Ethylene diaminetetraacetic acid disodium salt dihydrate
ACS Reagent

Product Number: E 4884
Store at Room Temperature
Exact replacement for Product Code 25,235-2

Product Description
Molecular Formula: C_{10}H_{14}N_{2}Na_{2}O_{8} \cdot 2H_{2}O
Molecular Weight: 372.2
CAS Number: 6381-92-6
pK_a: 2.0, 2.7, 6.2, 10.3
Synonyms: EDTA, (Ethylene dinitrilo)tetraacetic acid

This product is designated as ACS Reagent grade, and meets the specifications of the American Chemical Society (ACS) for reagent chemicals.

EDTA is an inhibitor of metalloproteases, at effective concentrations of 1-10 \( \mu \)M. EDTA acts as a chelator of the zinc ion in the active site of metalloproteases, and can also inhibit other metal ion-dependent proteases such as calcium-dependent cysteine proteases. EDTA may interfere with biological processes which are metal-dependent.

For use as an anticoagulant, disodium or tripotassium salts of EDTA are most commonly used. The optimal concentration is 1.5 mg per ml of blood. EDTA prevents platelet aggregation and is, therefore, the preferred anticoagulant for platelet counts. Using a 2% EDTA solution, 1-2 drops per ml of whole blood can be used as an anticoagulant.

A procedure for a chromogenic assay for EDTA has been published.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is slowly soluble in water at room temperature up to 0.26 M, which is approximately 96 mg in a final volume of 1 ml. The pH of this solution will be in the range of 4 to 6. EDTA salts are more soluble in water as the pH increases: the more EDTA there is in the salt form, the higher the pH of a water solution, and therefore, the higher the room temperature solubility. This can be achieved by gradual addition of concentrated sodium hydroxide solution to the EDTA solution.

Storage/Stability
A stock solution of 0.5 M at pH 8.5 is stable for months at 4 °C.

Solutions of EDTA may be autoclaved.

References