

WELCOME

TO



FDSPharmacy

Learn and Educate

This is an Education Platform

We provide Free PDF Notes and Videos Classes for Pharmacy Students

Web Site <http://www.fdspharmacy.in/>

You tube <https://www.youtube.com/channel/UC77iEsiuZolU4pB8WAJIR5Q>

What app <https://chat.whatsapp.com/IzSgXtFEvhS4LN5xhUgq5z>

Telegram <https://t.me/+cvxm17xSloA4MjVI>

Face book <https://www.facebook.com/Fdspharmacy-105764311994440/>

E-mail fdspharmacyinfo@gmail.com

Diploma in Pharmacy 1st Year

Pharmaceutics

Experiment

To formulate calcium gluconate injection

Aim:

To formulate calcium gluconate injection as per Monograph standards and dispense with appropriate packaging and labelling.

Reference :

‘ Dr. Gupta G.D , Dr. Sharma Shailish , Dr. Sharma Neelam ’
“Practical Manual of Pharmaceutics” Published by Nirali Prakashan, Page
no 73 – 78

Apparatus and Materials Required :

Ampoules, calcium gluconate, beaker (100ml, 250 ml), calcium D-saccharate, water for injection, measuring cylinder (10 ml), syringe with needle (10 ml), G-4 filter, and autoclave.

Theory :

Calcium gluconate is the calcium salt of gluconic acid. It is an intravenous medicine used to treat calcium deficiency diseases such hypocalcemic tetany, hypocalcemia caused by hypoparathyroidism, and hypocalcemia caused by rapid growth during pregnancy. A sterile solution of calcium gluconate in water for injection is known as calcium gluconate injection. As a stabilising agent, not more than 5.0 % of the calcium gluconate may be replaced with a suitable calcium salt Calcium gluconate injection includes a calcium concentration of not less than 8.5 % and not more than 9.4% of the indicated calcium gluconate concentration.

Procedure :

- 1) The desired amount of calcium gluconate and calcium D-saccharate should be weighed accurately.
- 2) On account of solubility problems, calcium gluconate should be first dissolved in water for injection in beaker with the help of heat.
- 3) Then calcium D-saccharate should be dissolved in the above solution.
- 4) The solution should be allowed to cool.
- 5) After cooling, the drug solution should be filtered through G-4 filter (or Whatman filter paper) to remove any foreign particles.
- 6) Filling of ampoules (Type 1) should be done by following the usual procedure.
- 7) The ampoules should be sealed by using pull-scaling technique
- 8) In general, calcium gluconate injection should be subjected to terminal sterilisation. This can be achieved by autoclaving at 121°C at 15 lbs/inch² for 30 minutes.

Formulation

| Ingredients | Required Quantity |
|---------------------------|-------------------|
| Calcium gluconate | 9.65gm |
| Calcium D-saccharate | 0.35gm |
| Water for injection q. s. | q. s. |

Labelling :

| Labelling | | | |
|--|------------------|-----------------------------|----------|
| Calcium Gluconate Injection I.P. (100ml) | | | |
| R _x | Brand Logo | Ingredient | Quantity |
| | | Calcium gluconate | 9.65gm |
| Mfg. date: 11/21 | Exp. date: 11/24 | Calcium D-saccharate | 0.35gm |
| Batch No.: UVYZ | Lic No.: 00414 | Sterile water for injection | q.s. |
| Caution: May precipitate at room temperature so check before use. | | | |
| Storage: Store at room temperature and in original packaging. | | | |

Packaging and Storage :

- 1) The injection should be stored in ampoules and should be packed insuitable ampoule box and labelled.
- 2) Ampoule should be stored below 25°C.
- 3) Calcium gluconate is a supersaturated solution and may precipitate in the vial at room temperature, so the vials should be inspected before use.

Result :

The calcium gluconate injection was prepared, packaged and labelled.

