

EAG/Panel/Working Party	EAG BIO Biological and Biotechnological Products
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Heparin Flush Solution

Heparin Preparations

Action and use

Anticoagulant.

DEFINITION

Heparin Flush is a sterile solution of Heparin Sodium Injection with sufficient Sodium Chloride to make it isotonic with blood.

PRODUCTION

The final product is produced from the drug substance where the methods of manufacturing are designed to ensure freedom from contamination by over-sulfated glycosaminoglycans.

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

Potency

The estimated potency is not less than 90% and not more than 111% of the stated potency.

CHARACTERISTICS

A colourless or straw-coloured liquid, free from turbidity and from matter that deposits on standing.

IDENTIFICATION

- A. It complies with the requirements described under Assay.
- B. Carry out the assay of anti-factor Xa activity of heparin, Appendix XIV J B2. The ratio of anti-factor Xa activity to anti-factor IIa activity determined as described under Assay ranges between 0.9 and 1.1.
- C. Yields reaction A characteristic of *sodium salts*, Appendix VI.

TESTS

Acidity or alkalinity

pH, 5.5 to 8.0, Appendix V L.

Sodium

10.2 to 16.9% of Heparin Sodium, when determined by *atomic absorption spectrophotometry*, **Appendix II D** Method I. For the purposes of this test, assume that 100 IU of anti-factor Xa is equivalent to 1 mg of Heparin Sodium.

Bacterial endotoxins

Carry out the *test for bacterial endotoxins*, Appendix XIV C.

The endotoxin limit of the solution is 10 IU of endotoxin per mL. Carry out the test using a lysate with a declared sensitivity not less sensitive than 0.0625 IU of endotoxin per mL.

For a preparation supplied in a container with a nominal content of 100 mL or more, the endotoxin limit concentration is 0.25 IU of endotoxin per mL.

ASSAY

Carry out the assay of anti-factor IIa activity of heparin, Appendix XIV J B2. The fiducial limits of error are not less than 80% and not more than 125% of the stated potency.

STORAGE

Heparin Injection should preferably be kept in a container sealed by fusion of the glass.

LABELLING

The strength is stated as the number of IU (Units) in a suitable dose-volume except that for multi-dose containers the strength is stated as the number of IU (Units) per mL.

The label states (1) when no antimicrobial preservative is present that the preparation contains no antimicrobial preservative and that any portion of the contents not used at once should be discarded; (2) that the preparation is intended for the maintenance of patency of intravenous injection devices only and that it is not to be used for anticoagulant therapy.