AuSaMicS™ Life Science

TDS

TDS-ASC-8039

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EDTA-Na_2 (Disodium EDTA)

Chelating Agent for Laboratory & Industrial Applications | Catalog No. ASC-8039

1. Product Identity

Product Name	EDTA-Na_2 (Disodium EDTA)
Catalog Number	ASC-8039
CAS Number	6381-92-6
Synonyms	Disodium ethylenediaminetetraacetate dihydrate, EDTA disodium salt, Edetate disodium, Sequestrene Na2
Chemical Formula	C10H14N2Na2O8 · 2H2O
Molecular Weight	372.24 g/mol (dihydrate)
Appearance	White crystalline powder
Solubility	Freely soluble in water

2. Overview

EDTA-Na2 (Disodium EDTA) is a widely used chelating agent capable of binding divalent and trivalent metal ions such as calcium, magnesium, iron, and copper. By sequestering metal ions, EDTA-Na2 improves stability, consistency, and performance in a wide range of laboratory and industrial systems.

Due to its high solubility and broad compatibility, Disodium EDTA is commonly used in chemical processing, water treatment, cosmetics manufacturing, analytical laboratories, and formulation development.

3. Mode of Action

EDTA-Na2 is a hexadentate aminopolycarboxylic acid salt. Its four carboxylate groups and two amine nitrogens form a stable octahedral coordination complex with divalent and trivalent metal cations, effectively removing them from solution. This sequestration prevents metal-catalysed oxidation, precipitation, and enzymatic activity dependent on free metal ions, stabilising formulations and analytical solutions.

4. Typical Applications

- Chelating and sequestering metal ions in laboratory solutions
- Water treatment and water softening processes
- Industrial and chemical formulations
- Cosmetic and personal-care raw material processing
- Analytical chemistry and buffer preparation
- Textile, paper, and cleaning product manufacturing

5. Key Features

- Strong chelation of calcium, magnesium, iron, and trace metals
- High purity and consistent performance
- Effective across a broad pH range
- Freely soluble in water
- Suitable for laboratory and industrial use

6. Quality Control Specifications

Parameter	Specification	Test Method
Appearance	White crystalline powder	Visual
Chelation value (complexometric)	≥ 99.0%	Titration vs. Ca^{2+}
pH (1% w/v solution, 25°C)	4.0 – 6.0	Potentiometric
Heavy metals (as Pb)	≤ 10 ppm	Colorimetric / ICP
Iron (Fe)	≤ 5 ppm	Colorimetric / AAS
Solubility	Freely soluble in water	Visual
Loss on drying	Within dihydrate range	Gravimetric

7. Storage & Handling

- Store in a cool, dry place
- Keep container tightly closed
- Protect from moisture
- Typical shelf life: refer to batch-specific Certificate of Analysis

8. Intended Use

For laboratory, industrial, and manufacturing use only. Not intended for pharmaceutical, therapeutic, or medical use.

9. Literature / References

- Dwyer, F.P. & Mellor, D.P. (1964). Chelating Agents and Metal Chelates. Academic Press.
- Bell, C.F. (1977). Principles and Applications of Metal Chelation. Oxford University Press.
- Martell, A.E. & Hancock, R.D. (1996). Metal Complexes in Aqueous Solutions. Springer.