

# TECHNICAL DATA SHEET

## DL-METHIONINE – FEED GRADE (SUMITOMO CHEMICAL)

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### 1. Product Description

DL-Methionine is a highly purified essential amino acid used in animal nutrition to support **protein synthesis, growth, and performance**. It is the **first limiting amino acid** in poultry and plays a critical role in optimizing feed efficiency and production performance.

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### 2. Chemical Identification

Parameter	Description
Chemical Name	DL-2-Amino-4-methylthiobutyric acid
CAS Number	59-51-8
Molecular Formula	C <sub>5</sub> H <sub>11</sub> NO <sub>2</sub> S
Molecular Weight	149.21 g/mol

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### 3. Composition & Specifications

Parameter	Specification
Purity	≥ 99.0 %
Loss on Drying	≤ 0.3 %
Appearance	White to pale yellow crystalline powder
Odor	Characteristic
pH (1% solution)	5.2 – 6.1

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### 4. Physical & Chemical Properties

Parameter	Value
Density	~1.32 g/cm <sup>3</sup>
Bulk Density	0.50 – 0.80 g/cm <sup>3</sup>
Solubility in Water	31.6 g/L (20°C)
Flash Point	> 110°C
Thermal Decomposition	~250°C

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## 5. Nutritional Role

- Supplies **methionine**, essential for:
    - Protein synthesis and muscle development
    - Feather growth in poultry
    - Egg production and quality
    - Improved feed conversion ratio (FCR)
  - Supports **liver function and metabolism**
  - Acts as a **methyl group donor**
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## 6. Application & Dosage Guidelines

Animal Category	Inclusion Rate
Broilers	0.10 – 0.30 % of feed
Layers	0.08 – 0.25 % of feed
Swine	0.05 – 0.20 % of feed
Aquaculture	0.05 – 0.25 % of feed

*Note: Inclusion depends on diet formulation and amino acid balancing.*

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## 7. Key Advantages

- High purity ( $\geq 99\%$ ) ensures consistent performance
  - Improves **growth rate and feed efficiency**
  - Enables **least-cost feed formulation**
  - Reduces nitrogen excretion (environmental benefit)
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## 8. Packaging

- 25 kg paper bags
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## 9. Shelf Life

- Up to **5 years (60 months)** under proper storage conditions
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## 10. Storage Conditions

- Store in a **cool, dry place**
  - Protect from moisture and humidity
  - Keep containers tightly sealed
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## 11. Safety & Handling

- Not classified as hazardous under normal use
  - Avoid dust formation and inhalation
  - Use PPE (mask, gloves, goggles) when handling
  - Keep away from ignition sources (dust explosion risk)
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## 12. Regulatory & Transport

- Not classified as dangerous goods for transport (IATA, IMDG)
  - Suitable for global feed industry use
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## 13. Manufacturer Details

**Sumitomo Chemical Company, Limited**  
Animal Nutrition Division  
Tokyo, Japan

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## 14. Application Note

DL-Methionine is widely used in:

- Poultry feeds (broilers & layers)
  - Swine feeds
  - Aquaculture feeds
- to optimize amino acid balance and reduce feed costs.