# 4282-057

## Ibuprofen

### Chewable Tablet Direct Compression

**Summary**

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

**Formulation**

<table>
<thead>
<tr>
<th>Excipient</th>
<th>Active content [mg]</th>
<th>mg/tablet</th>
<th>Contribution [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen</td>
<td>100.0</td>
<td>100.0</td>
<td>40.0</td>
</tr>
<tr>
<td>EMDEX® (Dextrates)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia gum</td>
<td>25.0</td>
<td>25.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Orange flavor (Firmenich)</td>
<td></td>
<td>5.0</td>
<td>2.0</td>
</tr>
<tr>
<td>PRUV® (Sodium Stearyl Fumarate)</td>
<td></td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>250.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet Press:</td>
<td>Kilian Pressima, 8 mm punch</td>
</tr>
<tr>
<td>Turbula Mixer:</td>
<td>Type T2A</td>
</tr>
<tr>
<td>Hardness Tester:</td>
<td>Schleuniger Tablet Tester 6D</td>
</tr>
</tbody>
</table>

**Tablet Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compaction Force:</td>
<td>10 kN</td>
</tr>
<tr>
<td>Tablet Diameter:</td>
<td>8 mm</td>
</tr>
<tr>
<td>Tablet Weight:</td>
<td>250 mg</td>
</tr>
<tr>
<td>Crushing Strength:</td>
<td>80 N</td>
</tr>
</tbody>
</table>

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