Preparation of Piperazine Citrate Elixir

Experiment 3 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To prepare, evaluate, package and label a piperazine citrate elixir.

Principle

An elixir is a sweetened hydroalcoholic oral liquid. Solubility and mixing order are important because adding water changes the solvent environment.

Working Formula

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

Ingredient	Purpose	Working quantity
Piperazine citrate	Active ingredient	_____
Prescribed alcohol / co-solvent	Solvent	_____
Syrup / flavour	Palatability	_____
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. Read the formula

Check the assigned strength and solvent system; calculate the working quantities.

2. Dissolve separately

Prepare the water-soluble and alcohol-soluble portions in their assigned solvents.

3. Combine

Add the aqueous portion gradually to the alcoholic portion with stirring.

4. Complete

Add flavour and sweetening ingredients as assigned; bring to final volume.

5. Evaluate and dispense

Check clarity and final volume; package in the prescribed closure and label as an oral training preparation.

Evaluation and Label

- Check clarity, precipitation on standing, final volume, assigned strength and the suitability of the oral label.
- 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

- Avoid ignition sources when handling alcohol.
- Do not change the solvent ratio to remove precipitate without checking the formula.
- The clinical dose belongs to the prescription, not the preparation exercise.

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 clarity, precipitation on standing, final volume, assigned strength and the suitability of the oral label.

4. Why is a label required?

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

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