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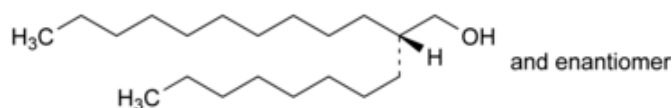
Edition: BP 2025 (Ph. Eur. 11.6 update)

Octyldodecanol



[General Notices](#)

(Ph. Eur. monograph 1136)



$C_{20}H_{42}O$ 298.6 5333-42-6

Action and use

Excipient.

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DEFINITION

(2*RS*)-2-Octyldodecan-1-ol.

Condensation product of saturated liquid fatty alcohols.

Content

Minimum 90 per cent of $C_{20}H_{42}O$, the remainder consisting mainly of related alcohols.

CHARACTERS

Appearance

Clear, colourless or yellowish, oily liquid.

Solubility

Practically insoluble in water, miscible with ethanol (96 per cent).

Relative density

About 0.840.

Refractive index

About 1.455.

IDENTIFICATION

- A. Hydroxyl value (see Tests).
- B. Thin-layer chromatography ([2.2.27](#)).

Test solution Dissolve 0.20 g of the substance to be examined in [toluene R](#) and dilute to 20 mL with the same solvent.

Reference solution Dissolve 0.20 g of [octyldodecanol CRS](#) in [toluene R](#) and dilute to 20 mL with the same solvent.

Plate Suitable silica gel plate.

Mobile phase [ethyl acetate R](#), [toluene R](#) (5:95 V/V).

Application 2 µL.

Development Over a path of 12 cm.

Drying In air.

Detection Spray with about 7 mL of a mixture of 1 volume of a 25 g/L solution of [vanillin R](#) in [ethanol \(96 per cent\) R](#) and 4 volumes of [sulfuric acid R](#) and heat at 130 °C for 5-10 min.

Results The principal spot in the chromatogram obtained with the test solution is similar in position, colour and size to the principal spot in the chromatogram obtained with the reference solution.

TESTS

Acidity or alkalinity

Mix 5.0 g thoroughly for 1 min with a mixture of 0.1 mL of [bromothymol blue solution R1](#), 2 mL of [heptane R](#) and 10 mL of [water R](#). If the aqueous layer is blue, not more than 0.15 mL of [0.01 M hydrochloric acid](#) is required to change the colour of the indicator to yellow. If the aqueous layer is yellow, add 0.45 mL of [0.01 M sodium hydroxide](#) and shake vigorously. After standing to ensure complete separation, the aqueous layer is blue.

Optical rotation ([2.2.7](#))

-0.10° to + 0.10°.

Dissolve 2.50 g in [ethanol \(96 per cent\) R](#) and dilute to 25 mL with the same solvent.

Hydroxyl value ([2.5.3](#), [Method A](#))

175 to 190.

Calculate the hydroxyl value using the following expression:

$$I_{\text{OH}} = \frac{28.05 (n_2 - n_1)}{m}$$

Iodine value ([2.5.4, Method A](#))

Maximum 8.0.

Peroxide value ([2.5.5, Method A](#))

Maximum 5.0.

Saponification value ([2.5.6](#))

Maximum 5.0.

Water ([2.5.12](#))

Maximum 0.5 per cent, determined on 2.00 g.

Sulfated ash ([2.4.14](#))

Maximum 0.1 per cent, determined on 1.0 g.

ASSAY

Gas chromatography ([2.2.28](#)).

Internal standard solution Dissolve 0.4 g of [tetradecane R](#) in [hexane R](#) and dilute to 100.0 mL with the same solvent.

Test solution Dissolve 0.100 g of the substance to be examined in the internal standard solution and dilute to 10.0 mL with the same solution.

Reference solution Dissolve 0.100 g of [octyldodecanol CRS](#) in the internal standard solution and dilute to 10.0 mL with the same solution.

Column:

- *material*: fused silica;
- *size*: $l = 60 \text{ m}$, $\varnothing = 0.25 \text{ mm}$;
- *stationary phase*: [phenyl\(5\)methyl\(95\)polysiloxane R](#) (film thickness 0.25 μm).

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

Flow rate 0.68 mL/min.

Split ratio 1:50.

Temperature:

	Time (min)	Temperature (°C)
Column	0 - 2	180
	2 - 22	180 → 280
	22 - 52	280
Injection port		290
Detector		300

Detection Flame ionisation.

Injection 1 µL.

Calculate the content of C₂₀H₄₂O in the substance to be examined.

STORAGE

Protected from light.

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