



Edition: BP 2025 (Ph. Eur. 11.6 update)

Hydrous Wool Fat



[General Notices](#)

Lanolin

(Ph. Eur. monograph 0135)

Ph Eur

DEFINITION

Mixture of 75 per cent *m/m* of wool fat and 25 per cent *m/m* of water. It is obtained by the gradual addition of water to melted wool fat with continuous stirring. A suitable antioxidant may be added.

CHARACTERS

Appearance

Pale yellow, unctuous substance.

IDENTIFICATION

- A. In a test-tube, dissolve 0.5 g in 5 mL of [methylene chloride R](#) and add 1 mL of [acetic anhydride R](#) and 0.1 mL of [sulfuric acid R](#). A green colour develops.
- B. Dissolve 50 mg in 5 mL of [methylene chloride R](#), add 5 mL of [sulfuric acid R](#) and shake. A red colour develops and an intense green fluorescence appears in the lower layer when examined in daylight, with illumination from behind the observer.

TESTS

Water-soluble acid or alkaline substances

Melt 6.7 g on a water-bath and shake vigorously for 2 min with 75 mL of [water R](#) previously heated to 90-95 °C. Allow to cool and filter through filter paper previously rinsed with [water R](#). To 60 mL of the filtrate (which may not be clear) add 0.25 mL of [bromothymol blue solution R1](#). Not more than 0.2 mL of [0.02 M hydrochloric acid](#) or 0.15 mL of [0.02 M sodium hydroxide](#) is required to change the colour of the indicator.

Drop point (2.2.17)

38 °C to 44 °C.

To fill the metal cup, melt the residue obtained in the test for wool-fat content on a water-bath, cool to about 50 °C, pour into the cup and allow to stand at 15-20 °C for 24 h.

Water-absorption capacity

Place 10 g of the residue obtained in the test for wool-fat content in a mortar. Add water R in portions of 0.2-0.5 mL from a burette, stirring vigorously after each addition to incorporate the water R. The end-point is reached when visible droplets remain which cannot be incorporated. Not less than 20 mL of water R is absorbed.

Acid value (2.5.1)

Maximum 0.8, determined on 5.0 g dissolved in 25 mL of the prescribed mixture of solvents.

Peroxide value (2.5.5, Method A)

Maximum 15.

Saponification value (2.5.6)

67 to 79, determined on 2.00 g while heating under reflux for 4 h.

Water-soluble oxidisable substances

To 10 mL of the filtrate obtained in the test for water-soluble acid or alkaline substances add 1 mL of dilute sulfuric acid R and 0.1 mL of 0.02 M potassium permanganate. After 10 min, the solution is not completely decolourised.

Paraffins

Maximum 1.0 per cent.

The tap and cotton plugs used must be free from grease Prepare a column of anhydrous aluminium oxide 230 mm long and 20 mm in diameter by adding a slurry of anhydrous aluminium oxide R and light petroleum R1 to a glass tube fitted with a tap and containing light petroleum R1. Allow to settle and reduce the depth of the layer of solvent above the column to about 40 mm. Dissolve 3.0 g of the residue obtained in the test for wool-fat content in 50 mL of warm light petroleum R1, cool, pass the solution through the column at a rate of 3 mL/min and wash with 250 mL of light petroleum R1. Concentrate the combined eluate and washings to low bulk by distillation, evaporate to dryness on a water-bath and heat the residue at 105 °C for periods of 10 min until 2 successive weighings do not differ by more than 1 mg. The residue weighs a maximum of 30 mg.

Chlorides

Maximum 115 ppm.

Boil 1.3 g with 20 mL of ethanol (90 per cent V/V) R under a reflux condenser for 5 min. Cool, add 40 mL of water R and 0.5 mL of nitric acid R and filter. To the filtrate add 0.15 mL of a 10 g/L solution of silver nitrate R in ethanol (90 per cent V/V) R. Allow to stand for 5 min, protected from light. Any opalescence in the solution

is not more intense than that in a standard prepared at the same time by adding 0.15 mL of a 10 g/L solution of [silver nitrate R](#) in [ethanol \(90 per cent V/V\) R](#) to a mixture of 0.2 mL of [0.02 M hydrochloric acid](#), 20 mL of [ethanol \(90 per cent V/V\) R](#), 40 mL of [water R](#) and 0.5 mL of [nitric acid R](#).

Sulfated ash (2.4.14)

Maximum 0.1 per cent.

Ignite 5.0 g and use the residue.

Wool-fat content

72.5 per cent to 77.5 per cent.

In a suitable tared dish containing a glass rod, heat 30.0 g to constant mass on a water-bath, stirring continuously. Weigh the residue.

STORAGE

At a temperature not exceeding 25 °C.

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