

## SOLUBLES

### PRINCIPLE

The method determines water soluble material by extracting with water, filtering, and drying an aliquot of the filtrate.

### SCOPE

The method is applicable to unmodified starches, and with minor changes, to modified, pregelatinized and other high solubles starches.

### PROCEDURE

Weigh accurately about 20 g of sample (Note 1) into a suitable container, add 198 mL of purified water at room temperature, close container and agitate at a moderate rate for 30 minutes.

Gravity filter the suspension through a Whatman No. 12 filter paper, or equivalent, into a dry receiver, returning the first 25 mL of filtrate to the suspension.

Pipet a 100 mL aliquot of the filtrate (Note 2) into a tared evaporating dish and evaporate to apparent dryness on a steam bath. Dry in a vacuum oven (100 Torr pressure or lower) for 2 hours at 100 °C. Cool in desiccator and weigh.

### CALCULATION

$$\% \text{ Solubles, as is} = \frac{\text{Residue Wt. (g)} \times 2 \times 100}{\text{Sample Wt. (g)}}$$

### NOTES AND PRECAUTIONS

1. Grind samples containing hard granular pellets. For best results it is suggested that a 2 g sample and 199 mL of purified water be employed when the solubles concentration exceeds 5%. Furthermore, the extraction temperature should be maintained at 25 ° ± 1 °C in the analysis of high solubles samples.
2. The amount of sample used, particularly the aliquot size evaporated, should be adjusted so that the residue weight does not exceed 0.2 g.

**Analytical Methods of the Member Companies of the  
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