



TECHNICAL DATA SHEET

1. Product Identification

Product Name: Magnesium L-Aspartate Dihydrate

Synonyms: Magnesium L-Aspartate Salt; Magnesium Aspartate (L-Form)

Chemical Name: Magnesium salt of L-Aspartic Acid

Molecular Formula: C₈H₁₂MgN₂O₈.2H₂O

Molecular Weight: 324.5g/mol

CAS No.: 215533-00-9

Grade: Food Grade / Nutritional Grade

2. Product Description

Magnesium L-Aspartate is a magnesium salt formed from **L-Aspartic Acid**, a naturally occurring amino acid involved in human metabolic pathways. It is widely used in **nutritional supplements** as a source of magnesium with good bioavailability.

The product is supplied as a **white to off-white crystalline powder**, suitable for use in capsules, tablets, powders, and premix formulations.

3. Typical Specifications

Item	Specification	
pH		6.0-8.0
Content (anhydrous basis)	%	98.0-102.0
Specific optical rotation		+22.0 to +24.0
Chloride	≤ppm	200
Sulfate	≤ppm	500
Ammonium	≤ppm	200
Iron	≤ppm	50
Heavy metal	≤ppm	10
Loss on drying	≤%	10.0-14.0

Specifications may be adjusted according to customer or regulatory requirements.

4. Functional Properties

Provides **elemental magnesium** for nutritional supplementation

Amino acid chelated form, suitable for supplement formulations

Good compatibility with other vitamins and minerals

Non-hygroscopic under recommended storage conditions

5. Mechanism of Action (Nutritional Perspective)

Magnesium is an essential mineral involved in:

Energy metabolism (ATP-dependent reactions)

Muscle and nerve function

Electrolyte balance

L-Aspartic Acid acts as an amino acid carrier, helping deliver magnesium in a form suitable for nutritional applications.

6. Applications

- Dietary supplements
- Sports nutrition products
- Mineral premixes
- Capsules, tablets, sachets, and powder blends

7. Packaging

- 25 kg fiber drum or carton with inner food-grade PE bag
- Other packaging available upon request

8. Storage & Shelf Life

- Store in a **cool, dry, and well-ventilated place**
- Keep container tightly closed
- Shelf Life:** 24 months from date of manufacture when stored properly

9. Safety & Handling

- For food and nutraceutical use only
- Avoid inhalation of dust
- Use standard industrial hygiene practices
- Refer to MSDS for detailed safety information

10. Regulatory Status

- Intended for use in **nutritional and dietary supplement applications**
- Compliance depends on local regulations (FDA, EFSA, etc.)
- Documentation such as **COA, MSDS, allergen statement** available upon request