RAWPHARMA BIZ PRIVATE LIMITED
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# SPECIFICATION

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|---|
| **Product Name:** Microcrystalline Cellulose - 102 IP/BP/USP Grade |
| **Chemical Formula:** $(C_6H_{10}O_5)_n$ |
| **CAS Number:** 9004-34-6 |
| **Molecular Weight:** ≥36,000 g/mol |
| **Appearance:** Fine white powder |
| **Odor**: Odorless |

## Chemical Composition

| Parameter | Unit | Typical Value | Specification (Min./Max.) |
|---|---|---|---|
| Identification IP Test: | | | |
| Test (A) by chemical | - | Complies | A red colour is produced. |
| Test (B) by chemical | - | Complies | A blue-purple colour is produced. |
| Test (C) dispersion test | - | Complies | A white, opaque free dispersion is obtained that does not produce a supernatant liquid. |
| Identification BP-USP Test: | | | |
| Test (A) by IR | - | Complies | The sample spectrum should be concordant with that of the reference spectrum. |
| Test (B) by chemical | - | Complies | The substance becomes should be violet blue. |
| Test (C) the degree of polymerization | - | Complies | The degree of polymerization should not be more than 350. |
| pH of solution (5.0 g with 40 ml CO2 free water) | - | 5.71 | 5.0 – 7.5 |
| Starch and dextrin | - | Complies | No blue or brownish red colour is produced. |

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| | | | |
|---|---|---|---|
| Organic impurities | - | Complies | No red colour is produced. |
| Conductivity | $\mu$S.cm-1 | 45 $\mu$S.cm-1 | The conductivity of the test solution should be does not exceed the conductivity of the water by more than 75 $\mu$S.cm-1. |
| Ether solution substances | % | 0.02% | Max. 0.05% |
| Water soluble substances | % | 0.18% | Max. 0.20% |
| Arsenic | PPM | Complies | NMT 2 PPM |
| Heavy metals | PPM | Complies | Max. 10 PPM |
| Loss on drying (at 105℃ for 3h) | % | 3.40% | Max. 6.0% |

## Physical Properties

- Solubility: Insoluble in water. Insoluble in ethanol. Insoluble in acetone. Insoluble in ether. Insoluble in acids and alkalis.

## Shelf Life & Storage

- Shelf Life: 3 years from date of manufacture under recommended storage.
- Storage Conditions: Store in a cool, dry, and well-ventilated place at 15–30°C. Protect from moisture, excessive humidity, direct sunlight, and contamination. Keep the container tightly closed in the original, properly labeled packaging to prevent moisture absorption and maintain its free-flowing characteristics. Store away from strong oxidizing agents and incompatible materials. Proper storage helps preserve the product's purity, compressibility, flow properties, and stability in accordance with IP/BP/USP standards.

## Applications

- Use: Widely used as a diluent, binder, disintegrant, filler, flow aid, and anti-caking agent in pharmaceutical, nutraceutical, food, and cosmetic formulations. It is commonly incorporated into tablets, capsules, sachets, powders, granules, and dry syrups, where it improves compressibility, powder flow, tablet hardness, content uniformity, and disintegration. Due to its excellent flowability and direct compression properties, MCC-102 is particularly suitable for direct compression tablet manufacturing and is widely used in multivitamin, mineral, herbal, and conventional pharmaceutical formulations that comply with IP/BP/USP standards.

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- Dosage: Microcrystalline Cellulose 102 IP/BP/USP Grade is a pharmaceutical excipient and does not have a therapeutic dosage. The quantity used depends on the dosage form, manufacturing process, and the desired binding, diluting, or disintegrating properties.

**Packaging**

- Standard Packing: 25 Kgs woven pp bag with inner liner or as per customer requirement.
- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.