

Ophthalmic Ointment Monographs: Chloramphenicol and Polymyxin B Sulfate Ophthalmic Ointment

Type of Posting	Revision Bulletin
Posting Date	29-Jul-2016
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Expert Committee	Chemical Medicines Monographs 1 to 6
Reason for Revision	Compliance

In accordance with the Rules and Procedures of the 2015-2020 Council of Experts, the Chemical Medicines Expert Committees 1 to 6 has revised the monographs listed below. The purpose of the revision is to replace the requirement to comply with the entire content of the USP general chapter *Ophthalmic Products—Quality Tests <771>* with a requirement to comply only with the subsection for *Particulate and Foreign Matter in Ophthalmic Products—Quality Tests <771>*, and with the section for *Container Content* for those monographs where the requirement for Minimum Fill was deleted.

- Atropine Sulfate Ophthalmic Ointment
- Bacitracin Ophthalmic Ointment
- Bacitracin Zinc and Polymyxin B Sulfate Ophthalmic Ointment
- Bland Lubricating Ophthalmic Ointment
- Chloramphenicol and Polymyxin B Sulfate Ophthalmic Ointment
- Chloramphenicol Ophthalmic Ointment
- Chlortetracycline Hydrochloride Ophthalmic Ointment
- Ciprofloxacin Ophthalmic Ointment
- Dexamethasone Sodium Phosphate Ophthalmic Ointment
- Erythromycin Ophthalmic Ointment
- Gentamicin and Prednisolone Acetate Ophthalmic Ointment
- Gentamicin Sulfate Ophthalmic Ointment
- Hydrocortisone Acetate Ophthalmic Ointment
- Idoxuridine Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Hydrocortisone Acetate Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates and Bacitracin Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates and Bacitracin Zinc Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates and Dexamethasone Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Hydrocortisone Ophthalmic Ointment
- Neomycin and Polymyxin B Sulfates, Bacitracin, and Hydrocortisone Acetate Ophthalmic Ointment
- Neomycin Sulfate and Dexamethasone Sodium Phosphate Ophthalmic Ointment
- Neomycin Sulfate Ophthalmic Ointment
- Oxytetracycline Hydrochloride and Polymyxin B Sulfate Ophthalmic Ointment
- Sodium Chloride Ophthalmic Ointment
- Sulfacetamide Sodium and Prednisolone Acetate Ophthalmic Ointment
- Sulfacetamide Sodium Ophthalmic Ointment
- Tetracycline Hydrochloride Ophthalmic Ointment
- Tobramycin and Dexamethasone Ophthalmic Ointment
- Tobramycin Ophthalmic Ointment

The Revision Bulletins for the monographs listed above supersede the currently official version of these monographs. The Revision Bulletin will be incorporated in the *First Supplement to USP 40–NF 35*.

Should you have any questions, please contact Margareth R. C. Marques, M.Sc., Ph.D. (301-816-8106 or mrm@usp.org).

Chloramphenicol and Polymyxin B Sulfate Ophthalmic Ointment

DEFINITION

Chloramphenicol and Polymyxin B Sulfate Ophthalmic Ointment contains NLT 90.0% and NMT 120.0% of the labeled amount of chloramphenicol ($C_{11}H_{12}Cl_2N_2O_5$) and NLT 90.0% and NMT 125.0% of the labeled amount of polymyxin B.

IDENTIFICATION

- **A.** The retention time of the major peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the *Assay*.

ASSAY

Change to read:

• CHLORAMPHENICOL

Mobile phase: Methanol, glacial acetic acid, and water (450:1:550)

Standard stock solution: 0.25 mg/mL of USP Chloramphenicol RS in methanol

Standard solution: 0.1 mg/mL of USP Chloramphenicol RS from the *Standard stock solution* in *Mobile phase*. Pass through a \blacktriangle suitable \blacktriangle_{USP39} filter, and use the clear filtrate.

Sample stock solution: Nominally 0.25 mg/mL of chloramphenicol prepared as follows. Transfer a portion of Ophthalmic Ointment containing nominally 25 mg of chloramphenicol to a suitable conical flask. Add 20 mL of cyclohexane, mix, and sonicate for 2 min. Add 60 mL of methanol. Filter this mixture, collecting the filtrate in a 100-mL volumetric flask. Wash the filter with methanol, collecting the washings in the volumetric flask. Dilute with methanol to volume. Transfer 50.0 mL of the resulting solution to a suitable round-bottom flask, and evaporate to dryness by rotating the flask under vacuum in a water bath at 35°. Dissolve the residue in 50.0 mL of methanol.

Sample solution: Nominally 0.1 mg/mL of chloramphenicol from the *Sample stock solution* in *Mobile phase*. Pass through a \blacktriangle suitable \blacktriangle_{USP39} filter, and use the clear filtrate.

Chromatographic system

(See *Chromatography* <621>, *System Suitability*.)

Mode: LC

Detector: UV 280 nm

Column: 4.6-mm \times 10-cm; 5- μ m packing L1

Flow rate: 1 mL/min

Injection volume: 10 μ L

System suitability

Sample: *Standard solution*

Suitability requirements \blacktriangle_{USP39}

Tailing factor: NMT 2.0

Relative standard deviation: NMT 1.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of the labeled amount of chloramphenicol ($C_{11}H_{12}Cl_2N_2O_5$) in the portion of Ophthalmic Ointment taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times P \times F \times 100$$

r_U = peak height from the *Sample solution*

r_S = peak height from the *Standard solution*

C_S = concentration of USP Chloramphenicol RS in the *Standard solution* (mg/mL)

C_U = nominal concentration of chloramphenicol in the *Sample solution* (mg/mL)

P = potency of chloramphenicol in USP Chloramphenicol RS (μ g/mg)

F = conversion factor, 0.001 mg/ μ g

Acceptance criteria: 90.0%–120.0%

• POLYMYXIN B

(See *Antibiotics—Microbial Assays* <81>.)

Sample solution: Shake a portion of Ophthalmic Ointment containing nominally 5000 Polymyxin B Units with 50 mL of ether in a separator. Extract with four 20-mL portions of *Buffer B.6*. Combine the aqueous extracts in a 100-mL volumetric flask, and dilute with *Buffer B.6* to volume.

Analysis: Proceed as directed in the chapter. Dilute the *Sample solution* with *Buffer B.6* to obtain a *Test Dilution* having a concentration that is nominally equivalent to the median level of the standard.

Acceptance criteria: 90.0%–125.0%

SPECIFIC TESTS

- **STERILITY TESTS** <71>: Meets the requirements

Delete the following:

- **METAL PARTICLES IN OPHTHALMIC OINTMENTS** <751>:

Meets the requirements

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Change to read:

- **OTHER REQUIREMENTS:** It meets the requirements \bullet for *Particulate and Foreign Matter*, \bullet (RB 1-Aug-2016) in *Ophthalmic Products—Quality Tests* <771>, \bullet *Drug Product Quality, Universal Tests, Particulate and Foreign Matter*, \bullet (RB 1-Aug-2016)

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ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in collapsible ophthalmic ointment tubes.
- **USP REFERENCE STANDARDS** <11>
 - USP Chloramphenicol RS
 - USP Polymyxin B Sulfate RS