www.bimalpha.com

M/s. Bimal Pharma Pvt. Ltd., Mumbai, India
e : info@bimalpha.com / info@nisinindia.com
Mob.: 0091- 9702968181 / 9322591096

Calcium EDTA Di Sod. : In Food Industries

How it works in Food Products :

- Off – flavours and Odors, Rancidity and Reduced Shelf Life, are all Food problems, that can be caused by uncontrolled Metal Ions.

- Metals / Metal Ions are Naturally occurring in process - water & Water-soluble Ingredients.

- These Trace Metal Ions are also from Raw Materials and Process Equipments.

- Even at “Trace “ Levels (as low as 0.05 ppm), Metals can catalyze Degrading Reactions with Organic and Inorganic components of food, and cause Food Spoilage Reactions like Rancidity, Discoloration and Vitamin C degradation.

- Typical Trace Metals are Copper (Cu), Iron (Fe), Manganese (Mn) and Zinc (Zn).

- Calcium EDTA Di Sod. forms a Stable Complex with above Trace Metal Ions and prevents against these undesirable Food Spoilage Reactions without influencing Taste & Quality.

  (It means, it surrounds problematic Metals with Stable Ring Structures and inactivate these trace Metal Ions, preventing the Ions from reacting with Food Ingredients).

  (It means, Chelation of the Trace Metals inhibits Oxidation of Fats and Oils that cause Rancidity).

- It controls unwanted Reactions, there are Two (2) Types of unwanted Reactions in Food & Beverages, that can be controlled by Calcium EDTA Di Sod.

- A Reaction between Trace Metal Ions and other Organic & Inorganic components can be retarded / prevented by adding Calcium EDTA Di Sod.

  Hence, it promotes

  - Colour Retention
  - Texture Retention
  - Product Clarity
  - Retardation of struvite formation
  - Activity as Anti- gushing Agent

- Calcium EDTA Di Sod. is a Sequestering Agent and it controls / reduces Oxidation, catalyzed by Trace Heavy Metal Ions. So, its function is to capture (chelate) the Heavy Metals & it promotes

  - Colour Retention
  - Flavour Retention
  - Texture Retention
  - Preservation of Food (Preservative)

Examples of Food Industries, in which Calcium EDTA Di Sod. is used

1) Carbonated Beverages (Soft Drinks)

It promotes Flavour Retention & reduces Discoloration & Turbidity in Soft Drinks. It also functions **as a preservative** & protects the **Freshness & Taste in Beverages.** It can support Vitamin C (Ascorbic Acid) stabilization and minimize **Colour Fading & Flavour Loss**. In Beer, it reduces gushing and promotes **clarity.**

2) Fish & Shellfish

Fish and shellfish products, naturally contain high concentrations of Metals. In combination with organic components in seafood itself, this can cause **Off-Flavours, Bad Colours / Discoloration, Bad odors and Rancidity. Use of Calcium EDTA Di Sodium prevents all these.**

3) Vegetables

Enzymatic browning of vegetables like Mushrooms and Artichokes, is catalyzed by Trace Metal Ions. In canned Legumes and Corn, **Discoloration** is caused by the Reaction of Trace Metal Ions with Organic components in the vegetables. Iron ions present in processed Potatoes (Canned and Frozen) can lead to **darkening or graying of the Potato surface.**
These unwanted effects can be stopped with the addition of Calcium EDTA Di Sodium.

4) Sauces, Margarines & Mayonnaise

Many processed Food Products can suffer from **Spoilage Reactions**, caused by Trace Metal Ions. In fat-based products (eg. Emulsified Sauce & Margarine), Trace Metal Ions can act as catalysts in the Oxidation Reactions of the fats and lead to **Rancidity**.
These can be prevented / stabilized by the addition of Calcium EDTA Di Sodium.

5) Canned Foods

It is safely used in following Canned Foods **for promoting Colour, Flavour & Texture Retention.**

- Pickled Cabbage / Cucumbers
- Canned White Potatoes
- Cooked canned of
  - ➢ Clams & Crabmeat
  - ➢ Legumes, Pink & Red Beans & Dried Lima Beans
  - ➢ Mushrooms & Shrimp
- Canned & Bottled Fish, Crustaceans and Molluscs.

6) Salad Dressing, Sandwich Spreads

US Food & Drug Administration use Levels are as under.

Dressings	**:**	75 ppm as preservative
Sandwich Spread	**:**	100 ppm as preservative
Mayonnaise	**:**	75 ppm as preservative