

### Antimicrobial Masterbatches with BioCote® Technology

Defend Rx antimicrobial masterbatches from Compounding Solutions utilize the silver based antimicrobial technology of leading antimicrobial provider BioCote®. The Defend Rx masterbatches are engineered to protect products against the negative effects of odor causing and staining microbes, such as bacteria and mold. The integrated antimicrobial technology keeps the product fresher for longer, making it easier to keep hygienically clean.



**Based on silver ions, BioCote® is proven to offer antimicrobial protection for the expected lifetime of the product.**

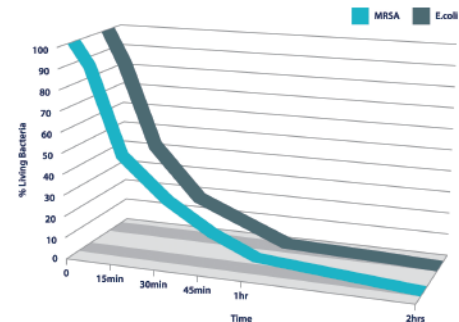
Defend Rx is a cost effective and easy-to-process method of using antimicrobial technology in wearable and consumer goods applications with proven results:

Effectiveness at 4% loading of Defend Rx			
Material Description	Test Standard	Test Bacterium	% Reduction
Pellthane 2363-90A	ISO 22196	S. aureus / E. Coli	99.96 / 99.98
Pebax 7233 SA01 MED	ISO 22196	S. aureus / E. Coli	99.90 / 99.01
Pebax 7233 SA01 MED, 30% BaSO4	ISO 22196	S. aureus / E. Coli	99.96 / 99.99
Lustran 348 ABS	ISO 22196	S. aureus / E. Coli	99.89 / 99.99
Makrolon 2458 PC	ISO 22196	S. aureus / E. Coli	99.99 / 99.99
Dow 8907 Health+ HDPE	ISO 22196	S. aureus / E. Coli	99.70 / 99.99

Defend Rx masterbatches are available in quantities as little as 1 lb and can be “salt and pepper” blended at the molder or extruder or pre-compounded with the desired polymer for any injection molding or extrusion application at a recommended loading rate of 4% by weight.

#### Applications for Defend Rx include:

- Fitness / Activity Trackers
- Sportswear
- Armbands
- Headphones
- Earbuds
- Eyewear
- Handheld Devices
- Cases



BIOCOTE. THE ANTIMICROBIAL BRAND YOU CAN TRUST. 

**Available in a universal EMA carrier**

**Grade code:**

- U1000 (Universal)

**Universal carrier compatible resins:**

- Polyolefins
- Styrenics
- PET, PBT, PC
- Polyamide
  - \*6
  - \*6/6
  - \*11
  - \*12
- PEBA
- TPU
- TPE

#### Regulatory Approvals

- FDA approved EMA carrier
- Free of animal derived components

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## Anti-microbial Masterbatches with Biocote® Technology

### Advantages of Defend Rx antimicrobial masterbatches

- Excellent thermal and oxidative stability, meaning there is no discoloration
- Relatively low loading of BioCote antimicrobial needed for high performance
- Relatively low cost compared to other silver-based antimicrobial technology
- Consistently high efficacy rates across a variety of microbes in many different thermoplastics
- Longevity of antimicrobial performance will last for the expected lifetime of the product.

Disclaimer: BioCote® technology does not protect users or others against disease causing bacteria, germs, viruses or other harmful organisms. This technology is not a substitute for good hygiene and/or cleaning practises. Compounding Solutions strictly prohibits the use of any Defend resins in applications that are implanted in the body or in contact with bodily fluids or tissues for greater than 30 days. Unless Compounding Solutions otherwise expressly agrees by written contract, the Compounding Solutions trademarks and the Compounding Solutions name shall not be used in conjunction with customers' medical devices, including without limitation, permanent or temporary implantable devices, and customers shall not represent to anyone else, that Compounding Solutions allows, endorses or permits the use of Compounding Solutions products in such medical devices. Further, all implantable medical devices, whether permanent or temporary, carry a risk of adverse consequences. With regard to implantable medical devices, you should not rely upon the judgment of Compounding Solutions. Any decision regarding the appropriateness of a particular medical device in a particular medical application or for a specific clinical use should be based upon the judgment of your physician, medical device supplier and the United States Food & Drug Administration and/or the European process of Medical Device notification. Unless otherwise specifically stated by Compounding Solutions in writing, Compounding Solutions does not perform clinical medical studies on implantable medical devices. Compounding Solutions cannot weigh the benefits against the risks of a device and does not offer a medical judgement on the safety or efficacy of use of any Compounding Solutions product in a medical device. The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, COMPOUNDING SOLUTIONS expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement.

See Safety Data Sheet for Health & Safety Consideration

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