SAFETY DATA SHEET:

LEVODOPA (L-DOPA)

The information is provided as a service to our customers and is intended only for their use. This information is based on technical information believed to be reliable and will be revised as new knowledge or experience is gained.

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1. Chemical Product and Company Identification
1.1. Identification of the substance: Levodopa
1.2. Use of the substance: Use (drugs)
1.3. Company identification:
Manufacturer's Name: Ajinomoto Co., Inc.
1.4. Contact for Correspondence Japan:
Ajinomoto Co., Ltd.
15-1, Kyobashi 1-chome, Chuo-ku, Tokyo 402-8315, Japan
Tel N°: +81-(0)3-5250-5392
Fax N°: +81-(0)3-5250-0079

Contact for Correspondence Brazil:
Ajinomoto do Brasil Indústria e Comércio de Alimentos Ltda.
Rua Vergueiro, 1737, Vila Mariana, 04101-001 – São Paulo – SP, Brazil
Tel N°: +55 11 5080-6700
Fax N°: +55 11 5080-6789

Contact for Correspondence China:
Ajinomoto(China) Co., Ltd.
718 Rongle Dong Road, Songjiang, Shanghai 201613 P.R. China
Tel N°: +86 21 5774-5353
Fax N°: +86 21 5774-0433

1.5. Emergency Telephone:
In continental U.S., Hawaii, Puerto Rico, Canada, Alaska and Virgin Islands contact CHEMTREC at 1-800-424-9300.

2. Hazards Identification
GHS Classification of the substance
Physical hazards: Not applicable
Health hazards: Acute toxicity, Oral (Category 4)
Environmental hazards: Not applicable

Label elements
Pictogram:

Signal Word: Warning
Hazard Statement: H302 Harmful if swallowed.
Precautionary Statement: P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.

Potential effects:
May cause eye and skin irritation.
Will increase the biological oxygen demand (BOD) of water.
3. **Composition, Information on Ingredients**

Substance or Mixture: Substance
Common Chemical name: Levodopa
Synonyms: (S)-(3,4-Dihydroxyphenyl) alanine
Formula: C₉H₁₁NO₄
Molecular Weight: 197.19
Composition: 99.0 – 100.5%
CAS No.: 59-92-7
EINECS No.: 200-445-2

4. **First-Aid Measures**

**Inhalation:** Immediately relocate to a fresh air environment. Rinse mouth with water. If not breathing, give artificial respiration. If breathing becomes difficult, give oxygen and seek medical attention.

**Skin Contact:** Wash with soap and copious amounts of water. If irritation persists, seek medical attention.

**Eye Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. If contact lenses are being worn, remove lenses and continue rinsing. Seek medical attention.

**Ingestion:** Rinse mouth with water and seek medical attention.

5. **Fire-fighting measures**

Flash point (method used): Not known
Flammable limits: Not known
Extinguishing media: Water spray, carbon dioxide, dry chemical powder/foam
Special fire fighting procedures: Minimize dust formation
Unusual fire and explosion hazards: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Upon combustion will result in carbon monoxide, carbon dioxide and nitrogen oxide being released.

6. **Accidental release measures**

Personal precautions, protective equipment: Use personal protection, see section 8.
Precautions for the environment: Do not discharge into sewer, river, underground water, etc.
Recovery, neutralization: Make spills wet to prevent the generation of dust and then, sweep up into a closed container.
Method for containment and clean-up: After recovering, wash away spilled area with plenty of water.

7. **Handling and storage**

7.1. **Handling:** Follow good industrial practice in housekeeping and personal hygiene.
    Wear personal protective equipment as outlined in section 8.
7.2. **Storage:** Store in closed containers in a dry area. Avoid humidity, sunlight and high temperature.

8. **Exposure controls/personal protection**

Respiratory protection: Dust mask or appropriate respirator. Utilize local exhaust ventilation.
Protective gloves: Rubber
Eye protection: Chemical safety goggles
Other protective equipment: Wear appropriate laboratory apparel, protect exposed skin.
Occupational exposure limits: Not established

9. **Physical and chemical properties**

Appearance: White to slightly off-white crystals or crystalline powder
Melting point: 276-278°C (decomposes)
Solubility: 0.39 g/100g H₂O (20°C)
pH: 4.5 to 7.0 (0.10g in 10ml of H₂O)

10. **Stability and reactivity**

Stability: Stable under normal temperature and pressures
Conditions to avoid: Humidity and high temperature, in presence of moisture, will oxidize and darken.
Incompatibility (Materials to avoid): Strong oxidizing agents
Hazardous decomposition products: Nitrogen oxides (combustion)
Hazardous Polymerization: Will not occur
11. Toxicological information
   Acute oral toxicity: LD₅₀ 1750 mg/kg rat
   Sensitization: No data available
   Mutagenicity: No data available
   Primary skin irritation: May cause skin irritation. No specific data available
   Primary eye irritation: May cause eye irritation. No specific data available

12. Ecological information
   Toxic effects to fish, algae, and daphnia: EC₅₀ (48 hr) > 100 mg/l (Daphinia magna, EC 92/69/C2 EEC)
   Potential for bioaccumulation: No data available
   Biodegradability: No data available
   WGK class (Europe): 1 (self classification according to VwVwS / 17 May 1999, Germany)

13. Disposal considerations
   Dispose of the material as you would with a non-hazardous material in accordance with all applicable national,
   state and local regulations.

14. Transport information
   Avoid humidity and high temperature. Prevent damage of the container.
   UN-Classification: Not classified
   US Department of Transportation proper shipping name: Levodopa
   US NMFC classification: Item 60,000 / class 70

15. Regulatory information
   None especially.
   The information given in this Safety Data Sheet does not replace the users own assessment of workplace risk as
   required by national, state and local health and safety legislation.

16. Other information
   The information contained in this SDS is, to the best of our knowledge true and accurate. Any recommendations
   or suggestions made are without guarantee, since the conditions of use are beyond our control.