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| <b>DFE</b>          |   | Product Specification  |                                 |             |
|---------------------|---|--|---------------------------------|-------------|
| pharma              |   | Product group:   | МСС                             |             |
|                     |   | Brand name:  | Pharmacel® 102                  |             |
|                     |   | Article code:  | SAP 743679; Navision 13102-5355 |             |
|                     |   |  | SAP 733317; Navision 1312       | 2-5355      |
|                     |   | Product descriptions: Microcrystalline Cellulose   |                                 |             |
|                     |   | Document No.   | PD-0473                         | Page 1 of 2 |
| Manufacturer        | : | DFE Pharma India Private Limited, India  |                                 |             |
| Production site     | : | DFE Pharma India Private Limited, Cuddalore, India and Contract manufacturing<br>location at Chemfield Cellulose Private Limited., Nagpur, India |                                 |             |
| Product name        | : | Pharmacel <sup>®</sup> 102<br>Conforms to USP-NF, Ph. Eur., JP and IP Specifications on date of manufacture                                      |                                 |             |
| Product description | : | A white or almost white, fine, crystalline or granular, slightly hygroscopic powder<br>having fluidity and odorless                              |                                 |             |
| Solubility          | : | Practically insoluble in water, acetone, anhydrous ethanol, toluene, diethyl ether,<br>dilute acids and in a 50 g/L solution of Sodium hydroxide |                                 |             |

### Physical - Chemical Data

| Identification A (USP, Ph.Eur.,), 2 (JP)   | Pass             |
|--|------------------|
|  |                  |
| Identification B (USP, Ph.Eur.,), 1 (JP)   | Pass             |
| Identification C (USP, Ph.Eur.,), 3 (JP)   | Max. 350         |
| Identification C (IP)                      | Pass             |
| Solubility in ammoniacal copper tetrammine | Pass             |
| рН   | 5.5 - 7.0        |
| Conductivity                               | Max. 75 µS/cm    |
| Ether soluble substances                   | Max. 0.05 %      |
| Water soluble substances                   | Max. 0.20 %      |
| Heavy metals                               | Max. 10 ppm      |
| Assay (IP)                                 | 97.0 - 102.0 %   |
| Arsenic                                    | Max. 2 ppm       |
| Starch and Dextrins (IP)                   | Pass             |
| Organic impurities (IP)                    | Pass             |
| Loss on Drying                             | 3.0 - 5.0 %      |
| Residue on ignition                        | Max. 0.05 %      |
| Bulk density                               | 0.28 - 0.33 g/mL |

## Specification

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Particle size D50

Signature

# **Product Specification**

Product group:MCCBrand name:Pharmacel® 102Article code:SAP 743679; Navision 13102-5355SAP 733317; Navision 13122-5355Product descriptions: Microcrystalline CelluloseDocument No.PD-0473Page 2 of 2

| <u>Microbiological Data</u>                  | Specification  |
|--|----------------|
| Total Aerobic Microbial Count                | Max. 100 CFU/g |
| Total Yeast and Mould Count                  | Max. 20 CFU/g  |
| Escherichia coli in 10g                      | Negative       |
| Pseudomonas aeruginosa in 10g                | Negative       |
| Staphylococcus aureus in 10g                 | Negative       |
| Salmonella species in 10g                    | Negative       |
| Shigella species in 10g                      | Negative       |
|  |                |
| Particle Size Distribution (Airjet, Malvern) | Specification  |
| Particle size %< 75µm                        | 30.0 - 55.0 %  |
| Particle size %< 250µm                       | Min. 92.0 %    |
| Particle size D10                            | 15 - 50 µm     |

Particle size D90170 - 283 μmPackaging: A white multi-layered polyethylene bag with a polyethylene inner liner, 25Kg net.

# **Storage** : Keep in original, un-opened packing in ambient conditions, protected from humidity and away from strongly odorous materials.

#### **Shelf life** : For storage periods exceeding 48 months, we recommend re-testing.

This document substitutes all previous versions issued for the brand names mentioned above. We trust this information, which is made up to the best of our knowledge, will be helpful to you.

80 - 130 µm

Name: Dr. Bastiaan DickhoffJob title: Director Innovation & Technical Solutions

B. Dickhaff

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