4282-040

Key Words: Cefalexin, High Dosage, Direct Compression
JRS Products: PROSOLV® SMCC 90, PRUV®

Cefalexin Direct Compression

Summary

Cefalexin (INN) is a β-lactam antibiotic, and a member of the smaller subgroup of first-generation cephalosporins. It exhibits bactericidal activity by disrupting of the synthesis of the peptidoglycan layer of the bacterial cell wall. Cefalexin primarily kills gram-positive bacteria and some gram-negative bacteria. Its stability toward hydrochloric acid makes it suitable for oral administration. We developed a direct compression formulation with **PROSOLV® SMCC** as a binder and **PRUV®** as a lubricant. Common dosages are 500 and 1,000 mg.

Formulation

	Active content [mg]	mg/tablet	Contribution [%]
Cefalexin H_2O	1,000.0	1,052.0	73.5
PROSOLV® SMCC 90 (Silicified Microcrystalline Cellulose)		358.0	25.0
PRUV® (Sodium Stearyl Fumarate)		20.0	1.5
Total		1,430.0	100.0

Procedure

Blending:
Cefalexin and **PROSOLV® SMCC 90** were blended for 15 minutes. **PRUV®** was added and the powder was mixed for another 3 minutes. The powder mixture was ready for direct compression.

Equipment:	
Tablet Press:	Korsch EK 0, instrumented
Turbula Mixer:	Type T2A
Hardness Tester:	Schleuniger 6D
Disintegration Tester:	Pharmatest Standard PTZ

Tablet Characteristics

Tablet Weight:	1,430 mg
Tablet Diameter:	20 mm
Compaction Force:	11 kN
Crushing Strength:	90 N
Disintegration Time:	125 s

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