

ACTILLETSTM Microcrystalline Cellulose Spheres

Highly spherical, and high quality pellets for advanced formulations

ACTILLETSTM MCC are neutral cores of microcrystalline cellulose that are highly engineered, highly spherical, and high quality. These materials have become essential tools in drug development for the important, growing advanced controlled release doses needed for modern medicines.

PARTICLE ENGINEERING

ACTILLETSTM Microcrystalline cellulose pellets are manufactured for SPI using Cellets® processes from Advanced Drug delivery Technology, Ltd. This ensures robust mechanical stability, the highest consistency and sphericity, and the lowest friability to enable effective loading and coating of the particles.



TECHNICAL SUPPORT

SPI brings excipient material expertise and oral dose development to the superior physical properties of these pellets. If your team is unsure of where or how to start, SPI Pharma's customer-focused Technical Development Managers are here to help quickly and efficiently formulate your drug product.

Does your project require a bit more support due to aggressive timelines or technical demands? Our custom formulation services from our expert pellet formulators are available for your needs.

ACTILLETSTM ADVANTAGE

Product Features	Formulation Benefits
Micropellets (100 - 200 µm) for highly active low dose API	Simplified and homogeneous drug coating and control
Wide range of particle size fractions	Easy taste-masking of the final drug
Narrow particle size distribution within each fraction	Application in multiple unit pellet systems (MUPS)
Uniform spherical shape and structure	Application in drug formulations for paediatrics
Made under GMP conditions with MCC from certified suppliers	Better customer acceptance and safety
Quality analyzed according to Ph.Eur., USP/NF and JPE	Reduced food effect, variability and dose dumping
Almost in-soluble in water	High control on time and place of drug delivery
High abrasion resistance	Perfect tool for combinatory and controlled release products
Ideal for capsules	Formulation of sensitive actives due to the inertness of MCC
Excellent compactibility due to the high plasticity	Higher payload permits smaller capsule sizes
	Unique carrier system for API in jelly formulations

Product Properties

	ACTILLETTS 100 MCC	ACTILLETTS 200 MCC	ACTILLETTS 350 MCC	ACTILLETTS 500 MCC	ACTILLETTS 700 MCC	ACTILLETTS 1000 MCC
Particle size distribution (≥ 85 %)	100-200 µm	200-355 µm	350-500 µm	500-710 µm	700-1000 µm	1000-1400 µm

Additional Properties

Loss on drying Ph.Eur., USP/NF, JP, JPE	≤ 7.0 %
Bulk density (g/m ³) Ph.Eur., USP/NF, JP	0.80 g/m ³ ± 5 % (for information only)
Sphericity degree Cellets Standard (average)	≥ 0.90
Friability, Cellets Standard	0%
Swelling index, Cellets Standard	≤ 2 mL/g
Identification infrared absorption Ph.Eur., USP/NF, JP	passed
Identification zinc chloride test Ph.Eur., USP/NF, JP, JPE	passed
Degree of polymerization Ph.Eur., USP/NF, JP	≤ 350
pH value Ph.Eur., USP/NF, JP, JPE	5.0 - 7.5
Conductivity Ph.Eur., USP/NF, JP, JPE	≤ 75 µS/cm
Ether soluble substances Ph.Eur., USP/NF, JP, JPE	≤ 0.05 %
Water soluble substances Ph.Eur., USP/NF, JP, JPE	≤ 0.25 %
Heavy metals JP, JPE	≤ 10 ppm
Sulfated ash / Residue on ignition Ph.Eur., USP/NF (determined on 1g)	≤ 0.1 %
Sulfated ash / Residue on ignition JP, JPE (determined on 2g)	≤ 0.1 %
Total aerobic microbial count Ph.Eur., USP/NF, JP, JPE	≤ 1,000 CFU/g
Fungi / moulds and yeasts Ph.Eur., USP/NF, JP, JPE	≤ 100 CFU/g
E. coli Ps. aerugin. St. aureus Ph.Eur., USP/NF, JP, JPE	absence in 1 g sample
Salmonella species Ph.Eur., USP/NF, JP, JPEur.	absence in 10 g sample

Explore the possibilities by scheduling a technical review today.

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