

Exp. No.-11

Date:

Aim: To prepare and submit 30gm of Sodium alginate gel.

Reference:

- ✓ Pharmacopoeia of India

Requirements:

Apparatus Required:

Mortar & pestle, weigh balance, measuring cylinder, glass rod, spatula, beaker etc.

Chemical Required:

Sodium alginate, Calcium chloride, Coloring agent, purified water

Principle:

A gel is a semi-solid that can have properties ranging from soft and weak to hard and tough. Gels are defined as a substantially dilute cross-linked system, which exhibits no flow when in the steady-state. A gel has been defined phenomenologically as a soft, solid or solid-like material consisting of two or more components, one of which is a liquid, present in substantial quantity.

Formula:

Sl. No.	Ingredients	Official formula	Working formula	Required quantities
1.	Sodium alginate	2% w/v		
2.	Calcium chloride	5% w/v		
3.	Coloring agent	q. s		
4.	Purified water	100ml		30gm

Calculation:

Procedure:

Step 1: Mix the dry, powdered sodium alginate with distilled water.

For a great gel, use 100 ml of distilled water and 1 teaspoon of sodium alginate (this is a 2% sodium alginate solution).

Step 2: In another container, mix the calcium chloride with distilled water.

Use a heaping teaspoon of calcium chloride in 100 ml of distilled water (this is a 5% calciumchloride solution)

Step 3: Make a gel by adding dissolved alginate to the calcium solution.

Using a spoon or a dropper, add (i.e., drop or squirt) a little of the sodium alginate solution into the calcium chloride solution. In an instant, the calcium reacts with the sugar units in the alginate to pull the long flexible chains of alginate into a gel.

Use: Alginate is used as an emulsifier or stabilizer.

