

GMIA STANDARD METHODS FOR THE TESTING OF EDIBLE GELATIN



2.6 Determination of Ash Content in Gelatin

PRINCIPLE

Gelatin is ashed in a crucible at 550°C using a muffle furnace. The residue is determined by differential weighing and the result expressed as a weight percentage of the original sample.

REFERENCES

USP 23 NF 18, 1995

REAGENTS AND SOLUTIONS

1. Paraffin

APPARATUS

1. Muffle furnace, capable of heating to 550 + 25°C
2. Analytical balance, capable of weight to 0.001 grams

PROCEDURE

Sample Preparation

1. Weigh approximately 5.0 g of gelatin to 0.001 g in a suitable crucible that previously has been ignited, cooled and weighed.
2. Add 1.5 to 2.0 g of paraffin to avoid loss due to swelling.
3. Heat, gently at first on an electric hot plate or in a muffle furnace, until the substance is thoroughly charred.
4. Finish ashing in a muffle furnace at 550°C for 15 to 20 hours.

Determination

1. Cool the sample in a dessicator.
2. Weigh the sample and calculate the percentage of residue

Note: do not handle dried crucibles without gloves or crucible tongs

Result

The ash content, expressed as % ash, is equal to:

$$\% \text{ ash} = [\text{weight of ash}] / [\text{weight of sample}] \times 100\%$$