



Compounding Altered- Release Pharmaceuticals

Part III

Loyd V. Allen, Jr., Ph.D.

Compounding Altered-Release Pharmaceuticals-Part III

- Ophthalmic
 - Nasal
 - Otic
-

Ophthalmics

- Factors Affecting
 - Particle size
 - Concentration
 - Diffusion coefficients
 - Partition coefficients
 - Solubility
-

Ophthalmics

- Mechanism of Release
 - Stability (Varies)
 - Equipment Required
 - Materials/Matrices
 - Preparation Methods
-

Compounding Altered-Release Pharmaceuticals-Part III

- Ophthalmic
 - Viscous Solutions
 - Oils
 - Ointments
 - Gels/Poloxamers
 - Contact Lens
-

Ophthalmic Vehicle, General

- Disodium EDTA 10 mg
 - Benzalkonium Cl 50% sol 0.02 mL
 - Sterile water for injection qs 100 mL
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Phenylephrine HCl 10% Ophthalmic Solution

- Phenylephrine HCl 10 g
 - Sodium phosphate dibasic 142 mg
 - Benzalkonium chloride 0.5% sol 2 mL
 - Sodium metabisulfite 500 mg
 - Hydrochloric acid 1% qs
 - Sodium hydroxide 1% qs
 - Sterile water for injection qs 100 mL
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Viscous Solutions

Phenylephrine HCl Viscous Eye Drops

- Phenylephrine HCl 500 mg
- Sodium carboxymethyl-cellulose 1-1.5% solution 2.5 mL
- Benzalkonium Cl 0.04% sol 2 mL
- Sterile water for injection qs 5 mL

Ophthalmic Vehicle, Slow Release

- Polyvinyl alcohol 1.4 g
 - Benzalkonium Cl 1% Soln 2 mL
 - 0.9% Sodium chloride inj qs 100 mL
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Ophthalmic Gel Vehicle

- Carbopol 934P 2 g
 - Sorbitol USP 27.3 g
 - Disodium EDTA 500 mg
 - Cetyl trimethyl ammonium Br 50 mg
 - Sodium hydroxide 10% soln qs
 - Sterile water for injection qs 100 mL
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Oils

Oils

- Cyclosporin 2%
- Corn Oil 98%

Ointments

Ophthalmic Ointment, General

- White petrolatum 55.5 g
 - Mineral oil 42.5 g
 - Petrolatum:Lanolin alcohol* 2 g

 - *Lanolin alcohol 5 g
 - *White petrolatum 95 g
 - Melt at 50-55° C and mix.
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Idoxuridine 0.5% Ophthalmic Ointment

- Idoxuridine 500 mg
 - Mineral oil 5 g
 - White petrolatum qs 100 g
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Gels/Poloxamers

Contact Lens

Nasal Preparations

- Factors Affecting
 - Particle size
 - Concentration
 - Diffusion coefficients
 - Partition coefficients
 - Solubility
-

Nasal Preparations

- Mechanism of Release
 - Stability (Depends)
 - Equipment Required
 - Materials/Matrices
 - Preparation Methods
-

Compounding Altered-Release Pharmaceuticals

- Nasal
 - Gels
 - Oils
-

Phenylephrine HCl 0.5% Nasal Spray

■ Phenylephrine HCl		500 mg
■ Disodium EDTA		100 mg
■ Sodium chloride		640 mg
■ Chlorobutanol		500 mg
■ Menthol		50 mg
■ Sterile water for injection	qs	100 mL

Progesterone 20 mg/mL Nasal Spray

■ Progesterone	2 g
■ Dextrose	4.5 g
■ Polysorbate 80	0.3 mL
■ Benzalkonium Cl 5% sol	0.2 mL
■ Phenylethyl alcohol	0.25 g
■ Disodium EDTA	200 mg
■ Sterile water for injection qs	100 mL

Gels

Phenylephrine HCl 0.5% Nasal Gel

■ Phenylephrine HCl		500 mg
■ Hydroxyethyl cellulose		3 g
■ Disodium EDTA		100 mg
■ Sodium chloride		640 mg
■ Chlorobutanol		500 mg
■ Menthol		50 mg
■ Sterile water for injection	qs	100 mL

Nasal Suspension

Nasal Suspension Spray

- Active drug qs
 - Avicel PH105 50 mg
 - Sodium carboxymethyl cellulose 150 mg
 - Dextrose 5.4 g
 - Polysorbate 80 0.3 mL
 - Benzalkonium Cl 5% sol 0.2 mL
 - Phenylethyl alcohol 0.25 g
 - Sterile water for injection qs 100 mL
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Oils (Vegetable)

Compounding Altered-Release Pharmaceuticals

- Otic
 - Aqueous Miscible
 - Oil Miscible
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Otics

- Factors Affecting
 - Particle size
 - Concentration
 - Diffusion coefficients
 - Partition coefficients
 - Solubility
-

Otics

- Mechanism of Release
 - Stability
 - Equipment Required
 - Materials/Matrices
 - Preparation Methods
-

Aqueous Miscible

- Glycerin + Gelatin
 - Propylene Glycol + Sodium Stearate
 - PEG 300 + PEG higher MWs

 - Aqueous Suspensions
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Oil Miscible

- Olive oil
 - Oleaginous stiffening agent
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