

Picric Acid Topic - Theory and Supplied-Result Interpretation

Experiment 17 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To understand the syllabus topic and assess instructor-provided identity and yield data.

Principle

Picric acid is a nitro-substituted phenol with explosive hazards, especially when dry or in certain metal-salt forms. This activity uses diagrams and supplied results rather than preparation or handling.

Key Points

- Identify the phenolic and nitro functional groups on the supplied structural diagram.
- Relate strong electron-withdrawing groups to acidity at a conceptual level.
- Use only instructor-provided analytical data for the record.
- Discuss why a hazardous preparation is replaced with an educational simulation.

Practice Scenario

Hypothetical data supplied for calculation: theoretical mass 2.00 g; reported mass 1.50 g. Yield = 75.0%. These are worksheet values, not a preparation formula.

Activity Procedure

1. Review theory

Label the functional groups on the supplied structure; discuss substitution and acidity without a synthesis procedure.

2. Read supplied data

Identify the product name, stated theoretical mass, recorded mass and identity-test conclusion in the worksheet.

3. Calculate

Calculate yield from the supplied masses, keeping the data clearly hypothetical.

4. Interpret

Separate identity, purity and yield; state which conclusions the provided tests support.

Record and Observations

Data item	Worksheet record
Theoretical mass	_____
Reported product mass	_____
Identity / purity evidence	_____
Calculated yield	_____

Result

Complete the record using your activity, then state the findings, the action required and the reason for that action.

Precautions

- Do not prepare, dry or handle picric acid or its salts in this activity.
- Treat any existing hazardous container through the institution's trained hazardous-material process.

Viva Questions and Answers

1. What is the phenolic group?

A hydroxyl group attached directly to an aromatic ring.

2. Is yield proof of identity?

No; the supplied identity evidence must be assessed separately.

3. Why use a simulation?

It meets the theory and data-analysis objective without explosive-material preparation.

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