



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

Pentobarbital Injection

[General Notices](#)

Action and use

Barbiturate.

DEFINITION

Pentobarbital Injection is a sterile¹ solution of Pentobarbital Sodium in a suitable vehicle.

The injection complies with the requirements stated under Parenteral Preparations and with the following requirements.

Content of pentobarbital sodium, $C_{11}H_{17}N_2NaO_3$

95.0 to 105.0% of the stated amount.

CHARACTERISTICS

A clear, colourless or almost colourless solution.

IDENTIFICATION

- A. The [infrared absorption spectrum](#) of the residue obtained in the Assay, [Appendix II A](#), is concordant with the *reference spectrum* of pentobarbital ([RSV 34](#)).
- B. [Melting point](#) of the residue obtained in the Assay, about 128°, [Appendix V A](#).
- C. When introduced on a platinum wire into the flame of a Bunsen burner, imparts a yellow colour to the flame.

TESTS

Alkalinity

pH, 10.0 to 11.5, [Appendix V L](#).

Isomer

To a volume containing 0.3 g of Pentobarbital Sodium diluted, if necessary, to 5 mL with [water](#), add 0.3 g of [4-nitrobenzyl bromide](#) dissolved in 10 mL of [ethanol \(96%\)](#) and heat under a reflux condenser for 30 minutes. Cool to 25°, filter, wash the residue with four 5 mL quantities of [water](#) and transfer as completely as possible to a small flask. Add 25 mL of [ethanol \(96%\)](#) and heat under a reflux condenser for 10 minutes. The residue, after drying at 105° for 30 minutes, melts completely between 136° and 155°.

ASSAY

To a volume containing 0.5 g of Pentobarbital Sodium diluted to 15 mL with [water](#) add 5 mL of [2M hydrochloric acid](#), extract with 50 mL of [ether](#) and then with successive 25 mL quantities of [ether](#) until complete extraction is effected. Wash the combined extracts with two 5 mL quantities of [water](#) and wash the combined aqueous washings with 10 mL of [ether](#). Add the ether to the main ether extract, evaporate to low volume, add 2 mL of [absolute ethanol](#), evaporate to dryness and dry the residue to [constant weight](#) at 105°. Each g of residue is equivalent to 1.097 g of $C_{11}H_{17}N_2NaO_3$.

When pentobarbitone injection is prescribed or demanded, Pentobarbital Injection shall be dispensed or supplied.

¹ Solutions containing 20% w/v of Pentobarbital Sodium in 100 mL and 500 mL quantities are also available for purposes other than injection; such solutions are not necessarily sterile but comply with all the other requirements of the monograph; they may be coloured.