

Study of Evaluation of Natural-Origin Excipients

Practical 03 | Herbal Drug Technology

Aim

To study Evaluation of Natural-Origin Excipients, and interpret the recorded observations.

Principle

- Natural gums, mucilages and other excipients are evaluated for identity, moisture behaviour, viscosity, swelling and functional performance. Their natural origin does not alone establish consistency or suitability.
- The property is obtained from a defined observable under controlled conditions.
- Replicate measurements, instrument checks and consistent units are needed before comparison.
- Record the material identity, extract/ingredient strength and the method used so the result remains traceable.
- Use the assigned product or material specification; general chemical-class findings alone do not establish clinical effectiveness.

Materials and Apparatus

- Assigned natural excipients and approved identity/functional test apparatus.
- Assigned test material and calibration or comparison material.
- The apparatus specified for this property, a balance or volumetric equipment where relevant, and a record sheet.

Method

1. Identify the measured property, units and controlled variables before setting up the apparatus.
2. Check the instrument, zero or calibration and record the relevant operating conditions.
3. Prepare a representative measured portion without changing its intended composition.
4. Obtain the readings specified for the property and repeat under the same conditions.
5. Calculate the required property, including corrections stated for the apparatus or method.
6. Summarize the replicate results and explain the effect of the variable studied.

Observation Record

Complete this record using actual laboratory findings or the provided teaching data.

Observation / parameter	Record / finding
Excipient	_____
Identity observation	_____
Moisture result	_____
Swelling/viscosity	_____
Function comparison	_____

Calculations and Interpretation

- Report the property-specific equation, method and units.
- Compare function under the same concentration, temperature and measurement conditions.

Result

Record the actual finding, calculated value with units where relevant, and a conclusion supported by the observations.

Finding: _____

Conclusion: _____

Precautions

- Keep temperature and test conditions consistent across comparative readings.
- Record raw readings before rounding calculated values.
- Do not compare results obtained with different methods as if they were interchangeable.

Viva Questions

1. Why control the test conditions?

A change in conditions may alter the measured property independently of the intended variable.

2. Why retain replicate readings?

They show repeatability and help identify an anomalous measurement.

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