

Danone GmbH · Schönfeldstraße 12a · 83022 Rosenheim

Schlattermund
Export - Import GmbH
Esplanade 6
20354 Hamburg

CERTIFICATE OF ANALYSIS NO: 19000161
 LOT NO: 19005

COMMODITY: Lactose-PP 200 Mesh , pharmaceutical grade ITEM NO: 388
 MANUFACTURING DATE: 30.01.2019 EXPIRATION DATE: 29.01.2022

Specification: min. 99,8% Lactose-monohydrate - white, crystalline, odourless powder
 - No solvents, listed in the ICH Q3C Guideline are used in our manufacturing process.

<u>Physical-chemical tests</u>	<u>Method</u>	<u>Limit</u>	<u>Result</u>
- appearance of powder		white	white
- clarity of solution	USP 41 / JP 17	clear	clear
- color of solution (extinction 400 nm)	USP 41 / JP 17	≤ 0,04	0,002
- protein and light-absorbing impurities			
extinction (210 - 220) nm	USP 41 / Ph.Eur. 9 / JP 17	≤ 0,25	0,035
extinction (270 - 300) nm	USP 41 / Ph.Eur. 9 / JP 17	≤ 0,07	0,009
- acidity or alkalinity (ml 0,1 N NaOH)	USP 41 / Ph.Eur. 9 / JP 17	≤ 0,4 ml	0,2 ml
- specific rotation (cal. on anhydrous basis)	USP 41 / Ph.Eur. 9 / JP 17	+54,4° - +55,9°	+ 55,3 °
- residue on ignition / sulfated ash	USP 41 / Ph.Eur. 9 / JP 17	≤ 0,1 %	0,05 %
- loss on drying	USP 41 / Ph.Eur. 9 / JP 17	≤ 0,5 %	0,14 %
- water	n. Karl Fischer	4,5-5,5 %	5,1 %
- pH	10 % solution	3,8-5,5	4,56
- particle size <63µm 84,7 % (80,0 ±10%)	<90µm 94,7% (90,0 ±10%)		

Microbiological tests

- total plate count	CASO-Agar, 30°C/48h	< 100/g	< 5/g
- coli-test	LST-Bouillon, 36°C/48h	negative/g	negative/g
- enterobacteriaceae	VRBD-Agar, 37°C/24h	negative/g	negative/g
- moulds	YGC-Agar, 25°C/5d	max 10/g	< 10/g
- yeasts	YGC-Agar, 25°C/5d	max 10/g	< 10/g

External tests

- heavy metals: - Pb, As, Cd, Ni, Co, V	EN-ISO 17294-2:2004	≤ 0,5 ppm	
- Hg	Direct Mercury Analyzer	≤ 0,5 ppm	
- aflatoxin M1	§ 64 LFGB	< 0,05 ppb	
- polychlorinated biphenyls	IDF 75 C: 1991	corresponds to pollutant maximum quantities	
- pesticide	IDF 75 C: 1991	corresponds to residue maximum quantities	
- E. coli	§ 64 LFGB	< 0,3 /g (MPN)	
- Listeria monocytogenes / salmonellae	§ 64 LFGB	not detected in 25g	
- Bacillus cereus	§ 64 LFGB	< 100/g	
- coagulase-positive staphylococcus	§ 64 LFGB	not detected in 1g	
- Clostridium perfringens	§ 64 LFGB	< 10/g	
- sulphite reducing anaerobic spore formers	VDLUF A M7.18.4	< 0,3 /g (MPN)	

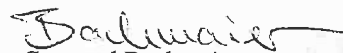
The above product (Pharma Lactose) is manufactured at our plant Danone GmbH, Rosenheim, Germany

Rosenheim, den 26.02.2019

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