L-(-)-Arginine Monohydrochloride

1. Product Identification

Synonyms: None
CAS No.: 1119-34-2
Molecular Weight: 210.67
Chemical Formula: NH2C(NH)NH(CH2)3CH(NH2)COOH.HCl
Product Codes: 2067, B577

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(-)-Arginine Monohydrochloride</td>
<td>1119-34-2</td>
<td>98 - 100%</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

J.T. Baker SAF-T-DATA\(^{(tm)}\) Ratings (Provided here for your convenience)

Health Rating: 0 - None
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
Not expected to be a health hazard. Can cause breathing difficulty if inhaled in large amounts.

Ingestion:
Not expected to be a health hazard via ingestion. Large amounts may produce gastric upset.

Skin Contact:
No adverse effects expected. May cause mild irritation and redness.

Eye Contact:
No adverse effects expected but dust may cause mechanical irritation.

Chronic Exposure:
No information found.

Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Not expected to require first aid measures. Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
Not expected to require first aid measures. If large amounts were swallowed, give water to drink and get medical advice.

Skin Contact:
Not expected to require first aid measures. Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact:
Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:
Not expected to be a fire hazard.

Explosion:
No information found.

Fire Extinguishing Media:
No information found.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures
7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
- OSHA Permissible Exposure Limit (PEL):
  15 mg/m³ total dust, 5 mg/m³ respirable fraction for nuisance dusts.
- ACGIH Threshold Limit Value (TLV):
  10 mg/m³ total dust containing no asbestos and < 1% crystalline silica for Particulates Not Otherwise Classified (PNOC).

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g., lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:
White crystalline solid.

Odor:
Odorless.

Solubility:
Appreciable (> 10%)

Specific Gravity:
1.42

pH:
No information found.
% Volatiles by volume @ 21C (70F): 0
Boiling Point:
No information found.
Melting Point:
235C (455F) Decomposes.
Vapor Density (Air=1):
No information found.
Vapor Pressure (mm Hg):
No information found.
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:
May produce carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride when heated to decomposition.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Strong oxidizers.
Conditions to Avoid:
Incompatibles.

11. Toxicological Information

Oral rat LD50: 12 gram/kg. Investigated as a reproductive effector.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>--NTP Carcinogen--</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(-)-Arginine Monohydrochloride (1119-34-2)</td>
<td>Known Anticipated IARC Category</td>
</tr>
<tr>
<td></td>
<td>No No None</td>
</tr>
</tbody>
</table>

12. Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

13. Disposal Considerations

http://www.jtbaker.com/msds/englishhtml/A7332.htm 12/16/02
Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
<th>Japan</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(+)-Arginine Monohydrochloride (1119-34-2)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Korea</th>
<th>DSL</th>
<th>NDSL</th>
<th>Phil.</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(+)-Arginine Monohydrochloride (1119-34-2)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>-SARA 302-</th>
<th>-----</th>
<th>SARA 313-----</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(+)-Arginine Monohydrochloride (1119-34-2)</td>
<td>RQ</td>
<td>TPQ</td>
<td>List</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>-RCRA-</th>
<th>-TSCA-</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-(+)-Arginine Monohydrochloride (1119-34-2)</td>
<td>CERCLA 261.33</td>
<td>8(d)</td>
</tr>
</tbody>
</table>

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 0
Label Hazard Warning:
As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

**Label Precautions:**
None.

**Label First Aid:**
Not applicable.

**Product Use:**
Laboratory Reagent.

**Revision Information:**
MSDS Section(s) changed since last revision of document include: 8.

**Disclaimer:**

Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

**Prepared by:** Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)