



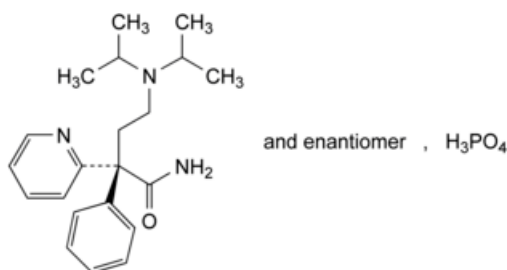
Edition: BP 2025 (Ph. Eur. 11.6 update)

Disopyramide Phosphate



[General Notices](#)

(Ph. Eur. monograph 1005)



$C_{21}H_{32}N_3O_5P$ 437.5 22059-60-5

Action and use

Antiarrhythmic.

Preparation

[Disopyramide Phosphate Capsules](#)

Ph Eur

DEFINITION

Disopyramide phosphate contains not less than 98.0 per cent and not more than the equivalent of 102.0 per cent of (2*RS*)-4-[bis(1-methylethyl)amino]-2-phenyl-2-(pyridin-2-yl)butanamide dihydrogen phosphate, calculated with reference to the dried substance.

CHARACTERS

A white or almost white powder, soluble in water, sparingly soluble in ethanol (96 per cent), practically insoluble in methylene chloride.

IDENTIFICATION

First identification: B.

Second identification: A, C, D.

A. Dissolve 50.0 mg in a 5 g/L solution of [sulfuric acid R](#) in [methanol R](#) and dilute to 100.0 mL with the same solution. Dilute 5.0 mL of this solution to 50.0 mL with a 5 g/L solution of [sulfuric acid R](#) in [methanol R](#). Examined between 240 nm and 350 nm ([2.2.25](#)), the solution shows an absorption maximum at 269 nm and a shoulder at 263 nm. The specific absorbance at the maximum is 147 to 163.

- B. Examine by infrared absorption spectrophotometry ([2.2.24](#)), comparing with the spectrum obtained with [disopyramide phosphate CRS](#). Examine the substances prepared as discs.
- C. Examine the chromatograms obtained in the test for related substances in ultraviolet light at 254 nm. The principal spot in the chromatogram obtained with test solution (b) is similar in position and size to the principal spot in the chromatogram obtained with reference solution (a). Spray with [dilute potassium iodobismuthate solution R](#). Examine in daylight. The principal spot in the chromatogram obtained with test solution (b) is similar in position, colour and size to the principal spot in the chromatogram obtained with reference solution (a).
- D. Solution S (see Tests) gives reaction (a) of phosphates ([2.3.1](#)).

TESTS

Solution S

Dissolve 1.0 g in [carbon dioxide-free water R](#) and dilute to 20 mL with the same solvent.

Appearance of solution

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

pH ([2.2.3](#))

The pH of solution S is 4.0 to 5.0.

Related substances

Examine by thin-layer chromatography ([2.2.27](#)), using [silica gel GF₂₅₄ R](#) as the coating substance.

Test solution (a) Dissolve 0.25 g of the substance to be examined in [methanol R](#) and dilute to 10 mL with the same solvent.

Test solution (b) Dilute 1 mL of test solution (a) to 10 mL with [methanol R](#).

Reference solution (a) Dissolve 25 mg of [disopyramide phosphate CRS](#) in [methanol R](#) and dilute to 10 mL with the same solvent.

Reference solution (b) Dilute 1 mL of test solution (b) to 20 mL with [methanol R](#).

Apply to the plate 10 µL of each solution. Develop over a path of 15 cm using a mixture of 1 volume of [concentrated ammonia R](#), 30 volumes of [acetone R](#) and 30 volumes of [cyclohexane R](#). Dry the plate in a current of warm air and examine in ultraviolet light at 254 nm. Any spot in the chromatogram obtained with test solution (a), apart from the principal spot, is not more intense than the spot in the chromatogram obtained with reference solution (b) (0.5 per cent).

Loss on drying ([2.2.32](#))

Not more than 0.5 per cent, determined on 1.000 g by drying in an oven at 105 °C.

ASSAY

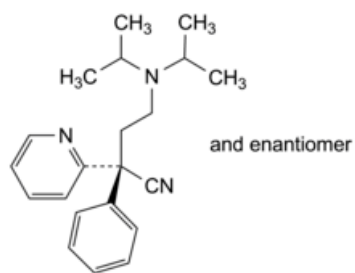
Dissolve 0.180 g in 30 mL of [anhydrous acetic acid R](#). Add 0.2 mL of [naphtholbenzein solution R](#). Titrate with [0.1 M perchloric acid](#) until the colour changes from yellow to green.

1 mL of [0.1 M perchloric acid](#) is equivalent to 21.88 mg of C₂₁H₃₂N₃O₅P.

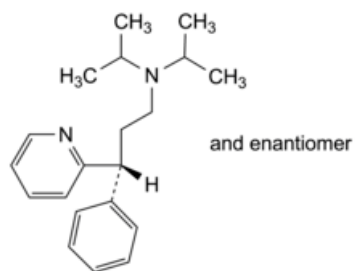
STORAGE

Store protected from light.

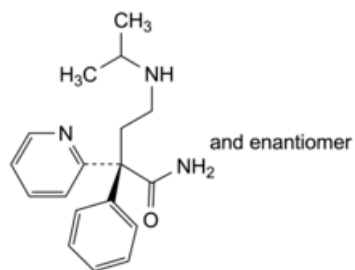
IMPURITIES



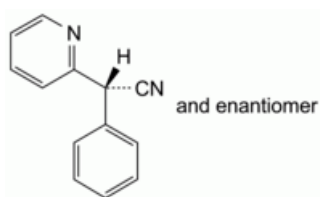
A. (2RS)-4-[bis(1-methylethyl)amino]-2-phenyl-2-(pyridin-2-yl)butanenitrile (di-isopyronitrile),



B. (3RS)-N,N-bis(1-methylethyl)-3-phenyl-3-(pyridin-2-yl)propan-1-amine,



C. (2RS)-4-[(1-methylethyl)amino]-2-phenyl-2-(pyridin-2-yl)butanamide,



D. (RS)-phenyl(pyridin-2-yl)acetonitrile (pyronitrile).

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