in Soil: No data available
Results of PBT and vPvB Assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
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

Waste Treatment Methods – Product: Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated Packaging: Dispose of as unused product.

14. Transportation

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-[(9H-Fluoren-9-ylmethoxy)carbonyl]-O-isopropyl-L-threonine)
Marine Pollutant: Marine pollutant

IATA:
UN Number: 3077 Class: 9 Packing Group: III
Proper Shipping Name: Environmentally Hazardous Substance, Solid, n.o.s. (N-[(9H-Fluoren-9-ylmethoxy)carbonyl]-O-isopropyl-L-threonine)

15. Regulatory Information

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

SARA 313 Components: 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:

N-Fmoc-O-tert-butyl-L-threonine
CAS-No:154445-77-9 Revision Date:

New Jersey Right To Know Components:

N-Fmoc-O-tert-butyl-L-threonine
CAS-No. 154445-77-9 Revision Date

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.

Hazardous Material Information System (U.S.A.)

Health	**0**
Fire Hazard	**0**
Reactivity	**0**
Personal Protection	

National Fire Protection Association (U.S.A.)



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