Ointment and Gel Formulations

Experiment 6 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

1. Salicylic Acid and Benzoic Acid Ointment

Aim

To prepare and evaluate salicylic acid and benzoic acid ointment using the assigned master formula.

Principle

Uniform dispersion of the assigned acids in a compatible base is needed for consistent external application.

Requirements

- Salicylic acid
- Benzoic acid
- Assigned ointment base and levigating agent
- Balance, suitable mixing equipment, measuring glassware and compatible packaging.

Procedure

1. Read and calculate the assigned formula

Confirm the prescribed monograph or college master formula, ingredient grades, concentration basis and final batch size. Calculate a scale factor and record each ingredient quantity.

2. Prepare the ingredients

Reduce the assigned powder size and levigate with the prescribed compatible agent.

3. Combine in the stated sequence

Incorporate the powders into the base by geometric dilution.

4. Complete the preparation

Mix to uniformity and transfer without entrapped coarse particles.

5. Evaluate and package

Assess smoothness; uniformity; absence of grit; external-use label. Record the actual yield. Use the compatible container, route label and storage conditions assigned for the preparation.

Observations and Record

Ingredient / check	Quantity or observation	Recorded value
Salicylic acid	As assigned / observed	_____
Benzoic acid	As assigned / observed	_____
Assigned ointment base and levigating agent	As assigned / observed	_____
Final yield / appearance	external ointment; smoothness	_____

Worked Example

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

- Scale factor = required batch size ÷ master-formula batch size.
- Example only: scaling a 100 mL formula to 25 mL gives a factor of 0.25. An ingredient stated as 4 g becomes 1 g. This is a scaling example, not the official composition.

Result

Preparation: ____. Batch basis: ____. Actual yield: ____. Quality observations: ____. Packaging and label: ____.

Precautions

- Use the assigned formulation and prescribed concentration basis; similar product names can represent different strengths.
- Evaluate the preparation after the specified equilibration or cooling stage.
- A teaching preparation is not released for patient use. Apply the assigned route, storage and use-period label.

Viva Questions and Answers

1. Why use a master formula?

It fixes the composition, processing sequence, tests and final quantity basis.

2. Why measure the yield?

Transfer loss or final adjustment can change the amount and concentration delivered.

3. How is the preparation evaluated?

smoothness, uniformity, absence of grit, external-use label.

2. Diclofenac Gel

Aim

To prepare and evaluate diclofenac gel using the assigned master formula.

Principle

The assigned polymer system forms a gel whose pH, viscosity and drug compatibility depend on the master formula.

Requirements

- Assigned diclofenac form
- Prescribed gel-forming polymer
- Vehicle and formula-specific pH-adjusting component
- Balance, suitable mixing equipment, measuring glassware and compatible packaging.

Procedure

1. Read and calculate the assigned formula

Confirm the prescribed monograph or college master formula, ingredient grades, concentration basis and final batch size. Calculate a scale factor and record each ingredient quantity.

2. Prepare the ingredients

Disperse and hydrate the polymer in the prescribed vehicle without persistent clumps.

3. Combine in the stated sequence

Prepare and incorporate the drug component using the assigned solvent/chemical form.

4. Complete the preparation

Apply the prescribed pH/consistency adjustment and allow the specified equilibration before assessment.

5. Evaluate and package

Assess uniformity; pH; consistency; absence of visible precipitate. Record the actual yield. Use the compatible container, route label and storage conditions assigned for the preparation.

Observations and Record

Ingredient / check	Quantity or observation	Recorded value
Assigned diclofenac form	As assigned / observed	_____
Prescribed gel-forming polymer	As assigned / observed	_____
Vehicle and formula-specific pH-adjusting component	As assigned / observed	_____
Final yield / appearance	external gel; uniformity	_____

Worked Example

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

- Scale factor = required batch size ÷ master-formula batch size.

- Example only: scaling a 100 mL formula to 25 mL gives a factor of 0.25. An ingredient stated as 4 g becomes 1 g. This is a scaling example, not the official composition.

Result

Preparation: ____. Batch basis: ____. Actual yield: ____. Quality observations: ____. Packaging and label: ____.

Precautions

- Use the assigned formulation and prescribed concentration basis; similar product names can represent different strengths.
- Evaluate the preparation after the specified equilibration or cooling stage.
- A teaching preparation is not released for patient use. Apply the assigned route, storage and use-period label.

Viva Questions and Answers

1. Why use a master formula?

It fixes the composition, processing sequence, tests and final quantity basis.

2. Why measure the yield?

Transfer loss or final adjustment can change the amount and concentration delivered.

3. How is the preparation evaluated?

uniformity, pH, consistency, absence of visible precipitate.

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