Preparation of Sodium Alginate Gel

Experiment 12 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To prepare, evaluate, package and label the assigned sodium alginate gel.

Principle

Hydrated alginate chains produce a viscous gel. Gradual dispersion avoids a dry core trapped inside lumps.

Working Formula

Use the assigned current monograph for ingredient grades, amounts and specifications. Enter the working quantities before starting.

Ingredient	Purpose	Working quantity
Sodium alginate	Gelling polymer	_____
Assigned humectant	Wetting / moisture retention	_____
Purified water	Vehicle	_____

Scaling factor = required batch size / master batch size. Working ingredient amount = master amount × scaling factor.

Requirements

- Assigned master formula and ingredients
- Balance, measuring glassware and suitable mixing equipment
- Appropriate clean container and label

Procedure

1. Disperse

Sprinkle polymer slowly into the vehicle while stirring, or pre-wet it as the formula directs.

2. Hydrate

Allow the assigned hydration period and stir gently until smooth.

3. Complete

Add other assigned ingredients and make to mass or volume.

4. Evaluate

Record clarity, lumps, consistency and spreadability.

Evaluation and Label

- Check smoothness, hydration, viscosity comparison and final quantity.
- Label the name, strength where relevant, route, batch/date, storage and institution-assigned use period. Mark laboratory preparations as training material.

Observations and Record

Check	Observation
Appearance / consistency	_____
Final mass or volume	_____
pH or other assigned test	_____
Packaging / label check	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- For a 25-unit batch from a 100-unit master formula, multiply every ingredient quantity by 0.25.
- Enter the actual final yield and compare it with the target batch size.

Result

The training preparation was obtained as _____. Final yield: _____. Assigned quality checks: _____. It was packaged and labelled for the intended route.

Precautions

- Use the named formula and ingredient grades.
- Avoid contamination and inappropriate heating.
- Record actual results rather than assuming that appearance proves compliance.

Viva Questions and Answers

1. Why scale every ingredient?

The proportions must remain constant when batch size changes.

2. Why record the method?

Mixing order, temperature and technique affect the product.

3. Which quality checks are needed?

Check smoothness, hydration, viscosity comparison and final quantity.

4. Why is a label required?

It identifies the product, route, directions, storage and the training batch.

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