

Antimicrobial Polyurethane Solutions

Built in protection for PU conveyor belts and industrial components



Powered by Symphony's high purity antimicrobial active

- Long lasting antimicrobial performance embedded directly into polyurethane
- Stops bacteria, fungi, mould, algae and odour causing microbes
- Ideal for food processing conveyor belts and hygiene critical PU systems
- Maintains PU strength, flexibility and durability - no compromise

Commercial Benefits

- Built in antimicrobial protection that **cannot wash off**
- Long lasting performance → reduced cleaning effort
- Supports **premium positioning** for PU belts and components

Backed by Symphony's global regulatory and technical expertise

Performance Advantages in Food Contact PU Belts

- **Biofilm prevention:** stops microbial "slime layer" formation → easier cleaning
- **Polymer preservation:** protects PU from microbial degradation, cracking and embrittlement
- **Odour & stain control:** prevents VOCs and deep enzymatic staining
- **Fat & oil resistant:** hydrophobic active remains anchored in PU soft segments

No delamination: fully compatible with PU chemistry and heat welding

Masterbatch for Polyurethane

- Ready to use, high purity antimicrobial masterbatch
- Excellent compatibility with PU extrusion, calendaring and moulding
- Non-corrosive, non chlorine, stable under PU processing temperatures
- Hydrophobic active salt (<0.01% solubility) ensures no leaching during washdowns

Works by **surface contact disruption** of microbial membranes



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Masterbatch for Polyurethane

Proven Antimicrobial Performance

(Tested to ASTM E2180)

99.45% reduction - *Staphylococcus aureus* (Gram +)

98.84% reduction - *Klebsiella pneumoniae* (Gram -)

97.25% reduction - *Aspergillus niger* (fungi)

Broad spectrum protection: bacteria, fungi, mould, mildew, algae, yeasts, odour causing microbes, and class based antiviral behaviour.

Polyether based PU

Superior hydrolytic stability for constant washdowns.

Cost efficient: treat only the **top food contact layer** in 2-layer co extrusion.

Regulatory Compliance

European Union (BPR 528/2012)

Active listed on **ECHA Article 95**

Recognised under **PT2 & PT4**

DGAM25 O2 supplied as a **Treated Article** suitable for food processing environments

United States

Active included in **EPA-registered antimicrobial labels**

Permitted for **indirect food contact** under **40 CFR §180.940(a)**

United Kingdom

Accepted under **GB BPR Article 95**

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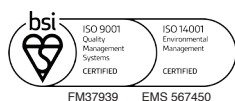
Broad acceptance across Canada, Mexico, LATAM, APAC, Australia & NZ

Key Applications

- Food processing conveyor belts & rollers
- PU gaskets, seals, bushings
- PU coated fabrics
- Wheels, castors, hose linings
- Medical mattress covers
- Automotive foams & trims
- Footwear components
- PU flooring, sealants, insulation.

Processing Guidance

- Masterbatch softens <100°C → excellent dispersion
- Keep processing **below 190°C** to avoid discolouration or voids.
- Dry pellets **3-4 hours at 80-90°C** if moisture is absorbed.
- Stable up to **70°C** in service; hot washdowns up to **60°C** are safe



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Symphony Environmental Ltd
6 Elstree Gate, Elstree Way, Borehamwood, Hertfordshire WD6 1JD, UK
Tel: +44 (0)20 8207 5900 | Fax: +44 (0)20 8207 7632 | info@d2p.net

www.d2p.net

