

GMIA STANDARD METHODS FOR THE TESTING OF EDIBLE GELATIN



2.8 Clarity

PRINCIPLE

The clarity of a 6.67% gelatin solution is determined at 45°C by measuring the percent transmittance through a 1 cm cuvette at 640 nm.

APPARATUS

1. Spectrophotometer
2. 1 cm cuvettes, optically matched
3. Automatic pipette, capacity 105.0 ± 0.2
4. Bloom jar or 150 mL beaker
5. Balance with 0.01 g sensitivity
6. Constant temperature water baths at 65°C and 45°C

PROCEDURE

1. Weigh 7.50 ± 0.01 g gelatin into bloom jar or 150 mL beaker
2. Add 105.0 ± 0.2 g deionized water, stirring often to suspend all gelatin particles
3. Cover and let stand 1 – 3 hours at room temperature
4. Dissolve the sample in a 65°C water bath for 10 – 15 minutes, stirring or swirling as required.
5. Remove the sample to a 45°C water bath and hold until sample temperature is $45 \pm 1^\circ\text{C}$.
6. Calibrate the spectrophotometer to 100% transmittance with deionized water blank at 640 nm according to the manufacturer's instructions.
7. Transfer an aliquot of the sample solution to the cuvette and record the percent transmittance value at 640 nm.

Note: Sample preparation for the clarity test is the same as for gel strength, viscosity and colour tests; those samples may be utilized. The clarity determination may be conducted on samples after the gel strength test by melting down and tempering to 45°C as previously described.