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Ibuprofen Chewable Tablet Direct Compression

Key Words: Ibuprofen, Poor Flowability, Poor Compactibility, Chewable Tablet, Direct Compression
JRS Products: EMDEX®, PRUV®

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Summary

Ibuprofen is a non-steroidal anti-inflammatory drug (NSAID), used as a pain-reliever. It is a poorly flowing, poorly compacting, waxy API with a low melting point, notorious as one of the most difficult APIs to run on a tablet press.

EMDEX®, due to its high inherent compactibility, provided a directly compressible formulation with excellent taste and mouthfeel, exceeding other watersoluble filler-binders.

Formulation

	Active content [mg]	mg/tablet	Contribution [%]
Ibuprofen	100.0	100.0	40.0
EMDEX® (Dextrates)		119.0	47.5
Acacia gum		25.0	10.0
Orange flavor (Firmenich)		5.0	2.0
PRUV® (Sodium Stearyl Fumarate)		1.0	0.5
Total		250.0	100.0

Procedure

Blending:

All excipients, except **PRUV®**, were blended for 15 minutes. Afterwards **PRUV®** was added to the blend and mixed for additional 3 minutes. The powder mixture was ready for direct compression.

Equipment:

Tablet Press:	Kilian Pressima, 8 mm punch
Turbula Mixer:	Type T2A
Hardness Tester:	Schleuniger Tablet Tester 6D

Tablet Characteristics

Compaction Force:	10 kN
Tablet Diameter:	8 mm
Tablet Weight:	250 mg
Crushing Strength:	80 N

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