

# GMIA STANDARD METHODS FOR THE TESTING OF EDIBLE GELATIN



## 2.3 Determination of Moisture Content of Gelatin

### PRINCIPLE

A weighed sample of gelatin is maintained for 16 to 18 hours at  $105 \pm 2^\circ\text{C}$  and is then reweighed. The moisture content is defined as the percentage loss in weight of the sample.

### REFERENCES

GME Monograph, June 2005, Version 4

### REAGENTS AND SOLUTIONS

None

### APPARATUS

1. Pyrex evaporating dishes, 45 mm in diameter and 30 mm high, or other suitable moisture pan
2. Drying oven, set at  $105 \pm 2^\circ\text{C}$ .
3. Dessicator
4. Analytical balance, capable of weight to 0.001 grams

### PROCEDURE

#### Sample Preparation

1. Wash the evaporating dish very carefully in hot water.
2. Place the dish in the drying oven at  $105^\circ\text{C}$  for at least one hour.
3. Cool dish in the dessicator until room temperature is reached.
4. Weigh approximately 5.0 g of gelatin to the nearest milligram and note the weight of the test sample ( $m_0$ ) and the weight of the sample together with the evaporating dish ( $m_1$ ).

#### Determination

1. Place the evaporating dish containing the sample in the drying oven at  $105 \pm 2^\circ\text{C}$  for 16 to 18 hours.
2. Cool the dish in the dessicator until room temperature is reached and weigh to the nearest milligram ( $m_2$ ), weigh and calculate the percentage of residue

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## Result

The moisture content, expressed as a percentage by weight, is equal to:

$$\% \text{ Moisture} = [(m_1) - m_2] / m_0 \times 100\%$$

where:  $m_0$  is the weight in grams of the test sample

$m_1$  is the weight in grams of the test sample and the evaporating dish, before drying

$M_2$  is the weight in grams of the test sample and the evaporating dish, after drying