

# Calcium Lactate

## General Characteristics:

<b>Formula:</b>	$C_6H_{10}CaO_6 \cdot nH_2O$
<b>Appearance:</b>	White to cream-colored, crystalline powder or granules
<b>Molecular weight:</b>	218.22
<b>Odor:</b>	Odorless
<b>CAS Number:</b>	814-80-2
<b>EINECS No.:</b>	3669
<b>INS:</b>	327

## Uses:

- Calcium lactic acid calcium supplementation can promote the calcification of bone and teeth, maintain the normal excitability of nerve and muscle and reduce the permeability of capillaries.
- Puffing and buffering agents for bread baking powder.
- It can also be used as calcium fortifier, as well as bread, pastry, noodle food, milk powder, tofu, pickled products.

## Packing and Storage:

- 25kg/net paper bag and PE bags sealed inside.
- Store in a well-closed bag at room temperature, protect from light, moisture and pest infestation.
- Shelf life---two years

## GMO-Status:

The product is a non GMO product and is free from any recombinant DNA.

## Irradiation/Radioactivity:

Yunbo's Calcium lactate was never subjected to any kind of ionized irradiation and contains no radioactivity not even in minor amounts.

## BSE/TSE:

No raw materials from bovine origin are used nor are any bovine constituents present in the product.

## Product test data:

- *Assay*— Accurately weigh about 500 mg, previously dried at 120<sup>o</sup> for 4 hours, transfer to a suitable container, and dissolve in 150 mL of water containing 2 mL of diluted hydrochloric acid. Add 15 mL of sodium hydroxide TS and 300 mg of

hydroxy naphthol blue indicator, and titrate with 0.05 M edetate disodium VS until the solution is deep blue. Each mL of 0.05 M edetate disodium is equivalent to 10.91 mg of  $C_6H_{10}CaO_6$ . Not less than 98% is found.

- Loss on drying 〈 731 〉 — Dry it at  $120^{\circ}$  for 4 hours: it loses between 25.0% and 30.0% of its weight.
- Acidity— Add phenolphthalein TS to 20 mL of a 1 in 20 solution, and titrate with 0.10 N sodium hydroxide: not more than 0.50 mL is required to produce a pink color.
- Heavy metals (Reagent test)— Dissolve 1 g in 2.5 mL of diluted hydrochloric acid, dilute with water to 40 mL, and add 10 mL of hydrogen sulfide TS: any brown color produced is not darker than that of a control containing 0.02 mg of added Pb (0.002%).
- Magnesium and alkali salts— Mix 1 g with 40 mL of water, carefully add 5 mL of hydrochloric acid, heat the solution, boil for 1 minute, and add rapidly 40 mL of oxalic acid TS. Add immediately to the warm mixture 2 drops of methyl red TS, then add ammonia TS dropwise, from a buret, until the mixture is just alkaline. Cool to room temperature, transfer to a 100-mL graduated cylinder, dilute with water to 100 mL, mix, and allow to stand for 4 hours or overnight. Filter, and transfer to a platinum dish 50 mL of the clear filtrate, to which has been added 0.5 mL of sulfuric acid. Evaporate the mixture on a steam bath to a small bulk. Carefully heat over a free flame to dryness, and continue heating to complete decomposition and volatilization of ammonium salts. Finally ignite the residue at  $800 \pm 25^{\circ}$  for 15 minutes: the residue weighs not more than 5 mg (1%).
- Volatile fatty acid— Stir about 500 mg with 1 mL of sulfuric acid, and warm: the mixture does not emit an odor of volatile fatty acid.
- Is somewhat efflorescent and at  $120^{\circ}$  C becomes anhydrous. One g dissolves in 20 mL of water; practically insoluble in alcohol. Store it in tight containers.

### Specifications: (USP)

Test Parameter	Specification
Assay	98.0%~101.0%
Acidity	Passes test
Fluoride	$\leq 0.0015\%$
Lead	$\leq 2.0\text{ppm}$
Loss on Drying	Pentahydrate: 22.0% ~27.0%; Trihydrate: 15.0% ~20.0%; Monohydrate: 5.0% ~ 8.0%; Dried Form: $\leq 3.0\%$ .
Magnesium and Alkali Salts	$\leq 1.0\%$ .