E.D.T.A. (di-sodium) 5%

Intended Use
EDTA (di-sodium) 5% is used as an in-vitro anticoagulant for diagnostic purposes.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
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<tbody>
<tr>
<td>E.D.T.A. di-sodium salt</td>
<td>5.000 gm</td>
</tr>
<tr>
<td>Distilled water</td>
<td>100.000 ml</td>
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</tbody>
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**Formula adjusted, standardized to suit performance parameters

Principle And Interpretation
Ethylene diamine tetraacetic acid is a calcium chelating agent. It has colourless crystalline nature which decomposes at 24°C and is slightly soluble in water and insoluble in common organic solvents. It can be neutralized by alkali-metal hydroxides to form a series of water-soluble salts containing one to four alkali metal cations. It has many uses and applications in various aspects. In the biological field, it is mainly used as an anticoagulant of blood, where the calcium in blood is bound in a unionized and soluble complex with EDTA. Ethylenediamine tetraacetic acid (EDTA) is a polyprotic acid containing four carboxylic acid groups and two amine groups with lone-pair electrons that chelate calcium and several other metal ions. Calcium is necessary for a wide range of enzyme reactions of the coagulation cascade and its removal irreversibly prevents blood clotting within the collection tube. Historically, EDTA has been recommended as the anticoagulant of choice for hematological testing because it allows the best preservation of cellular components and morphology of blood cells.

Warning and Precautions
In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations:
1. Excess of EDTA affects both red cells and leucocytes, causing shrinkage and degenerative changes.
2. EDTA in excess of 2mg/ml of blood may result in a significant decrease in PVC by centrifugation and increase in mean cell haemoglobin concentration (MCHC).
3. Excess of EDTA causes plateletes to swell and then disintegrate, leading to an artificially high platelet count because the fragments are large enough to be counted as normal platelets.
4. Blood films made from EDTA may fail to demonstrate basophilic stippling of red cells in lead poisoning.

Performance and Evaluation
Performance of the product is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control
Appearance
Colourless liquid.

Solubility
Slightly soluble in water and insoluble in common organic solvents.

Clarity
Clear with no insoluble particles.

Concentration
4.80-5.20%
Storage and Shelf Life
Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (2, 3).

Reference

Disclaimer:
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.