



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

Hydrogenated Wool Fat



[General Notices](#)

(Ph. Eur. monograph 0969)

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DEFINITION

Mixture of higher aliphatic alcohols and sterols obtained from the direct, high-pressure, high-temperature hydrogenation of [wool fat \(0134\)](#) during which the esters and acids present are reduced to the corresponding alcohols. A suitable antioxidant may be added.

CHARACTERS

Appearance

White or pale yellow, unctuous substance.

Solubility

Practically insoluble in water, soluble in boiling anhydrous ethanol and in light petroleum.

IDENTIFICATION

First identification: B.

Second identification: A, C.

- A. Melting point (see Tests).
- B. Examine the chromatograms obtained in the test for fatty alcohols and sterols.

Results The principal peaks in the chromatogram obtained with the test solution are similar in retention time and size to the principal peaks in the chromatogram obtained with reference solution (a).

- C. Dissolve 50 mg 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 is produced.

TESTS

Melting point (2.2.15)

45 °C to 55 °C. Allow to stand at 20 °C for 16 h.

Acid value (2.5.1)

Maximum 1.0, determined on 5.0 g.

Hydroxyl value (2.5.3, Method A)

140 to 180.

Saponification value (2.5.6)

Maximum 8.0. Heat under reflux for 4 h.

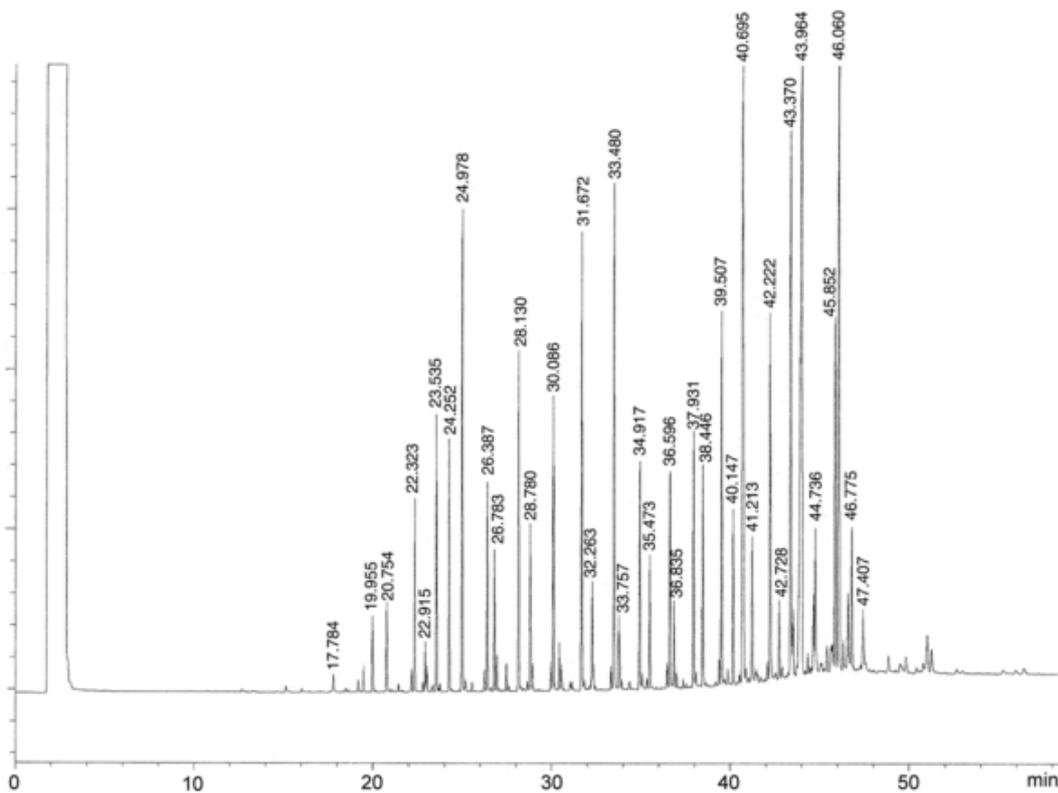


Figure 0969.-1. – Chromatogram for the test for fatty alcohols and sterols in hydrogenated wool fat: reference solution (a)

Fatty alcohols and sterols

Gas chromatography (2.2.28).

Test solution Dissolve 0.25 g of the substance to be examined in 60 mL of [anhydrous ethanol R](#) and dilute to 100.0 mL with the same solvent.

Reference solution (a) Dissolve 0.25 g of [hydrogenated wool fat CRS](#) in 60 mL of [anhydrous ethanol R](#) and dilute to 100.0 mL with the same solvent.

Reference solution (b) Dissolve 50 mg of [cetyl alcohol CRS](#) and 50 mg of [stearyl alcohol CRS](#) in 60 mL of [anhydrous ethanol R](#) and dilute to 100.0 mL with the same solvent.

Column:

- *material:* fused silica;
- *size:* $l = 30$ m, $\varnothing = 0.25$ mm;
- *stationary phase:* [methylpolysiloxane R](#) or another non-polar phase (film thickness 0.25 μm).

Carrier gas [helium for chromatography R](#).

Flow rate 1 mL/min.

Temperature:

	Time (min)	Temperature (°C)
Column	0 - 5	100
	5 - 45	100 → 300
	45 - 60	300
Injection port		325
Detector		350

Detection Flame ionisation.

Injection 1 μL .

Results The chromatogram obtained with the test solution does not differ significantly from the chromatogram obtained with reference solution (a) (Figure 0969.-1) and it does not show enhanced peaks with retention times corresponding to cetyl alcohol and stearyl alcohol present in the chromatogram obtained with reference solution (b).

Loss on drying (2.2.32)

Maximum 3.0 per cent, determined on 2.000 g by drying in an oven at 105 °C for 1 h.

Total ash (2.4.16)

Maximum 0.1 per cent, determined on 5.0 g.

STORAGE

In a well-filled container, protected from light.

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