



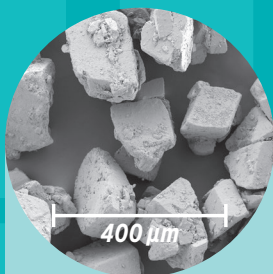
**MEGGLE's alpha-lactose
monohydrate qualities
for dry powder inhalation**



**Step by step to the right
lactose product**

MEGGLE has it: The right lactose product for

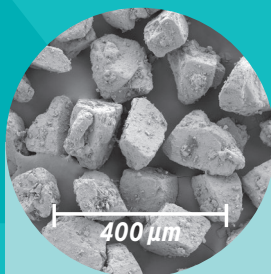
InhaLac



InhaLac® 70

Particle size distribution

X ₁₀	110 – 160 μm
X ₅₀	180 – 250 μm
X ₉₀	270 – 340 μm



InhaLac® 120

Particle size distribution

X ₁₀	70 – 105 μm
X ₅₀	110 – 155 μm
X ₉₀	160 – 215 μm

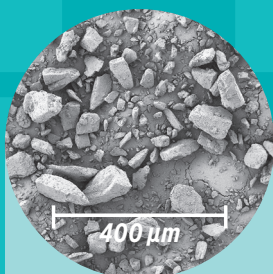


InhaLac® 150

Particle size distribution

X ₁₀	55 – 75 μm
X ₅₀	90 – 115 μm
X ₉₀	125 – 165 μm

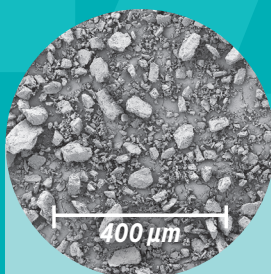
InhaLac



InhaLac® 140

Particle size distribution

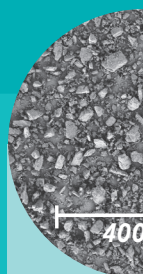
X ₁₀	3 – 7 μm
X ₅₀	37 – 61 μm
X ₉₀	120 – 190 μm



InhaLac® 150

Particle size distribution

X ₁₀	1 – 5 μm
X ₅₀	18 – 30 μm
X ₉₀	65 – 95 μm



InhaLac® 180

Particle size distribution

X ₁₀	2.0 – 3.0 μm
X ₅₀	14 – 20 μm
X ₉₀	40 – 60 μm

dry powder inhalation

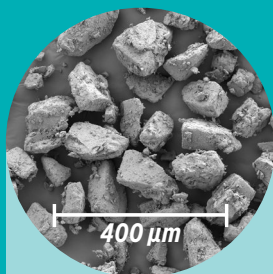
® sieved



InhaLac® 160

Particle size distribution

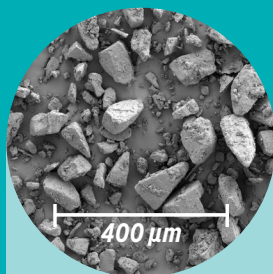
– 85 µm
– 120 µm
– 165 µm



InhaLac® 230

Particle size distribution

x_{10} 30 – 60 µm
 x_{50} 70 – 110 µm
 x_{90} 110 – 150 µm



InhaLac® 251

Particle size distribution

x_{10} 7 – 22 µm
 x_{50} 40 – 70 µm
 x_{90} 80 – 120 µm

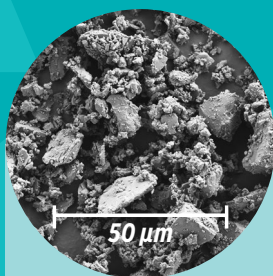
® milled



InhaLac® 300

Particle size distribution

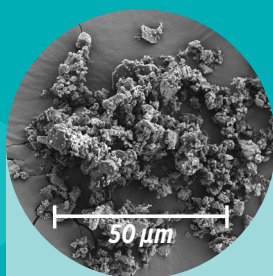
– 3.5 µm
– 19 µm
– 56 µm



InhaLac® 400

Particle size distribution

x_{10} 0.8 – 1.6 µm
 x_{50} 4 – 11 µm
 x_{90} 15 – 35 µm



InhaLac® 500

Particle size distribution

x_{50} ≤ 5 µm
 x_{90} ≤ 10 µm

micronized

Decisions made easy – all features at a glance.

Our product portfolio encompasses a broad array of options with solutions for any requirement. This table outlines the product properties, shelf life, and standard package sizes, helping you decide on the perfect solution for your formulation needs – from MEGGLE, of course.

BENEFITS

InhaLac®

- A broad spectrum of particle size distributions
- High storage stability
- Highly controlled and homogenous powder characteristics
- Highest microbial quality including low endotoxins

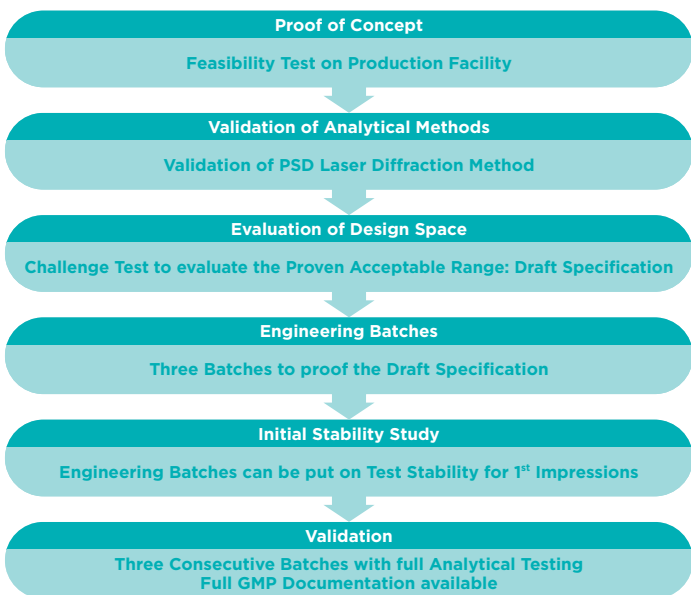
MEGGLE's dry powder inhaler – InhaLac®		
Product category		
InhaLac® Type	InhaLac® 70	InhaLac®
PSD typical laser diffraction		
x ₁₀ (µm)	135	88
x ₅₀ (µm)	215	132
x ₉₀ (µm)	301	175
Span (µm)	0.8	0.7
x fines < 15 µm (%)	0	3
Typical powder technological values		
BET surface (m ² /g)	0.13	0.15
Density bulk (g/ml)	0.60	0.72
Density tapped (g/ml)	0.71	0.83
Hausner ratio	1.18	1.15
Carr's index (%)	15	13
Packaging unit		
Carton box (kg)		
Retest (Months)		

Sieved				
120	InhaLac® 160	InhaLac® 230	InhaLac® 251	InhaLac® 140
	73	45	13	6
	108	97	49	49
	144	144	91	159
	0.7	1	1.6	3.1
	3	5	11	22
	0.12	0.16	0.33	0.38
	0.70	0.70	0.64	0.60
	0.84	0.85	0.88	0.92
	1.19	1.21	1.38	1.53
	16	18	27	35
	25			
			24	

Milled			Micronized
InhaLac [®] 150	InhaLac [®] 300	InhaLac [®] 400	InhaLac [®] 500
3	2.5	1.2	—
24	16	7.7	3.1
76	48	27.9	7.9
3	2.8	3.5	2.4
37	47	79	99
1.27	1.69	1.74	5.3
0.49	0.43	0.33	0.24
0.80	0.72	0.53	0.37
1.63	1.67	1.61	1.54
39	40	38	35
20		15	6
			18

Tailormade InhaLac[®] from MEGGLE – the benchmark for dry powder inhalers

To provide best support and to be able to fully meet your specific inhalative lactose needs, MEGGLE offers the development of tailor-made product solutions including further individual physico-chemical product parameters. As the development of a new customized product is a challenging task, we developed a well structured process plan:



Inhalation products portfolio:

For more information on our entire InhaLac[®] portfolio, please contact service.pharma@meggle.com

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