

Official compounds of iron, iodine and calcium

Iron Compounds

In medicine,

a) Ferrous salts(Fe^{++})

b) Ferric salts(Fe^{+++})

Eg: Ferric ammonium citrate

Iron is,

- **essential constituent of body.**
- **45 mg/kg body weight**
- **Very imp role in body function.**
- **Essential constituent of blood system and tissue.**

- **Associated with following types of proteins,**
 - a) Hemoproteins**
 - b) Iron storage / transport proteins.**
- **Food is common source**
- **Content of iron in body is regulated by absorption**

Ferrous

Hemoproteins

Hemoglobin

Myoglobin

**Iron storage
or transport
protein**

Ferritin

Hemosiderin

Official Preparation

- Ferrous Sulphate
- Ferrous Sulphate Tablets
- Dried Ferrous Sulphate
- Ferrous Sulphate mixture
paedriatic
- Ferric Ammonium Citrate
- Ferrous Fumarate

- Ferrous Fumarate Tablets
- Ferrous Gluconate
- Ferrous Gluconate Tablets
- Ferrous Succinate
- Ferrous Succinate Tablets
and capsules
- Iron & Dextran Injection
- Iron Sorbital Injection

Ferrous Sulphate



MOP:

By dissolving iron in dilute sulphuric acid

Physical Properties

- Pale bluish –
green crystalline
powder
- Odorless
- Metallic astringent taste
- Soluble in water
- Insoluble in ethanol

uses

haematinic

Storage

“ It should be stored in well closed air tight container at a cool place.”

Calcium Compounds

- **One of essential element**
- **Required for various function**
- **90% of body calcium found in bone as a calcium carbonate and calcium phosphate**
- **extracellular**
- **Remaining calcium found in fluids.**
- **In body it is in various form**

Calcium is ingested through normal diet.

Daily requirement = 450 mg

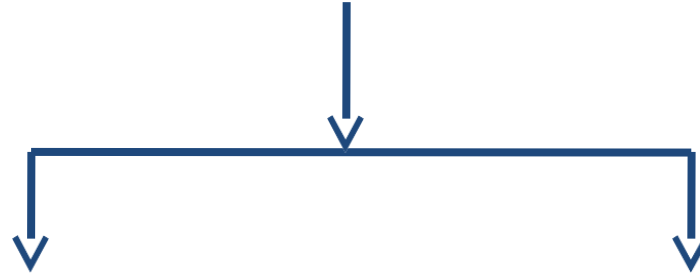
It is absorb from upper intestinal tract

Excreted through kidney.

Role of calcium:

- ❑ Essential for normal functioning of ANS & Voluntary systems.**
- ❑ Maintenance of normal body functions**
- ❑ Normal cardiac function**
- ❑ Important for coagulation**
- ❑ Formation of tissue and bones.**

Calcium Deficiencies Condition



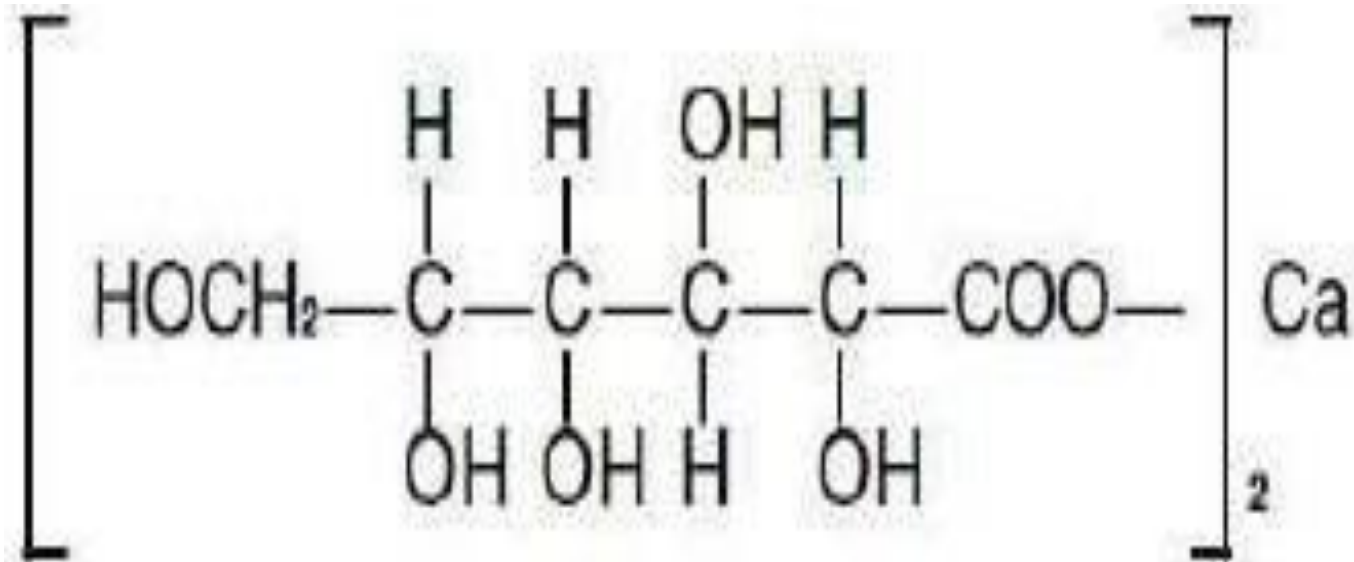
Hypocalcemia

- ❑ **Less than normal**
- ❑ **Tetany – increased neuromuscular excitability, muscle cramps etc.**
- ❑ **Convulsions**

Hypercalcemia

- ❑ **More than normal**
- ❑ **Loss of weight**
- ❑ **Bradycardia**
- ❑ **Muscular pain**
- ❑ **Cardiac arrhythmia.**

Calcium Gluconate



MOP

By using glucose and calcium carbonate with oxidizing agent

Physical Properties

- White crystalline powder
- Odorless
- Tasteless
- Sparingly soluble in water
- Insoluble in alcohol

Uses

- Used in treatment of calcium deficiency
- Source of calcium
- Used in treatment of Hypocalcemia tetany
- It may be used to treat bone loss (osteoporosis)
- It may be used to treat weak bones (osteomalacia/rickets)
- decreased activity of the parathyroid gland (hypoparathyroidism)

Storage

“ It should be stored in well closed container at a cool place.”

Incompatibility

With oxidizing agent, oxalates
and borates

Official Preparation

- Calcium Gluconate
- Calcium Gluconate injection
- Calcium Gluconate Tablets