

# Advantose® 100

## Maltose Powder for Direct Compression

Advantose 100 maltose powder is a spray dried disaccharide carbohydrate. The safety and mouthfeel qualities of maltose are well-known. Now, by spray drying, the flow and tableting properties are greatly improved.

Advantose 100's spray-dried particles are spherical and the combination of fine and coarse particles contribute to superior flow.

### Can Be Used With Low Bulk Density Materials

The spray dried spherical powder particles of Advantose 100 maltose can be effectively used in combination with other excipients to obtain desired tablet properties. For example, cellulose powders have poor tableting qualities due to their poor flow and low bulk density.

### Tolerates Variability in Lubricant Levels

Advantose 100 Maltose's excellent tableting characteristics are not diminished by use of lubricants nor extended mixing times. Advantose 100 had only a minor drop in tablet hardness when up to 1% Mg stearate was incorporated (Figure 1). Mixing times of up to 15 minutes were tested and had no significant detrimental effects on compressibility at all lubricant levels (Figure 2).



Figure 1: Tablet Hardness vs Compression Force For Various Lubricant Levels

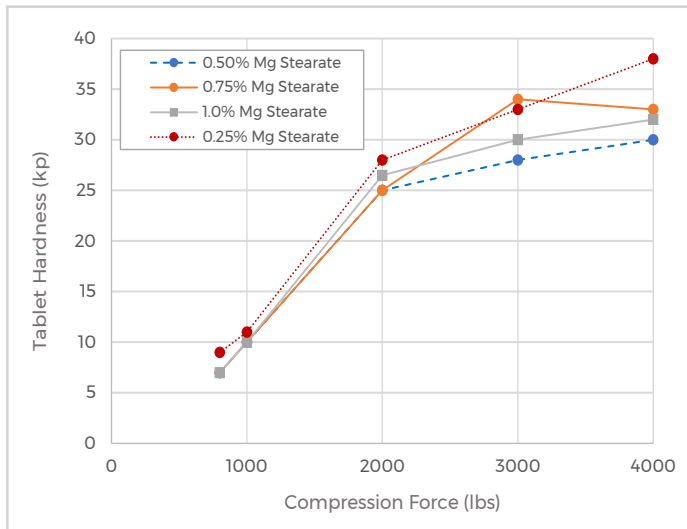
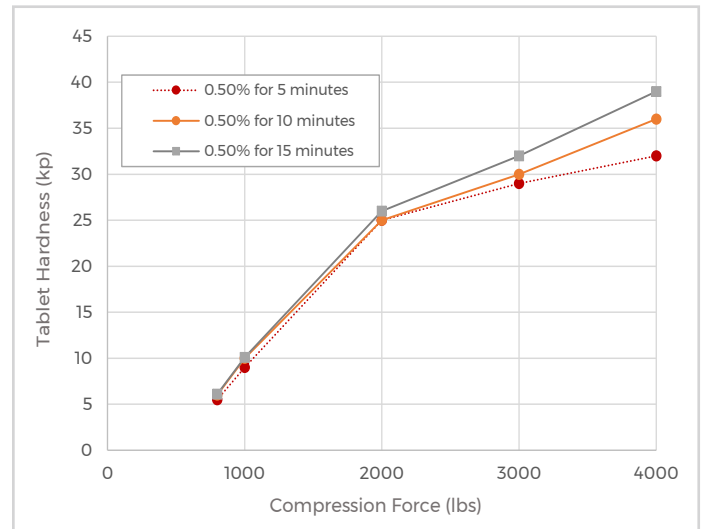


Figure 2: Tablet Hardness vs Compression Force For Various Mixing Times



### Produces Stable Tablets

Stability testing in tablets indicates surprising stability comparable to microcrystalline cellulose. Almost no change in hardness, thickness or weight occurs.

Tests comparing the friability (25 rpm for 5 minutes) of Advantose 100 tablets and those made with microcrystalline cellulose compared very well, both with less than 1% weight loss. Actual results in test formulations indicate that when Advantose 100 is used, the friability improves.

Another notable characteristic of Advantose 100 when compared to products like Avicel™ PH102 is that it will tolerate as high or higher compression forces without capping on ejection from the tableting dye. In formulations tested by SPI Pharma, MCC capped in the range of 4000 lbs. Whereas there was no capping up to 8000 lbs, the maximum pressure tested, with Advantose 100 (Table 1).

### Low Hygroscopicity

Stability is primarily a result of the low reactivity with most ingredients and the low hygroscopicity of Advantose 100. This comparison with MCC supports the stability data (Figure 3).

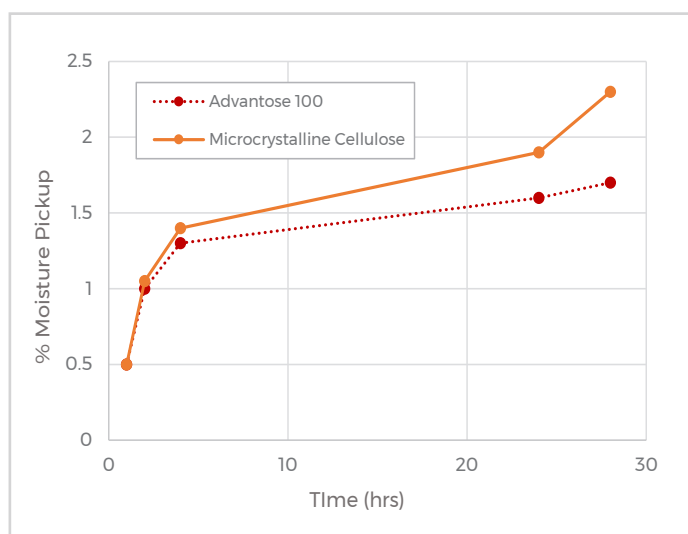
Table 1: Advantose 100 Maltose Creates Tablets With the Same Stability as MCC

	Advantose 100 Crystalline Maltose			Microcrystalline Cellulose		
	During Compaction	3 Days	1 Month	During Compaction	3 Days	1 Month
Tablet Weight Mean (mg)	406.7	406.7	406.6	406.6	411.8	408.4
Tablet Thickness Mean (mm)	4.88	4.87	4.88	5.92	5.93	5.93
Tablet Hardness Mean (kp)	9.0	8.8	9.5	9.0	9.7	9.8

## Benefits of Advantose 100 Maltose

- Spherical shape for excellent flow
- Excellent Compressibility
- Improves tableting of lower density materials
- Improves disintegration of other excipients
- Non-hygroscopic
- Desirable mouthfeel for chewables

Figure 3: Percentage Moisture Pickup Over Time



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