



AGXX – Antimicrobial Additive for Paints and Coatings

Innovative catalytic technology ensuring long-lasting efficacy in compliance with current and future regulatory requirements



Compliance without compromise

Fully compliant with current and future BPR regulations

No labeling required

No need for CLP classifications, no release of toxic substances.



Continuous protection

Ensure long-term antimicrobial efficacy with our innovative catalytically regenerated technology, securing a competitive advantage.



INNOVATIVE ANTIMICROBIAL SOLUTIONS FOR THE PRESERVATION OF PAINTS AND COATINGS

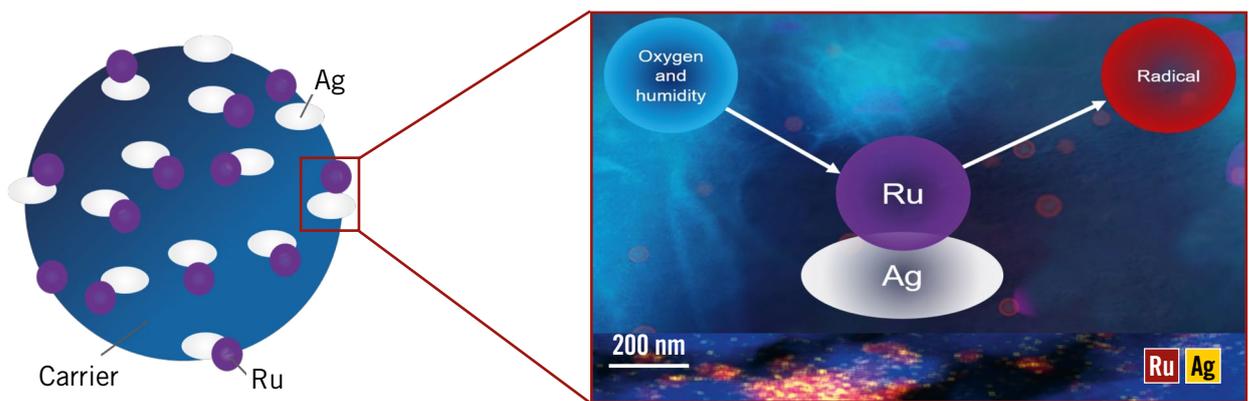
Ensuring adequate preservation is becoming increasingly difficult due to stricter regulations. Many of the traditional active ingredients will be subject to even stricter regulations in the medium term or will disappear from the market entirely. Innovations in the field of biocidal active ingredients are rare and difficult to implement due to high hurdles in the approval process. Developing new active ingredients requires not only substan-

tial financial investments but also extensive testing and approvals, which slow down the process. This poses significant challenges for the industry. An innovative approach to expanding an existing portfolio of active ingredients is the new active substance of in situ generated free radicals. This active substance offers a promising way to increase the efficiency and sustainability of preservatives while meeting stringent regulatory requirements.

AGXX – THE REGULATORY COMPLIANT SOLUTION AGAINST BACTERIA, VIRUSES AND OTHER MICROORGANISMS

AGXX is an innovative antimicrobial technology that operates in a fundamentally different manner than conventional biocides, particularly isothiazolinones. Unlike these traditional technologies, AGXX does not rely on the release toxic

or environmentally harmful substances. Instead, AGXX functions through the catalytic conversion of humidity and oxygen into reactive oxygen species (ROS), which ultimately eliminate microorganisms.



The effectiveness of AGXX has been demonstrated against over 130 microorganisms, including antibiotic-resistant bacteria such as MRSA, but

also fungi, viruses, or algae. Additionally, AGXX exhibits excellent odor and allergens elimination efficacy



Prolong the expected lifetime of paint products¹

- Antimicrobial additives prolong the shelf-life of paints by preventing microbial contamination, ensuring paints remain usable for longer.



Help surfaces look better for longer

- Antimicrobial additives resist mold and mildew, making them perfect for paints used in moist environments like bathrooms.



Protects surfaces effective against harmful bacteria and viruses

- Paints and coatings with antimicrobial additives are effective against various microbes, including antibiotic-resistant bacteria, making them ideal for hygiene-critical environments.

IN-CAN PRESERVATION

AGXX is antimicrobially effective as in-can preservative according to *IBRG P16 mod./Wet State Paint Method*¹

Active Substance	No preservation		AGXX 50 ppm		AGXX 100 ppm	
	B	F/Y	B	F/Y	B	F/Y
Type of microbes						
Week 1	0	0	0	0	0	0
Week 2	3	3	0	0	0	0
Week 3	3	3	0	1	0	0
Week 4	3	3	0	1	0	0

Contamination in an acrylate-based wall paint with and without preservative.

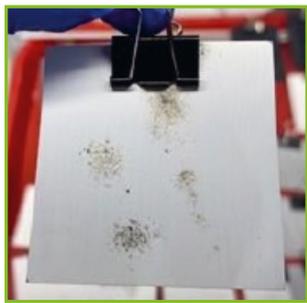
B Bacteria: *E. coli* DSM 682, *P. aeruginosa* DSM 939, *S. aureus* DSM 799; 10⁵ CFU/ml

F/Y Fungi/Yeast: *C. albicans* DSM 1386, *A. brasiliensis* DSM 1988; 10⁵ CFU/ml

Evaluation: 0 = no contamination (germ reduction >99.9 %) ... 3 = high contamination >10⁵ CFU/ml

FILM PRESERVATION

AGXX prevents from microbial growth



w/o AGXX

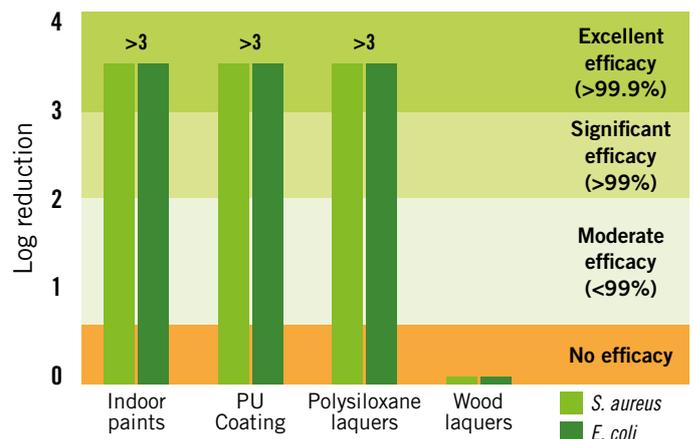


AGXX

Antifungal testing in accordance with BS 3900

ANTIMICROBIAL SURFACES

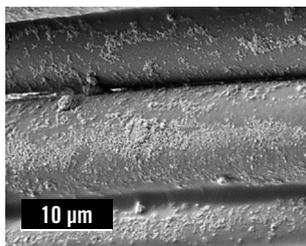
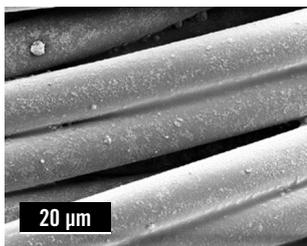
AGXX is effective in water-absorbing matrixes



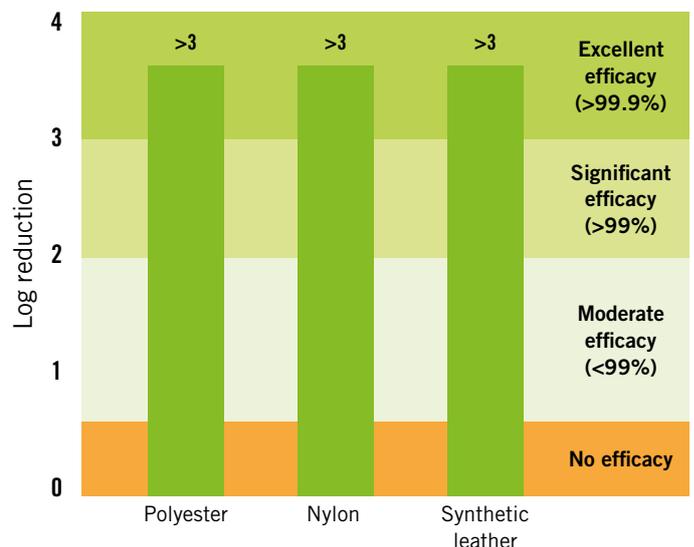
Antimicrobial testing in accordance with ISO 22196 in various paint matrixes

ANTIMICROBIAL FINISHING OF TEXTILE FIBERS / FABRICS

AGXX demonstrates exceptional antimicrobial efficacy according to ISO 22196 tests against *S. aureus*



- › Incorporation of AGXX in PU-based or standard textile finishing
- › Homogeneous distribution of the active substance on the textile fibers
- › No negative influence on the properties of the textile



1: R&D Results. PT 6 (BPR) approval in progress.

DIFFERENT FORMS AND CARRIERS

AGXX particles are available in a variety of types and sizes, as well as different carrier materials. The material can be applied either directly as a powder during the dispersion process or subsequently as a drop-in additive in the form of a suspension.

AGXX-Hybrid-A Suspension

- › Carrier: AlO(OH)
- › D₅₀: 0.3 µm

AGXX-Hybrid-A Powder

- › Carrier: AlO(OH)
- › D₅₀: 0.3 µm

ABOUT HERAEUS

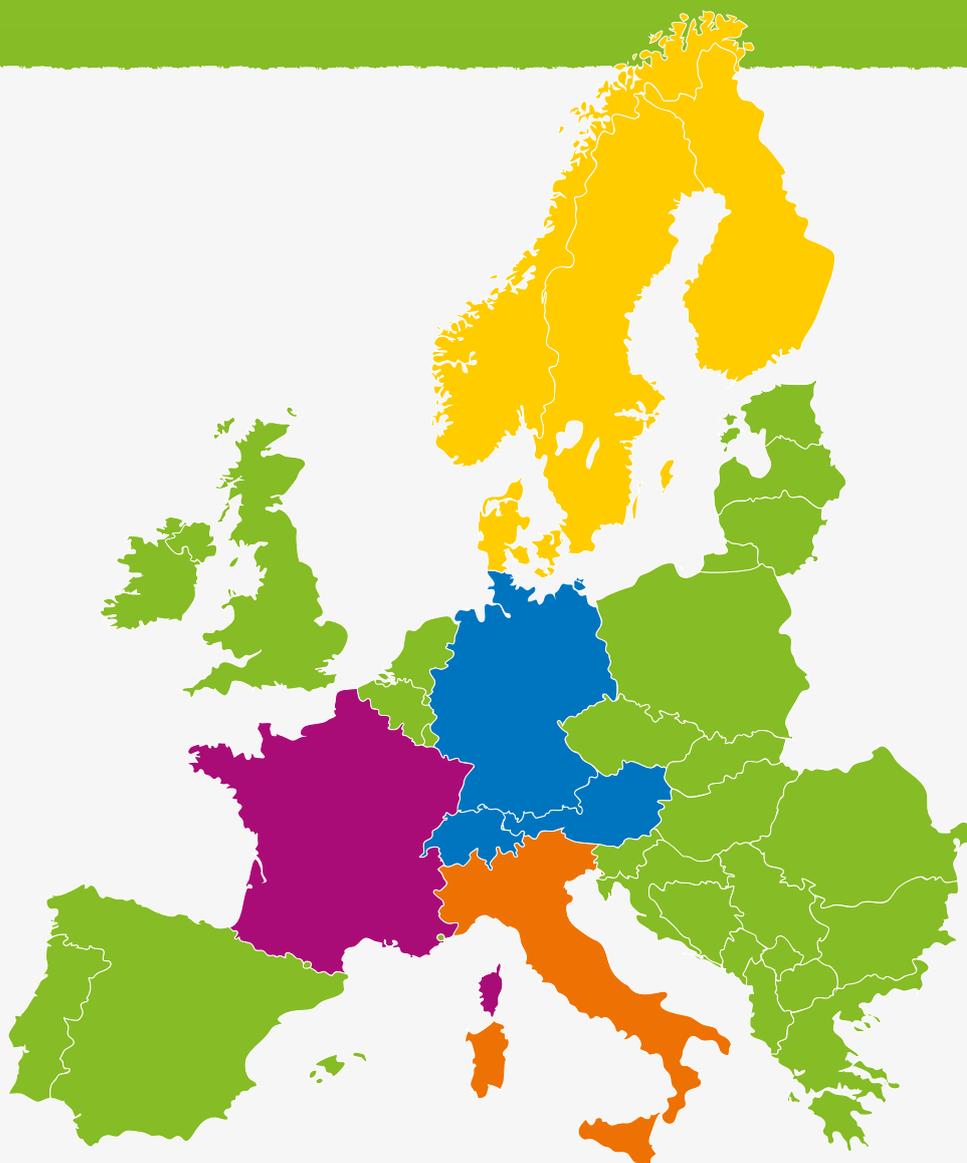
Heraeus is a family-owned global technology group headquartered in Hanau, Germany. The company's roots go back to a family pharmacy started in 1660. Today, the group bundles diverse activities in four Business Platforms: Metals and Recycling, Healthcare, Semiconductor and Electronics, as well as Industrials. In the 2023 financial year, the group generated revenues of € 25.6 billion with approximately 16,400 employees in 40 countries.

ABOUT HERAEUS PRECIOUS METALS

Heraeus Precious Metals is globally leading in the precious metals industry and covers the value chain from trading to precious metals products to refining and recycling. It has extensive expertise in all platinum group metals as well as gold and silver. With more than 3,000 employees at 17 sites worldwide, Heraeus Precious Metals offers a broad portfolio of products that are essential for many industries such as the automotive, chemicals, semiconductor, pharmaceutical, hydrogen and jewelry industry.



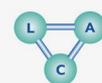
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Use biocidal products with care.
Always read label and product information before use.