

ORAL SOLID DOSE

Pharmacel®

Microcrystalline Cellulose

Reliable. It's as simple as that.

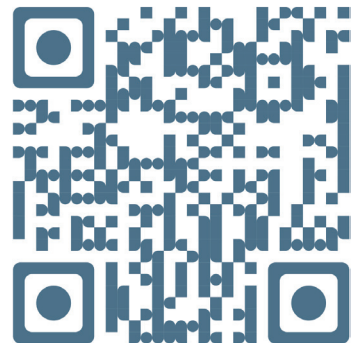
Discover the reliability of Pharmacel® Microcrystalline Cellulose (MCC) from DFE Pharma: Our commitment to purity and consistency ensures your formulations meet the highest standards, while our sustainable practices minimize environmental impact.

Pharmacel® delivers highest purity with low nitrite levels and minimal dark particle count.

Due to increased focus of the pharmaceutical industry on nitrosamines, we now offer Pharmacel® 101, 102, 112 MCC grades with nitrite values on the Certificate of Analysis (CoA).

With batch-to-batch and year-on-year consistency, you can trust in the reliability of our high quality for your formulations. Partnering with DFE Pharma means accessing a century of excipient expertise backed by a robust quality management system.

Our commitment to reliability means you can focus on what matters most – **bringing your medicines to patients globally, moving to a healthier world.**



Scan the QR code to know more about our Pharmacel® portfolio or log on to:

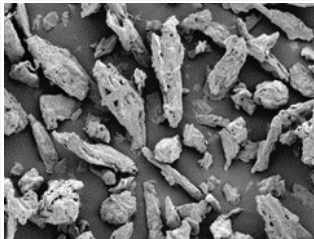
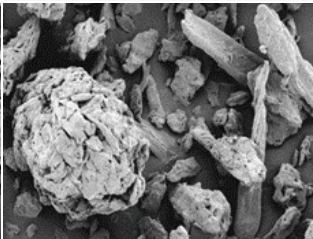
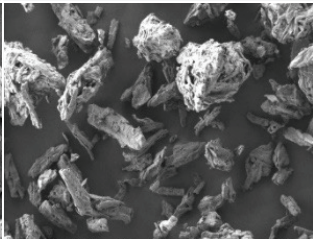
www.dfepharma.com

Reliable Expertise.

Harnessing a century-long heritage in excipients, DFE Pharma is synonymous of reliable expertise in pharmaceutical formulations.

Powered by our legacy of excellence, we deliver trusted solutions that drive innovation and elevate industry standards. Pharmacel® is more than just a product; it brings to you the expertise of a partner with a proven track record of reliability.

Explore our Pharmacel® MCC portfolio, now featuring ultra-low levels of nitrite, averaging below our Level of Quantitation (LOQ) of 0.035 ppm for each of our three grades, with a guaranteed specification of ≤ 0.1 ppm.

Parameters	Pharmacel® 101	Pharmacel® 102	Pharmacel® 112
Typical product data			
Chemical Nature	Partially de-polymerized α -cellulose		
Mean Size	50 micron	100 micron	100 micron
SEM Image			
Specifications			
Water Content (%w/w)	Max 5%	Max 5%	Max 1.5%
Bulk Density (g/ml)	0.26 - 0.31	0.28 - 0.33	0.28 - 0.33
Nitrite (ppm)	≤ 0.1	≤ 0.1	≤ 0.1
Application			
	<p>Strong binder</p> <ul style="list-style-type: none"> • Suitable for wet & dry granulation • Globular granule formulation 	<p>Improved flow</p> <ul style="list-style-type: none"> • Suitable for direct compression • Improves flowability of capsule fillings 	<p>Improved flow</p> <ul style="list-style-type: none"> • Suited for direct compression of moisture-sensitive drugs in tablets and capsules

Reliable Quality.

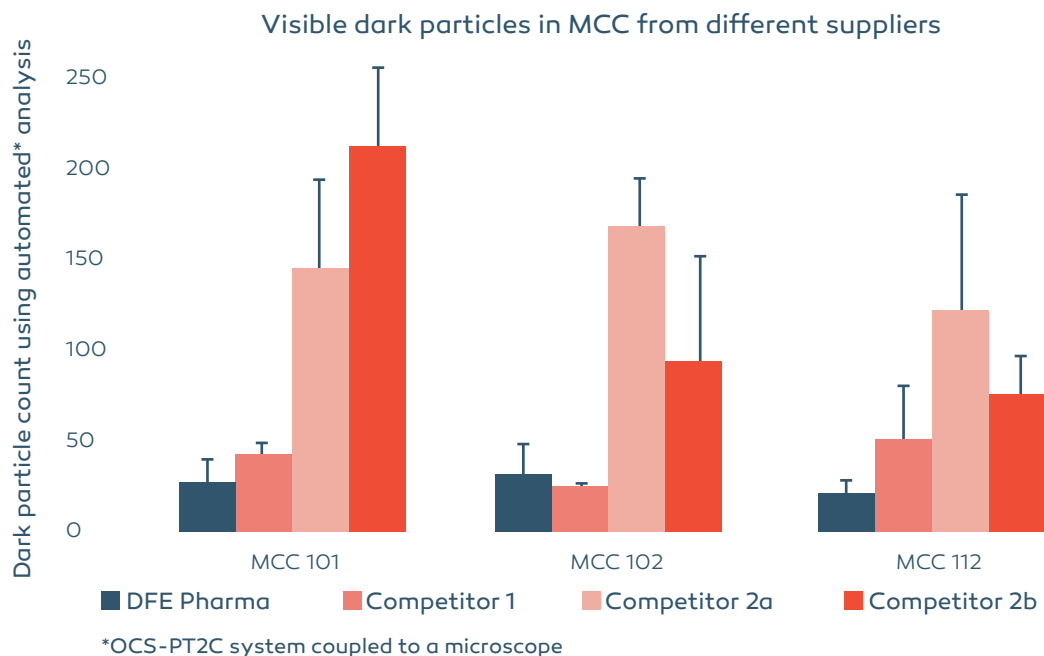
With Pharmacel[®] MCC, quality isn't just a promise; it's a cornerstone of our commitment to excellence.

82%

of our customers cite 'quality' as the most important reason to buy from us, reinforcing our dedication to delivering excellence in every batch.

High purity and consistent products ensure reduced production failures:

- o Nitrite levels consistently below our LOQ of 0.035 ppm, minimizing nitrosamine risk
- o Stringent process controls and automated analysis ensure minimal dark particles
- o Proven batch-to-batch and year-on-year consistency



IPEC GMP Quality standards

- o Pharmacel[®] conforms to USP-NF, Ph. Eur., JP, and IP monographs
- o Supported with extensive technical and regulatory documentation
- o Robust quality management system ensures:
 - Highly consistent production processes
 - Over 90% on-time production and release of batches
 - Quick response time

Reliable Supply.

We prioritize reliability to ensure uninterrupted supply of our pharmaceutical excipients by sourcing highest quality raw materials, following stringent manufacturing processes, and through our global warehousing and distribution network. Partnering with us means aligning with a supplier committed to upholding Environmental, Social, and Governance (ESG) standards, delivering sustainability at every step.

Installation of the new biomass boiler at our MCC manufacturing site at Cuddalore is expected to result in reduction of greenhouse gas emissions by

20%

- o **Dedicated state-of the art MCC manufacturing sites**
- o **Our new production site at Cuddalore, India, upholds ESG principles by:**
 - Minimizing freshwater intake by reusing 75% of the recovered water
 - Implementing Zero Liquid Discharge System (ZLDS)
 - Reducing site emissions such as airborne particles, green house gases
 - Utilizing an energy-efficient biomass-fired boiler, eliminating fossil fuel usage
- o **Global warehousing and distribution network ensures product availability**

Reliable Support.

At DFE Pharma, we offer unwavering support backed by a team of technical and regulatory experts alongside dedicated regional sales and customer service staff. Whether navigating complex regulatory landscapes or optimizing formulations, our team is committed to providing reliable guidance at every step of your formulation development and commercialization journey.

Experience the difference with Pharmacel[®], where reliable expertise, quality, supply, and support converge to ensure your formulation success.

