

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Magnesium Sulfate
- English Name: Magnesium Sulfate
- CAS Number: 7487-88-9
- Formula: $MgSO_4 \cdot 7H_2O$
- Molecular Weight: 246.47 g/mol
- Product Characteristics: High-purity white crystalline powder/granules, odorless, soluble in water. Rich in magnesium and sulfur, essential nutrients for plants. Safe for food, pharmaceutical, and agricultural use. Stable under normal storage.

2. Technical Specifications

Item	Specification
Appearance	White crystalline powder/granules
Purity ($MgSO_4 \cdot 7H_2O$)	$\geq 99.0\%$
pH Value (5% aqueous solution, 25°C)	5.5-7.5
Moisture Content	$\leq 0.5\%$
Heavy Metals (Pb)	$\leq 0.001\%$
Iron (Fe)	$\leq 0.002\%$
Chloride (Cl^-)	$\leq 0.005\%$
Sodium (Na)	$\leq 0.1\%$
Insoluble Matter in Water	$\leq 0.01\%$
Solubility (20°C)	≥ 70 g/L

3. Product Advantages

- High purity with low impurities for safe and effective use.
- Excellent solubility and bioavailability.
- Essential dual nutrient source (Mg, S) for plants.
- Non-toxic and environmentally friendly.
- Food/pharmaceutical-grade options available (meets international standards).

4. Application Fields

- Agriculture: Water-soluble fertilizer for crops (fruits, vegetables, grains); corrects magnesium deficiency.
- Food Industry: Mineral supplement in food and beverages; brewing industry.
- Pharmaceutical: Laxative; Epsom salt bath (muscle relaxation, skin care); magnesium supplement.
- Industrial: Chemical intermediate for magnesium compounds; dyeing and printing; water treatment.
- Other: Aquaculture (fish tank water conditioning); cosmetics (bath salts, skin care products).



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5. Usage Methods

- Agriculture: Dilute to 0.5-1% solution for foliar spray; apply as soil fertilizer (50-100 kg/ha).
- Food Industry: Add 0.01-0.05% to food/beverages (complies with food safety limits).
- Pharmaceutical: Oral dose 10-30 g (as laxative); 200-500 g per bath (Epsom salt bath).
- Industrial: Use in specified ratios for chemical synthesis or water treatment (50-200 ppm).
- Optimal Conditions: Use at 15-35°C; avoid contact with strong alkalis.

6. Packaging & Storage

- Packaging Specifications: 5 kg/bag (plastic-lined kraft bag), 25 kg/drum (HDPE), 1000 kg/IBC tote.
- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Keep container tightly closed. Temperature $\leq 30^{\circ}\text{C}$.
- Shelf Life: 36 months (unopened).
- Transportation: Handled as non-dangerous goods; avoid moisture and collision.

7. Safety & Protection

- Wear protective gloves and goggles during handling.
- Avoid eye and skin contact; rinse immediately if contact occurs.
- Follow dosage guidelines for pharmaceutical/food use.

8. Quality Assurance

- Manufactured under ISO 9001 and GMP (for pharmaceutical grade) quality management systems.
- Food/pharmaceutical-grade products meet FDA, EP, and USP standards.
- Each batch accompanied by COA.

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