

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Disodium Edetate (EDTA Disodium)
- English Name: Disodium Edetate
- CAS Number: 6381-92-6
- Formula: $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
- Molecular Weight: 372.24 g/mol
- Product Characteristics: High-efficiency water-soluble chelating agent with strong affinity for metal ions (Ca^{2+} , Mg^{2+} , Fe^{3+} , Pb^{2+} , etc.). Forms stable complexes to prevent metal ion-induced reactions. Non-toxic, mild, and compatible with most chemicals. Stable over wide pH (2.0-11.0) and temperature ($\leq 100^\circ C$) ranges; suitable for multiple industrial and food-grade applications.

2. Technical Specifications (Complies with GB/T 1401-2019)

Item	Specification
Appearance	White crystalline powder
Assay (as $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$)	$\geq 99.0\%$
pH Value (1% Aqueous Solution, $25^\circ C$)	4.0-6.0
Water Content	8.5-11.5%
Heavy Metals (Pb)	$\leq 0.0005\%$
Arsenic (As)	$\leq 0.0001\%$
Iron (Fe)	$\leq 0.001\%$
Chloride (as Cl^-)	$\leq 0.05\%$
Sulfate (as SO_4^{2-})	$\leq 0.1\%$
Particle Size	80-200 mesh (passing rate $\geq 95\%$)
Solubility ($25^\circ C$, water)	≥ 100 g/L
Temperature Stability	Stable at $\leq 100^\circ C$ (chelating efficiency $\geq 95\%$)

3. Product Advantages

1. **Strong Chelation:** Forms stable complexes with most metal ions, effectively controlling metal-catalyzed reactions.
2. **Wide Compatibility:** Works with acids, alkalis, surfactants, and bactericides; no adverse reactions.
3. **Multi-Scenario Application:** Suitable for water treatment, food, detergent, pharmaceutical, and metal processing industries.
4. **Mild & Safe:** Low irritation, non-toxic, compliant with food-grade and pharmaceutical-grade standards.
5. **Cost-Effective:** Low dosage (0.1-5.0 g/L); long-lasting chelating effect, reducing additive frequency.

4. Application Fields

- **Water Treatment:** Scale inhibitor (prevents Ca/Mg scale) in circulating water, boiler water; metal ion sequestrant in wastewater treatment.
- **Food Processing:** Preservative (prevents oxidation), stabilizer (maintains color/flavor) for beverages, canned food, dairy products.



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- **Detergents & Cleaning:** Builder (enhances cleaning power) in laundry detergents, dishwashing liquids; metal surface cleaner.
- **Pharmaceuticals:** Chelating agent in drug formulations (e.g., iron overload treatment); stabilizer for injections.
- **Other Fields:** Cosmetics (metal ion stabilizer); textile printing (color fixative); electroplating (metal ion control).

5. Usage Methods

- **Dosage:**
 - Water Treatment: 0.5-5.0 g/L (adjust based on metal ion concentration).
 - Food Processing: 0.05-0.5 g/kg (complies with local food additive limits).
 - Detergents: 1-5% (based on total formulation weight).
- **Usage:** Dissolve in water first (1:10-1:50 ratio) to form uniform solution; add to target system with stirring.
- **Optimal Conditions:** pH 2.0-11.0, temperature $\leq 100^{\circ}\text{C}$; avoid mixing with strong acids at high concentrations.

6. Packaging & Storage

- **Packaging Specifications:**
 - 25 kg kraft paper bags with PE inner lining (industrial grade).
 - 1 kg aluminum foil bags (food/pharmaceutical grade).
 - 1000 kg FIBC bulk bags (large-scale industrial use).
 - Custom packaging available upon request.
- **Storage Conditions:** Store in cool, dry warehouse ($5-30^{\circ}\text{C}$); keep tightly closed; avoid moisture, direct sunlight, and high temperature; store separately from strong acids/oxidizing agents.
- **Shelf Life:** 24 months (unopened, specified conditions); 6 months after opening.
- **Transportation:** Non-dangerous goods; transport by ordinary vehicles; avoid moisture, collision, and physical damage.

7. Safety & Protection

- Low irritation; mild skin/eye irritation may occur in sensitive individuals.
- Wear safety glasses and nitrile gloves during handling; avoid dust inhalation.
- In case of skin/eye contact, rinse with plenty of water; seek medical attention if irritation persists.
- Do not ingest in large quantities; if swallowed, rinse mouth with water and consult a doctor.

8. Quality Assurance

- Manufactured in accordance with ISO 9001 and ISO 22000 (food-grade) management systems.
- Each batch is tested with a Certificate of Analysis (COA) to meet industrial/food/pharmaceutical standards.
- Provide technical support: dosage adjustment, chelation efficiency testing, and formulation optimization.