

Gelation Protocol for MCC + NaOH

Introduction

This protocol creates a gel from microcrystalline cellulose dissolved in an NaOH solution.

Reagents

- 🔗 2 M NaOH aqueous solution
- 🔗 4% wt. anhydrous MCC pellets

Equipment

- 🔗 250 mL Erlenmeyer flask
- 🔗 Ice bath
- 🔗 Magnetic stir plate
- 🔗 Magnetic stir bar

Procedure

1. Prepare a 2 M NaOH aqueous solution. Chill the solution in an ice bath.
2. Slowly add the anhydrous MCC pellets while the solution stirs. Stir until homogeneous.
3. After approximately 5 minutes, the solution should be semi-transparent.
4. Place the solution in a -80°C freezer for 20 minutes.
5. Thaw and stir in an ice bath for 10 minutes, then thaw and stir at room temperature for 20 minutes, allowing the solution to gradually warm up.