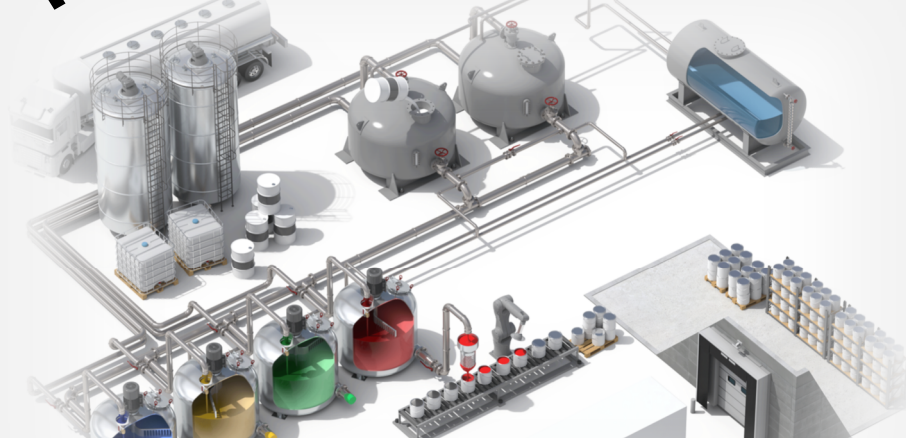


# QUALITY CLEANS.



QUALITY WORKS.

**LANXESS**  
Energizing Chemistry

## PROPER PLANT HYGIENE

Plant Hygiene is key to producing a clean and long-lasting product. Several measures can be taken, such as chemical treatment for disinfection of the plant as well as preservation of the raw materials used.

Products used for disinfection and preservation in plant hygiene are regulated under the BPR\*. Consequently, active substances and products that are supported and authorized under the relevant product type (PT) must be used. The active ingredient DBNPA (CAS No. 10222-01-2) is supported by LANXESS under PTs 6, 11 and 12. It is in the product **Bioban™ DB 20** and is used to disinfect spoiled raw materials like resins and water for plant hygiene.

Installation and equipment disinfection requires a product that is supported under PT 2 of the BPR. **Preventol® OX** is the product for this purpose.

\*Biocidal Products Regulation, Regulation (EU) 528/2012

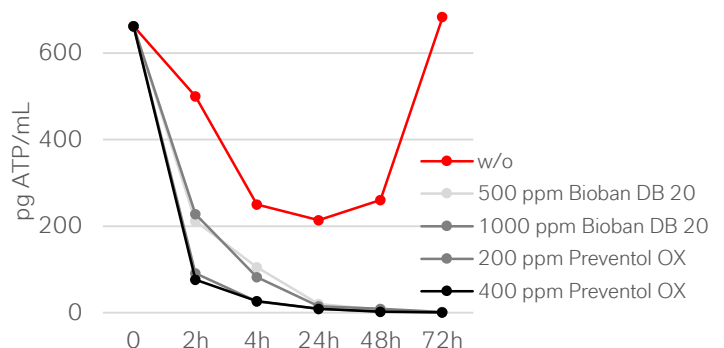
## PREVENTOL® OX AND BIOBAN™ DB 20 COMPLEMENT EACH OTHER

**Preventol® OX** with its active ingredient potassium monopersulfate, KMPS (CAS No. 70693-62-8), can be used for disinfection to support hygiene measures.

**Bioban™ DB 20** and **Preventol® OX** complement each other in a perfect way. The oxidizer **Preventol® OX** controls the production water and cleans the installation, while **Bioban™ DB 20** makes sure that contamination coming from raw

materials remains as low as possible. On top, curative treatment of spoiled intermediates or end-products can be achieved with **Bioban™ DB 20**.

## EFFICACY PROFILES



**Figure 1: Growth control of bacteria in contaminated production water by Bioban™ DB 20 (DBNPA) and Preventol® OX (KMPS)**

The efficacy evaluation shows that bacteria can be well controlled with both products, **Bioban™ DB 20** as well as **Preventol® OX**.

Upon addition, **Preventol® OX** shows very fast action and is suitable to quickly sanitize spoiled make up water.

## BIOFILM REDUCTION

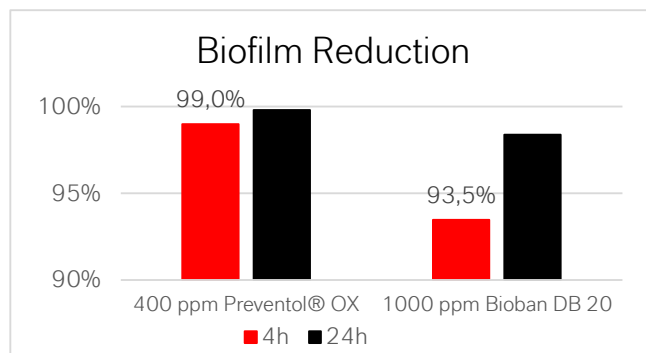
The advantage of the non-chlorine oxidizer **Preventol® OX** is its quick reduction of biofilm attached to surfaces (see Fig. 3).



**Control w/o biocide | 200 ppm DBNPA | 100 ppm KMPS.**

**Figure 2: Biofilm removal 1 hour after biocide addition.**

Preventol® OX and Bioban™ DB 20 were both added to water and biofilm attached to glass and steel surfaces. After several time points the biofilm reduction was detected.



**Figure 3: Comparison of the biofilm reduction within 24h using Bioban™ DB 20 as well as Preventol® OX.**

After a very short contact time of 4 hours 99% of biofilm were reduced by Preventol® OX and also Bioban™ DB 20 reduces more than 90%.

Preventol® OX is the first choice when removing biofilm

**Table 1: Comparison of important attributes\***

	<b>PREVENTOL® OX</b>	<b>BIOBAN™ DB 20</b>
<b>Active Ingredient</b>	<b>90% KMPS</b>	<b>20% DBNPA</b>
<b>Product description</b>	<ul style="list-style-type: none"> <li>Crystalline solid</li> <li>Powerful non-chlorine oxidizer</li> </ul>	<ul style="list-style-type: none"> <li>Colorless to amber liquid</li> <li>Non-oxidizing bactericide</li> </ul>
<b>pH</b>	pH 1 in 10% solution	pH 3.5
<b>Shelf life</b>	12 months	12 months
<b>Use area</b>	Installation, equipment, production water	Production water and water-based products
<b>Registration status</b>	PT 2	PT 6
<b>Dosage recommendations per applications</b>		
<b>Industrial Process water</b>	10% use-solution: 0.05 – 0.5 %	0.012 - 0.2 %
<b>Industrial Recycle water</b>	10% use-solution: 0.1 – 5.0 %	0.02 - 0.2 %
<b>Equipment Cleaning</b>	10% use-solution: 0.1 – 1.0 %	Not recommended
<b>Sanitization of spoiled product</b>	Not recommended	0.02 - 0.05 %
<b>Consumption for 1 m<sup>3</sup> of water / biocidal product</b>		
	0.1 – 0.4 kg	0.3 – 1.5 kg

\*These items are provided as general information only. They are approximate values and are not considered part of the product specifications.

**LANXESS**  
 Energizing Chemistry

**Headquarters**

LANXESS Deutschland GmbH  
 Material Protection Products  
 Kennedyplatz 1  
 50569 Cologne  
 Germany  
 Phone: +49 221 8885-2016  
 e-mail: regulatory-support.biocides@lanxess.com

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**Use biocides safely. Always read the label and product information before use**

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