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ECOLAR® - Bio-based MPHA Antimicrobial Additive EE-CHP009B

【Product Introduction】

The product is exclusively developed by Ecolar Technology Limited, a tech innovation company incubated by The Hong Kong Polytechnic University and the Hong Kong Science Park. It is processed using MPHA (Modified Polyhydroxyalkanoate), a bio-based, safe, and environmentally friendly antimicrobial and antiviral material. It is a broad-spectrum, high-efficiency antimicrobial agent suitable for various fibers and fabrics, effectively killing coronaviruses and superbugs, preventing hospital-acquired cross-infections, and reducing the risk of infectious diseases.

【Product Features】

- **Fully Biodegradable:**

Third-party testing shows 99.5% degradation within 28 days, with degradation by products consisting only of carbon dioxide and water, and no heavy metal pollution. Low carbon emissions (1/6 to 1/2 that of other products).

- **Broad-Spectrum Antiviral/antimicrobial Properties:**

Kill rate: > 99.9% (Common bacteria and superbugs: Staphylococcus aureus, Escherichia coli, Candida albicans, Methicillin-resistant Staphylococcus aureus; Coronaviruses: COVID-19, H1N1, H3N2, etc.).

- **Safe, Non-Toxic, and Hypoallergenic:**

Third-party testing shows no skin irritation or allergic reactions. Toxicity is negligible, with biosafety 2 to 200 times higher than conventional products.

- **Stable and Durable:**

Wash resistance up to 7A grade (150 washes).

【Technical Data】

- Appearance: White powder; Effective antimicrobial ingredient content: 100%.
- Thermal Stability: Withstands high temperatures up to 300°C.

【Usage Instructions】

- Method 1: Dry at 180°C for 4–5 hours to remove moisture before use. Use as an antimicrobial additive for chips to prepare an antimicrobial chips containing 20% antimicrobial materials, 75% chip carrier (e.g., polyester, nylon, PP, PLA, PBAT etc.), and 5% other additives. Add 5% antimicrobial chips, resulting in 1% antimicrobial materials in the final spun fiber.
- Method 2: Mix the antimicrobial materials directly with the chip carrier to prepare an antimicrobial chips containing 1% antimicrobial materials for 3D printing.

【Precautions】

- Store in a cool, dry place away from direct sunlight. Keep below 40°C.

