GMIA STANDARD METHODS FOR THE TESTING OF EDIBLE GELATIN

2.4 pH

PRINCIPLE

The pH of a 1.5 % gelatin solution is determined by potentiometry at a temperature of 35 ± 1°C using a pH meter.

REFERENCES

GME Monograph, June 2005, Version 4

REAGENTS AND SOLUTIONS

1. pH 4 Buffer Solution
2. pH 7 Buffer Solution
3. Deionized Water

APPARATUS

1. BALANCE: with 0.01 g sensitivity
2. WATER BATH: constant temperature at 65 ± 0.5ºC
3. WATER BATH: constant temperature at 35 ± 0.5ºC
4. pH Meter: conventional pH meter with at least two decimal place display
5. pH Electrode: combination pH electrode with temperature compensation

PROCEDURE

1. Weigh 1.60 ± 0.01 g gelatin into a 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 65ºC water bath for 10 – 15 minutes, stirring or swirling as required.
5. Transfer the sample to the 35ºC water bath and temper to 35ºC.
6. Perform a two-point calibration on the pH meter, using pH 4 and pH 7 buffers, at 35ºC.
7. Determine the pH of the gelatin solution according the pH-meter instructions.
8. Swirl the solution well using the pH probe to ensure the electrode is sufficiently saturated.
9. Rinse the electrode with warm distilled water once testing is complete.