

EMULSION STABILITY TEST

Specification WHO/M/13.R4
Revised 10 December 1999

1. Outline of method

The product is dispersed and emulsified in soft and hard waters and the stability of the emulsion is observed after a standing period of 2 hours.

2. Reagents

2.1 Standard hard water

See WHO method WHO/M/29

2.2 Standard soft water

See WHO method WHO/M/29

3. Procedure

Into a 250 mL beaker having an internal diameter of 6.0-6.5 cm and a 100 mL calibration mark, pour 75-80 mL of water¹, brought to a temperature of $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$. By means of a Mohr-type pipette add the required volume² of the concentrate (see section 1.2.4 of the appropriate specification), while stirring with a glass rod, 4-6 mm in diameter, at about four revolutions per second. The concentrate should be added to the water at the rate of 25-30 mL per minute, with the point of the pipette 2 cm inside the beaker, the flow of the concentrate being directed towards the centre of the beaker.

Make up to 100 mL with water, stirring continuously, and immediately pour into a clean, dry, graduated 100 mL cylinder. The stirring time should be 3 minutes from the beginning of the addition of the concentrate until the emulsion is poured into the 100 mL cylinder. Keep at $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 2 hours and examine for any creaming³, oiling⁴, or sediment.

¹ Standard hard water or standard soft water, as indicated in the relevant section of the specification under consideration.

² The required volume should be at least 5 mL of concentrate to 100 mL of water. The test is not suitable for emulsions that are more dilute than this, because the volumes of creaming and separation cannot be measured with any accuracy.

³ Creaming is defined as the formation, at the top or the bottom of the emulsion, of a layer containing a proportion of the dispersed phase higher than that in the remainder of the emulsion.

⁴ Oiling is defined as the formation at the top or the bottom of the emulsion of a liquid phase not miscible with water.