Technical Data Sheet (TDS)

- DL-Methionine

Product Name: DL-Methionine**English Name**: DL-Methionine**CAS Number**: 59-51-8**EINECS Number**: 200-432-1**Molecular Formula**: $C_5H_{11}NO_2S$**Molecular Weight**: 149.21 g/mol**Revision Date**: 24 FEB 2026

1. Product Overview

SIGALD DL-Methionine is a high-purity, crystalline amino acid produced by advanced chemical synthesis. It is a racemic mixture of L-Methionine and D-Methionine, both of which are biologically active in animal metabolism (D-Methionine is converted to L-Methionine in the liver). As an **essential amino acid**, it cannot be synthesized by animals and must be obtained through diet. Our product meets the strictest standards for feed, food, and pharmaceutical grades, featuring high purity (≥99.0%), low ash, and excellent flow properties. It is widely used as a nutritional fortifier to balance amino acid profiles, improve protein utilization, and promote growth in animal husbandry. It is also used in dietary supplements and pharmaceutical formulations for human nutrition.

Key Benefits:

- **Essential Nutrient**: Critical for protein synthesis, growth, and development.
- **High Bioavailability**: Both D and L isomers are utilized by animals.
- **Cost-Effective**: More economical than L-Methionine for feed applications.
- **Stable**: Resistant to heat, pressure, and pH changes during processing.
- **Purity**: Low heavy metal and microbial counts, ensuring safety.

2. Technical Specifications (Complies with GB/T 17810 & FCC)

Parameter	Specification	Test Method
Appearance	White crystalline powder	Visual
Assay (DL-Methionine)	≥ 99.0% (Typical: 99.6%)	HPLC
Specific Rotation	-0.1° to +0.1°	Polarimeter
pH Value (5% Solution)	5.6 - 6.1	pH Meter
Loss on Drying	≤ 0.5%	Gravimetric (105℃)
Residue on Ignition (Ash)	≤ 0.1%	Gravimetric (550℃)
Heavy Metals (Pb)	≤ 0.5 ppm	ICP-MS
Iron (Fe)	≤ 10 ppm	Colorimetry
Chloride (Cl^-)	≤ 0.02%	Titration
Sulfate (SO_4^{2-})	≤ 0.02%	Turbidimetry
Solubility	50 g/L at 25℃ (Water)	Gravimetric
Microbiology	Total Plate Count ≤ 100 CFU/g	GB 4789.2
	E. coli: Negative	GB 4789.3

3. Application Fields & Recommended Dosage

DL-Methionine is primarily used as a limiting amino acid supplement in feeds and a nutritional fortifier in food.

Industry	Application	Recommended Dosage
Animal Feed	Poultry (Broilers, Layers), Swine, Aquaculture	0.1% - 0.5% of total feed (varies by species/age)
Food & Beverage	Fortified cereals, health drinks, protein bars	0.05% - 0.2%
Dietary Supplements	Tablets, capsules, powder blends	500mg - 2000mg per serving (as directed)
Pharmaceuticals	Amino acid infusions, enteral	As per pharmaceutical formulation

Industry	Application	Recommended Dosage
	nutrition	

4. Usage Guidelines & Processing

4.1 Handling & Mixing

1. **Mixing**: DL-Methionine is a free-flowing powder that blends easily with other dry ingredients. For uniform distribution in bulk feed, pre-mix with a carrier (e.g., corn starch) before adding to the main batch.
2. **Solubility**: While soluble in water, it dissolves slowly in cold water. For liquid applications, use warm water (40-50℃) and agitation to speed up dissolution.
3. **Processing Stability**: Excellent stability under typical feed and food processing conditions, including pelleting (temperatures up to 85℃) and extrusion. No degradation occurs.

4.2 Compatibility

- **Highly Compatible**: Works well with vitamins, minerals, other amino acids, antibiotics, and feed enzymes.
- **Synergy**: Often used in combination with Lysine HCl to balance the amino acid profile in corn-soybean meal diets.

5. Packaging & Storage

5.1 Packaging Specifications

Grade	Packaging
Sample	100g, 500g Sealed HDPE Bottles
Commercial	1kg, 5kg Vacuum-Sealed Aluminum Foil Bags
Bulk	25kg Multi-Wall Paper Sacks (PE-lined), 1000kg Bulk Bags

5.2 Storage Conditions

- **Temperature**: Store in a cool, dry warehouse at **5-30**℃.
- **Moisture**: Protect from moisture and humidity to prevent caking. The product is slightly hygroscopic.
- **Sealing**: Keep containers tightly closed when not in use.
- **Shelf Life**: **36 months** from the date of manufacture when stored unopened in the original packaging.
- **After Opening**: Use within 3 months and store in a sealed container to prevent contamination and moisture absorption.

6. Quality Assurance & Regulatory Compliance

- **Manufacturing**: Produced in an ISO 9001, ISO 22000 (HACCP), and GMP certified facility.
- **Compliance**:
  - **Feed Grade**: Complies with GB/T 17810-2008, EU Regulation 1831/2003, and FCC VII.
  - **Food Grade**: Complies with GB 2760-2021 and FDA GRAS standards.
- **Traceability**: Each batch is assigned a unique lot number for full traceability. Certificates of Analysis (COA) are available for every shipment.

7. Supplier Information

- **Supplier**: NEWAY SINOPHC TECH. LIMITED
- **Address**: RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE
- **Telephone**: +86-021-50350029
- **Fax**: +86-021-50350029
- **Technical Support**: Our team provides nutritional formulation support for animal feed and human food applications, including dosage calculation and compatibility testing.