### Section 1. Product and Company Identification

**Product Name**  Boc-FLFLF  
**Product ID**  F4420  
**Chemical Name (Synonyms)**  L-Phenylalanine, N-(N-(N-(N-(N-((1,1-dimethylethoxy)carbonyl)-D-phenylalanyl)-L-leucyl)-D-phenylalanyl)-L-leucyl)-  
**Supplier**  LKT Laboratories, Inc  
545 Phalen Blvd.  
St. Paul, MN 55130 USA  
Ph: 651-644-8424 Fax: 651-644-8357  
www.lktlabs.com - getinfo@lktlabs.com  
**Emergency Phone #**  1-800-424-9300

### Section 2. Hazards Identification

**GHS Classification**  Not classified. Caution - substance not yet tested.  
Peptide: Boc-Phe-Leu-Phe-Leu-Phe-OH

**GHS Label elements including precautionary statements**

- **Pictogram**
- **Signal word**
- **Hazard and precautionary statements**
  - **Hazard statement**  Not classified.  
  - **Precautionary statement**  Not classified.

**HMIS Classification**  Health hazard: 0  
Flammability: 0  
Physical hazard: 0

**NFPA Rating**  Health hazard: 0  
Fire hazard: 0  
Reactivity hazard: 0

**Potential Health Effects**  Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.  
Skin: May be harmful if absorbed through skin. May cause skin irritation.  
Eyes: May cause eye irritation.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent: 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{44}H_{59}N_{5}O_{8}</td>
<td>785.99</td>
</tr>
<tr>
<td>CAS No.</td>
<td>148182-34-7</td>
<td>EC No.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

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

Eye Contact
Flush eyes with water for at least 15 minutes and seek medical attention immediately.

Skin Contact
Wash with soap and water for 15 minutes and seek medical attention immediately. Wash contaminated clothing before use.

Inhalation
If breathed in, move person into 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.

Section 5. Firefighting Measures

Flash Point
Not available.

Extinguishing Media
Water spray, alcohol-resistant foam, dry chemical powder, or carbon dioxide.

Firefighting Procedures
Wear self-contained breathing apparatus and protective clothing for fire fighting if necessary.

Unusual Fire Hazards
May emit toxic fumes.

Section 6. Accidental Release Measures

Personal Precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions
Do not let product enter drains.

Methods and materials for containment and cleanup
Use appropriate tools to collect material and dispose of in waste container. Avoid raising dust. Sweep up and shovel. Ventilate the area and wash spill site after material has been removed.

Section 7. Handling and Storage

Handling
Wear gloves, goggles, and lab coat when handling this material. Use in a well ventilated area. Use only in a chemical fume hood. Wash thoroughly after handling material.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: -20°C.

Hazardous Decomposition Products
Not available.

Other Remarks
None.
Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**

**EXPOSURE CONTROLS**
Contains no substances with occupational exposure limit values.

**PERSONAL PROTECTION**

**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).

**Hand 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.

**Skin 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:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid.</td>
<td>White to off-white powder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Volatility</td>
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</tr>
<tr>
<td>Melting Point</td>
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</tr>
<tr>
<td>Density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
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</tr>
<tr>
<td>pH</td>
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<td>Flash Point</td>
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</tr>
<tr>
<td>Ignition temperature</td>
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</tr>
<tr>
<td>Lower explosion limit</td>
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</tr>
<tr>
<td>Autoignition temperature</td>
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</tr>
<tr>
<td>Upper explosion limit</td>
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</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Water solubility</td>
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</tr>
<tr>
<td>Odor</td>
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</tr>
<tr>
<td>Partition coefficient:</td>
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<tr>
<td>n-octanol/water</td>
<td>Odor Threshold</td>
</tr>
<tr>
<td>Relative vapor density</td>
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</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

**Stability**

Stable under proper storage conditions.

**Materials To Avoid**

Keep away from heat and strong oxidizing agents.

**Hazardous Decomposition Products**

Not available.
Section 11. Toxicological Information

- **Oral LD50**: Not available.
- **Inhalation LC50**: Not available.
- **Dermal LD50**: Not available.
- **Other information on acute toxicity**: Not available.
- **Skin corrosion/irritation**: Not available.
- **Serious eye damage/irritation**: Not available.
- **Respiratory or skin sensitization**: Not available.
- **Germ cell mutagenicity**: Not 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**: Not available.
- **Specific organ toxicity single exposure (GHS)**: Not available.
- **Specific organ toxicity repeated exposure (GHS)**: Not available.
- **Teratogenicity**: Not available.
- **Aspiration Hazard**: Not available.
- **Synergistic effects**: Not available.
- **Additional Information**: Not available.
- **Signs and symptoms of exposure**: Not available.

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Section 12. Ecological Information

- **Toxicity**: Not available.
- **Mobility in soil**: Not available.

PBT and vPvB assessment not available as chemical safety assessment not required / no
Persistence and degradability Not available. 

Bioaccumulative potential Not available. 

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state, and local regulations. Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information

DOT (US) Not dangerous goods.

IATA Not dangerous goods.

IMDG Not dangerous goods.

Section 15. Regulatory Information

Reach No.

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

Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Boc-FLFLF CAS #: 148182-34-7 Revision Date:

New Jersey Right To Know Components Boc-FLFLF CAS #: 148182-34-7 Revision Date:

California Prop 65 Components This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.