



## Roquette's PEARLITOL® 200 INH Mannitol and Qualicaps' Inhalation-Grade Hard Two-Piece Capsules: The Perfect Match for Inhaled Drug Delivery

### INTRODUCING PEARLITOL® 200 INH MANNITOL: THE FUTURE OF INHALED DRUG DELIVERY

- **Specific particle size distribution:** Ensures optimal fine particle fraction (FPF) for efficient lung delivery
- **Compatibility with wide range of APIs:** Reduced chemical interactions with APIs due to very low reducing sugar
- **Non-hygroscopic and humidity-stable:** Unlike lactose, mannitol remains stable in varying humidity, preventing caking and powder aggregation, making it ideal for moisture-sensitive formulations without requiring strict handling or storage conditions
- **Lung tolerability:** Less irritating than lactose, mannitol minimizes irritation and adverse effects during inhalation
- **Efficient API carrier:** Ensures uniform distribution and delivery of APIs in dry powder inhalers (DPIs)
- **High solubility:** Dissolves easily in lung fluids

### COMPLEMENT YOUR PERFORMANCE WITH QUALICAPS' INHALATION-GRADE HARD TWO-PIECE CAPSULES (QUALI-V®-I and QUALI-G™-I)



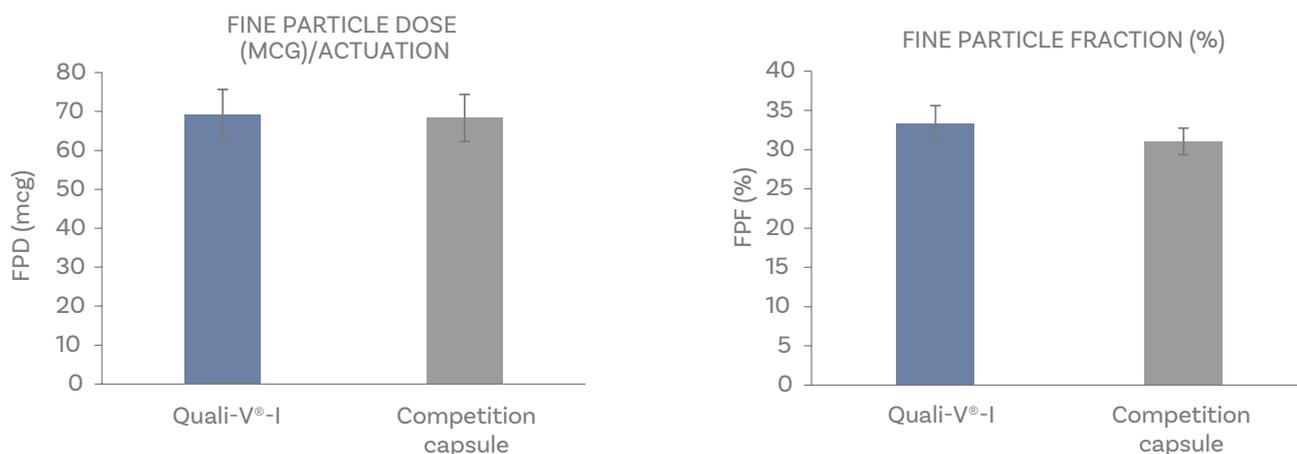
- **Specialized DPI design:** Capsules specifically developed for dry powder inhalers (DPIs) to ensure consistent performance
- **Reproducible performance:** Offers constant and reliable performance with each use
- **Optimized puncturing:** Capsules specifically designed for easy and efficient puncturing in DPI devices
- **Enhanced aerosolization:** Controlled internal lubrication reduces powder adhesion, enhancing drug delivery efficiency
- **Strict microbiological compliance:** Meets rigorous microbiological standards for safety
- **Available in HPMC, gelatin, and various moisture content versions:** Offers flexibility in material selection and includes very low moisture options for moisture-sensitive and hygroscopic formulations



The combined use of DPI carriers and inhalation-grade capsule products is specifically engineered to ensure consistent and reliable performance of dry powder inhalers (DPIs), thereby enhancing the efficiency of drug delivery.

## PERFORMANCE EVALUATION

(QUALI-V®+ PEARLITOL® 200 INH mannitol + API)



**Inhaler device:** RS01™ by Berry Global

**Formulation:** Salbutamol sulfate 200 µg + PEARLITOL® 200 INH mannitol

10-12 specific DPI HPMC capsules, size 3 (n=3)

Next Generation Impactor (NGI, Copley Scientific, UK) with an airflow of 60 L/min (4 L air volume)

Ambient environment, temperature 22-25 °C, 60 % RH

The combination of the optimized capsule formulation and mannitol carrier enhances aerodynamic performance, resulting in improved fine particle fraction (FPF) and fine particle dose (FPD). This ensures precise and efficient drug delivery to the lungs.

## YOUR TECHNICAL AND FORMULATION EXPERT

We support and help accelerate early-stage drug development and provide technical data and formulation guidelines easily accessible to you. For more information, visit our [Pharma Virtual Lab](#).

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