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

Trimethoprim Tablets

General Notices

Action and use

Dihydrofolate reductase inhibitor; antibacterial.

DEFINITION

Trimethoprim Tablets contain Trimethoprim.

The tablets comply with the requirements stated under Tablets and with the following requirements.

Content of trimethoprim, $C_{14}H_{18}N_4O_3$

95.0 to 105.0% of the stated amount.

IDENTIFICATION

A. Shake a quantity of the powdered tablets containing 0.1 g of Trimethoprim with 10 mL of *chloroform*, filter and evaporate the filtrate to dryness. The *infrared absorption spectrum* of the residue, Appendix II A, is concordant with the *reference spectrum* of trimethoprim (*RS 354*).
B. Shake a quantity of the powdered tablets containing 0.1 g of Trimethoprim with 60 mL of 0.1M *hydrochloric acid* for 20 minutes, add sufficient 0.1M *hydrochloric acid* to produce 100 mL, filter and dilute 5 mL of the filtrate to 250 mL with 0.1M *sodium hydroxide*. The *light absorption* of the resulting solution, Appendix II B, in the range 230 to 350 nm exhibits a maximum only at 287 nm.

TESTS

Related substances

Carry out the method for *liquid chromatography*, Appendix III D, using the following solutions. For solution (1) shake a quantity of the powdered tablets containing 0.2 g of Trimethoprim with 50 mL of the mobile phase, filter and use the filtrate. For solution (2) dilute 1 volume of solution (1) to 100 volumes with the mobile phase.

The chromatographic procedure may be carried out using (a) a stainless steel column (25 cm × 5 mm) packed with *octadecylsilyl silica gel for chromatography* (5 µm) (Spherisorb ODS 1 is suitable), (b) as the mobile phase with a flow rate of 1.3 mL per minute a 0.14% w/v solution of *sodium perchlorate* in *methanol* (*60%*) adjusted to pH 3.1 with 0.1M *hydrochloric acid* and (c) a detection wavelength of 280 nm.

The *column efficiency*, determined using the peak due to trimethoprim in the chromatogram obtained with solution (2), should be at least 8,000 theoretical plates per metre.

In the chromatogram obtained with solution (1) the area of any *secondary peak* is not greater than 0.1 times the area of the principal peak in the chromatogram obtained with solution (2) (0.1%) and the sum of the areas of any such peaks is not greater than 0.5 times the area of the principal peak in the chromatogram obtained with solution (2) (0.5%).

ASSAY

Weigh and powder 20 tablets. To a quantity of the powder containing 0.1 g of Trimethoprim add 100 mL of *glacial acetic acid*, shake for 20 minutes, dilute to 200 mL with *glacial acetic acid* and filter. To 5 mL of the filtrate add 15 mL of *glacial acetic acid* and dilute to 100 mL with *water*. Measure the *absorbance* of the resulting solution at the maximum at 271 nm, Appendix II B. Calculate the content of $C_{14}H_{18}N_4O_3$ taking 204 as the value of A(1%, 1 cm) at the maximum at 271 nm.