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A 16 a - Coffee Test

GEA NIRO® Method No. A 16 a

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1. Definition

The thermostability in an acid environment is expressed by the number of white particles on the surface after reconstituting the powder in hot coffee.

2. Scope

The method can be used for coffee creamers and milk powders.

3. Principle

The protein stability of powders used for hot beverages is analyzed by adding the powder to hot coffee and determining whether there are flocculated particles on the surface.

4. Apparatus

1. Balance, sensitivity ± 0.01 g
2. pH-meter, capable of reading ± 0.2 pH
3. 250 ml beaker
4. Teaspoon
5. Weighing dish, polystyrene
6. Stop watch
7. Electrical kettle or hot plate
8. Thermometer, 0-100°C ± 0.5°C.

5. Reagents

1. Standard instant coffee (Nescafé extra or similar).
2. Deionized water.

6. Procedure

1. Weigh 1.5 ± 0.01 g of coffee into the 250 ml beaker.
2. Weigh 5.0 ± 0.1 g of powder into the weighing dish.
3. Boil approx. 200 ml of water and measure 150 ml into the 250 ml beaker containing the coffee.
Check that the solution has a pH of 4.9-5.4 and adjust the pH with base or acid if it is out of range.
4. When the temperature of the coffee has cooled to 80°C ± 0.5°C, tip in the 5 g of powder.
When all powder is wetted, start the stop watch and stir with a teaspoon for 30 seconds.
5. The procedure should be carried out in duplicate.

7. Result

Record 0 as passed - if 2 determinations show no particles on the surface.

Record 1 as failed - if 2 determinations show particles on the surface.

8. Reproducibility

N/A

9. Remarks

The results can also be given with information expressing number of particles on the surface.

10. Reference

GEA Niro Research Laboratory