



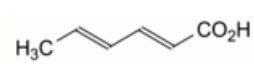
Edition: BP 2025 (Ph. Eur. 11.6 update)

Sorbic Acid



General Notices

(Ph. Eur. monograph 0592)



C₆H₈O₂ 112.1 110-44-1

Action and use

Antimicrobial preservative.

Ph Eur

DEFINITION

(*E,E*)-Hexa-2,4-dienoic acid.

Content

99.0 per cent to 101.0 per cent (anhydrous substance).

CHARACTERS

Appearance

White or almost white, crystalline powder.

Solubility

Slightly soluble in water, freely soluble in ethanol (96 per cent).

IDENTIFICATION

First identification: A, C.

Second identification: A, B, D.

- A. Melting point (2.2.14): 132 °C to 136 °C.
- B. Ultraviolet and visible absorption spectrophotometry (2.2.25).

Test solution Dissolve 50.0 mg in [water R](#) and dilute to 250.0 mL with the same solvent. Dilute 2.0 mL of this solution to 200.0 mL with [0.1 M hydrochloric acid](#).

Spectral range 230-350 nm.

Absorption maximum At 264 nm.

Specific absorbance at the absorption maximum 2150 to 2550.

C. Infrared absorption spectrophotometry ([2.2.24](#)).

Comparison [sorbic acid CRS](#).

D. Dissolve 0.2 g in 2 mL of [ethanol \(96 per cent\) R](#) and add 0.2 mL of [bromine water R](#). The solution is decolorised.

TESTS

Solution S

Dissolve 1.25 g in [ethanol \(96 per cent\) R](#) and dilute to 25 mL with the same solvent.

Appearance of solution

Solution S is clear ([2.2.1](#)) and colourless ([2.2.2, Method II](#)).

Aldehydes

Maximum 0.15 per cent, calculated as C_2H_4O .

Dissolve 1.0 g in a mixture of 30 mL of [water R](#) and 50 mL of [2-propanol R](#), adjust to pH 4 with [0.1 M hydrochloric acid](#) or [0.1 M sodium hydroxide](#) and dilute to 100 mL with [water R](#). To 10 mL of this solution add 1 mL of [decolorised fuchsin solution R](#) and allow to stand for 30 min. Any colour in the solution is not more intense than that in a standard prepared at the same time by adding 1 mL of [decolorised fuchsin solution R](#) to a mixture of 1.5 mL of [acetaldehyde standard solution \(100 ppm \$C_2H_4O\$ \) R](#), 4 mL of [2-propanol R](#) and 4.5 mL of [water R](#).

[Water \(2.5.12\)](#)

Maximum 1.0 per cent, determined on 2.000 g.

[Sulfated ash \(2.4.14\)](#)

Maximum 0.2 per cent, determined on 1.0 g.

ASSAY

Dissolve 0.1000 g in 20 mL of [ethanol \(96 per cent\) R](#). Using 0.2 mL of [phenolphthalein solution R](#) as indicator, titrate with [0.1 M sodium hydroxide](#) until a pink colour is obtained.

1 mL of [0.1 M sodium hydroxide](#) is equivalent to 11.21 mg of $C_6H_8O_2$.

STORAGE

Protected from light.

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