SAFETY DATA SHEET
L-Lysine Monohydrochloride [Feed Grade (98.5%)]

1. IDENTIFICATION

1.1. Product identifier
   Trade Name: L-Lysine Monohydrochloride – Feed Grade 98.5%
   Synonyms: Lysine Hydrochloride, L-Lysine Hydrochloride, Lysine Monohydrochloride,
   L-Lysine Monohydrochloride

1.2. Relevant identified uses of the product
   Identified Uses: For Animal feed only- not for human consumption

1.3. Identification of the Company
   Manufacturer and Distributer:
   Ajinomoto Animal Nutrition North America, Inc.
   1116 Hwy 137
   Eddyville, Iowa 52553
   Phone: 641-969-4551 – Eddyville IA
   773-380-7000 – Chicago, IL.

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
   Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
   Not a hazardous substance or mixture according to Directive 67/548/EEC.

2.2. Label Elements
   Labeling according to regulation (EC) No 1272/2008 [EU-GHS/CLP]

   !
   Signal Word: Warning
   Hazard Statement: May form combustible concentrations in air
   H317: May cause an allergic skin reaction
   H320: May Cause eye irritation
   H333: May be harmful if inhaled
   H335: May cause respiratory irritation

2.3. Other Hazards: None

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Components:                        Concentration:        AAFCO#   CAS#
L-Lysine Monohydrochloride         Minimum 98.5%        6.11     657-27-2

4. FIRST AID MEASURES

4.1. Description of first aid measures

If inhaled:
In case of breathing trouble, immediately relocate to a fresh air environment. Seek medical attention.

In case of skin contact
In case of exposure, wash with soap and copious amounts of water. If irritation persists, seek medical attention.

In case of eye contact
Flush eyes with copious amounts of water for at least 15 minutes. Ensure adequate flushing by separating eyelids with fingers. If contact lenses are worn, remove lenses and continue rinsing. Seek medical attention.

If swallowed
Rinse mouth with water. If any trouble appears, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Difficulty breathing and or respiratory stress.

4.3. Indication of any immediate medical attention and special treatment needed
No data available

Signal Word: Warning
Hazard Statement: May be harmful if swallowed or inhaled
H317: May cause an allergic skin reaction
H320: May Cause eye irritation
H333: Maybe harmful if inhaled
H335: May Cause respiratory irritation

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5. FIREFIGHTING MEASURES

5.1 Extinguishing Media:  Dry Chemical, Foam, Water, and or Carbon Dioxide

5.2 Unusual Fire & Explosion Hazards: Materials may pose a fire hazard when exposed to flame.

Signal Word:  Warning
Hazard Statement:  H228: Flammable solid.
H242: Heating may cause a fire.

5.3 Special Fire-Fighting Procedures: Wear Protective clothing and respiratory protection to protect from fumes.

5.4. Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Avoid breathing vapors, mist, or gas. Recommend exhausting of fumes when being heated (See paragraph 8 for additional information).

6.2. Environmental precautions
Prevent further leakage or spillage by taking action against loss of containment. In case of release in large quantities, avoid releasing in sewers and water courses.

6.3 Methods for cleaning up:
Small quantities- Water, shovel or suction device and dispose of in accordance with all regulations.
Large quantities- Run off must be prevented from running down drains, sewers, or streams. Water, shovel or suction device and dispose of in accordance with all regulations.

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7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Follow good manufacturing practice and personal hygiene. Wash hands immediately to avoid hand to eye transfer and handle in a well-ventilated area. Protective equipment: Must wear safety glasses and gloves.

Standard precautions:
- Avoid fumes from heating operations
- Provide mechanical exhaust or ventilation
- Clean and eliminate dust from equipment regularly
- Avoid exposure to flame and or sparks
- Use respiratory protection if fuming is visible in air

7.2. Conditions for safe storage, including any incompatibilities
In the containers in which the product has been delivered. Keep in dry conditions and Store at ambient temperatures: do not expose to extremely high temperature.

7.3. Specific end uses
No data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Components with workplace control parameters
Does not contain any substance subject to an exposure limit value.

8.2. Exposure controls

Engineering controls
No data available

Personal protective equipment
Eye/face protection  Wear safety goggles in case of direct contact
Body protection  Wear protective clothes covering skin. Discard or wash protective clothes after exposure to product.
Skin protection  Wear gloves, especially in case of extended contact
Respiratory protection  Wear a mask covering both nose and mouth.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

**Appearance & Odor:** White powder; odorless.

**Solubility in Water:** 63g/100g water at 20°C

**Flash Point:** 540° F (Closed Cup)

**Specific gravity:** N/A

**Bulk Density:** 0.55 to 0.65 grams/cm³ (34.3 to 40.5 lbs./ft³)

**Boiling Point:** N/A

**Melting Point:** N/A

**Vapor Pressure:** N/A

**Percent Volatile:** 0%

**Product Dust Characteristics:**
- MIE: 185 mj
- MEC: 87 g/m³
- Pmax: 6.8 ± 10% bar
- Kst: 130 ± 12% bar-m/sec

**Classification:** ST1

9.2. Other safety information

**Signal Word:** Warning

**Precautionary Statement:**
- P210: Keep away from heat, hot surfaces, and ignition sources
- P234: Keep in original Container
- P333: Maybe harmful if inhaled
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P342: If experiencing respiratory symptoms: remove self from area
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P363: Wash contaminated clothing before reuse

10. STABILITY AND REACTIVITY
   Stability: Stable if stored in dry conditions at moderate temperature in sealed or closed
   containers
   Conditions to Avoid: Hot and humid environments
   Hazardous Decomposition Products: When heated to decomposition: Carbon monoxide,
carbon dioxide, nitrogen oxides, and hydrogen chloride gas fumes will be emitted

11. TOXICOLOGICAL INFORMATION

11.1. Acute toxicity
   Oral: No data available
   Sensitization: No data available
   Chronic exposure: No data available

Specific Effects:
   Carcinogenic Effects: No information Available
   Mutagenic Effects: No information Available
   Reproductive Effects: No information Available
   Target Organ Effects: No information Available

12. ECOLOGICAL INFORMATION

12.1. Toxicity Contains no substance known to be hazardous to the environment

13. Disposal Consideration
Check with Federal, Provincial and local regulations

14. Transport Information
Proper Shipping Name: L-Lysine Monohydrochloride
Identification (Iowa Registration No.): 002-58-00
FDACFR: 582.5411
AAFCO#: 6.11

14.1. UN Number
ADR / RID: - IMDG: - IATA: -
14.2. UN proper shipping name

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ADR / RID: Not dangerous goods  IMDG: Not dangerous goods  IATA: Not dangerous goods

**14.3. Transport hazard class(es)**
ADR / RID: -  IMDG: -  IATA: -

**14.4. Packing group**
ADR / RID: -  IMDG: -  IATA: -

**14.5. Environmental hazards**
ADR / RID: No  IMDG Marine pollutant: No  IATA: No

**14.6. Special precautions for user**
No data available

**15. REGULATORY INFORMATION**

**15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture**
No data available

**15.2. Chemical Safety Assessment**
No data available

**16. OTHER INFORMATION : None**