

## Product Information

### Ethylenediaminetetraacetic acid tetrasodium salt dihydrate

Catalog Number **ED4SS**  
Storage at Room Temperature

CAS RN 10378-23-1

Synonyms: EDTA tetrasodium salt, Tetrasodium ethylenediaminetetraacetate dihydrate

#### Product Description

Molecular Formula:  $C_{10}H_{12}N_2Na_4O_8 \cdot 2H_2O$   
Molecular Weight: 416.20

EDTA chelates divalent metal ions. It acts as 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 ion-dependent.<sup>1</sup>

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.<sup>2</sup> 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 of EDTA has been published.<sup>3</sup>

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

This product is soluble in water at room temperature up to 1.45 M, which is ~550 mg in a final volume of 1 ml. The pH of this solution will be 10 to 11 and will be rather viscous. 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

A stock solution of 0.5 M at pH 8.5 may be stored for months at 4 °C without degradation.<sup>1</sup> Solutions of EDTA may be autoclaved.

#### Storage/Stability

Store the product at room temperature. Representative lots have remained within specifications for at least three years.

#### References

1. Proteolytic Enzymes, A Practical Approach, 2nd ed., Beynon, R., and Bond, J.S., eds., Oxford University Press, (Oxford, UK: 2001) p. 322.
2. Clinical Hematology: Principles, Procedures, Correlations. Lotspeich-Steininger, C.A. et al., eds., J.B. Lippincott, (Philadelphia, PA: 1992) p. 18.
3. Sorensen, K., An easy microtiter plate-based chromogenic assay for ethylenediaminetetraacetic acid and similar chelating agents in biochemical samples. *Anal. Biochem.*, **206(1)**, 210-211 (1992).

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