Free-flowing direct compression with superior adsorption capacity? Why not!

Dry binder granulate with optimized flowing properties, superior adsorptive capacity for moisture protection, an easy to use tabletting agent.
Product Information
CompactCel® SIL

BIOGRUND’s one-step tabletting agent CompactCel® SIL provides an easy to use, granulated and homogeneous compound of Silica and PVP/NaCMC or HPC/NaCMC, which acts as a perfect dry binder granulate.

With CompactCel® SIL it is possible to produce direct compressed tablets containing excipients and a high content of active ingredients (which are normally incompressible) in one step. A wet granulation step to isolate the active ingredients with an excipient is in most cases not needed. Furthermore liquid ingredients can be converted into powders.

The use of Silica within the compound improves free flowing properties, gives better compaction and a superior adsorptive capacity for increased stability (by adsorbing surrounding liquids or moisture) and an improved dissolution profile.

CompactCel® SIL increases the hardness and improves the friability of the tablet at lower compression forces. BIOGRUND recommends using 2–5% within the core formulation to achieve best results. The product can be used for pharmaceutical and nutritional applications.

Regulatory and quality aspects: All CompactCel® SIL formulations are developed to meet the official regulatory requirements of the user’s country for pharmaceutical products and for nutritional or dietary supplements.

Fig. 1: Tablet Friability Comparison (n=10)

Direct compressed formulation: 50% Glucosamine-Sulfate 2KCl, MCC (42.5–47.5%), 2% NaCMC-CL, CompactCel® SIL (HPC/NaCMC/Silica, 0.0–5.0%) and 0.5% Mg-St. Using already 1% of the dry binding agent in the tablet mass causes friability values lower than 0.3%.

Fig. 2: Tablet Hardness Comparison (n=10)

Direct compressed formulation: 50% Glucosamine-Sulfate 2KCl, MCC (42.5–47.5%), 2% NaCMC-CL, CompactCel® SIL (HPC/NaCMC/Silica, 0.0–5.0%) and 0.5% Mg-St. Optimal values (between 100–150 N) are shown within the dashed area.