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Key Words: Ibuprofen, Sticky Active, High Dosage, Direct Compression
JRS Products: PROSOLV® SMCC 90, EXPLOTAB®, PRUV®

Ibuprofen Direct Compression

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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 the most difficult APIs to run on a tablet press. **PROSOLV SMCC® 90**, due to its excellent powder flowability and high

inherent compactibility, provided a directly compressible tablet with improved mechanical characteristics, where other conventional tableting ingredients failed in direct compression applications. Common dosages range from 200 to 600 mg.

Formulation

	Active content [mg]	mg/tablet	Contribution [%]
Ibuprofen	200.0	200.0	55.5
PROSOLV® SMCC 90 (Silicified Microcrystalline Cellulose)		148.0	41.2
EXPLOTAB® (Sodium Starch Glycolate)		6.0	1.6
Talcum		4.0	1.1
PRUV® (Sodium Stearyl Fumarate)		2.0	0.6
Total		360.0	100.0

Procedure

Blending:

All ingredients, except the **lubricant**, were blended for 40 minutes in a turbula blender. **PRUV®** was dispensed to the correct mass, transferred to a V-blender and mixed with the other components for 5 minutes. The powder mixture was ready for direct compression.

Equipment:

Blender:	Twin-shell V-blender, Turbula Mixer
Friability Tester:	Pharmatest TAP
Tablet Press:	Korsch, EK 0 instrumented, 8 mm punch

Tablet Characteristics

Tablet Weight:	360 mg
Crushing Strength:	50 N
Compaction Force:	12 kN
Friability:	0.47 %

Disclaimer: The information provided is based on thorough research and is believed to be completely reliable. Application suggestions are given to assist our customers, but are for guidance only. Circumstances in which our material is used vary and are beyond our control. Therefore, we cannot assume any responsibility for risks or liabilities, which may result from the use of this technical advice.