

BIOSATIVA by TREOX D – Hand and surface disinfectants with a broad spectrum of activity

Disinfectants are indispensable for the high health and hygiene standards of our society. However, neither the environment nor the company's daily routine must be affected.

BIOSATIVA by TREOX D are environmentally friendly, fast-acting water based **hand sanitizers** and **broadband surface disinfectants** without petrochemical and alcohol ingredients which effectively remove up to **99.99999%** of viruses, bacteria, germs, fungi and their spores.

- **BIOSATIVA by TREOX D** contains no petrochemical ingredients, no surfactants, no alcohol, no dyes, no fragrances, no preservatives and is free of fat and oil.
- **BIOSATIVA by TREOX D** is free of any hazard symbols according to Regulation (EC) No. 1272/2008 and is neither skin-irritating nor eye-irritating and is dermatologically certified with "Excellent".
- **BIOSATIVA by TREOX D** has a broad spectrum of activity against microorganisms and when mixed with water, it provides application solutions for different areas of use.

Through years of work and state-of-the-art technology, we have improved the existing electrolysis processes. The active ingredient **BIOSATIVA BY TREOX D** is a highly effective disinfectant that has been shown to work against bacteria such as *Staphylococcus aureus* in concentrations of 21 ppm in 30 seconds. The high effectiveness of **BIOSATIVA BY TREOX D** is due to the mixture of hypochlorous acid (HOCl), sodium hypochlorite (NaOCl) and high-purity salts. **BIOSATIVA BY TREOX** is made by chlorinating hypochlorites by applying a voltage source. In this process, no petrochemical agents are used, but only specially purified minerals and water.



We guarantee all customers the effectiveness of **BIOSATIVA BY TREOX D** disinfectant products for at least 12 months. In addition, the products have been stable in storage tests for years.

When tested in accordance with European standards (EN) and the Association for Applied Hygiene (VAH), **BIOSATIVA BY TREOX D** proved to be a very effective disinfectant with short exposure times and low active ingredient concentration compared to other commercially available agents for germ reduction. **BIOSATIVA BY TREOX D** is suitable for food production and processing according to EN 1276 and classified as "harmless".

The manufacturing process of **BIOSATIVA BY TREOX D** does not produce any harmful byproducts or waste products. Our products contain no surfactants, no alcohols, fragrances and dyes, as well as no emulsifiers and preservatives.

Due to the broad spectrum of activity and the easy handling of the active ingredient **BIOSATIVA BY TREOX D** and its possible applications are practically unlimited.

The guideline "Detergents and Disinfectants" published by the Research Institute of Organic Agriculture Germany e.V. (FiBL) shows that "newer electrolysis processes produce unresearched solutions that may be better valued than the known electrolysis products".

BIOSATIVA BY TREOX D is the result of such a new electrolysis process. An independent laboratory for hygiene and microbiology has confirmed that **BIOSATIVA BY TREOX D** shows bactericidal and leviricidal disinfectant activity between $\text{Log}_{10} \geq 4$ and $\text{Log}_{10} \geq 7$ even under high organic strain. The effectiveness depends on the microorganism.

The active substance

Our **BIOSATIVA BY TREOX D** concentrate is an almost purely anionic load. Mixed with water, the application solution is practically pH neutral. At the same time, the application solution has a high redox potential.

Not recognized by the cell, **BIOSATIVA BY TREOX D** penetrates the cell nucleus as a hydrophilic load via membrane channels (porins) and tries to absorb its missing cations there. The excess of anions inside the cell creates an imbalance between the cell and the environment. There is a high osmotic pressure, the cell is literally torn apart by physical forces. This leads to a complete dissolution of the cell structure.

In the further course of the active chain, the remaining components of the cell are oxidized. The cell is completely destroyed. Resistance cannot be built up through mutations.

This mechanism has a wide range of uses and acts against bacteria, viruses, fungi and their spores. This oxidation-based disinfectant effect has been confirmed, certified and approved in the European Union by a large number of independent laboratories.

Comparison of TREOX D with conventional disinfectants

Disinfectants	Mechanism of Disinfection	Bacteria (Gram Positive)	Bacteria (Gram Negative)	Mycobacteria	Fungi	Spores	Enveloped Viruses	Non-enveloped Viruses	Advantages	Disadvantages	Precautions
BIOSATIVA by TREOX D	Destroys cell membrane, denatures proteins	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	Whole spectrum efficacy; fast acting; no surfactant; no color; non-irritative; inexpensive	-	-
Bleaching Water (Sodium Hypochloride)	Denatures proteins	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	Broad spectrum; short contact time; low-cost	Unstable; high concentration needed; corrodes metals; mucous membrane and tissue irritation	Irritative; never mix with acids; toxic chlorine gas will be released!
Aldehydes (e.g. Formaldehyde, Glutaraldehyde)	Denatures proteins; alkylates nucleic acids	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	Broad spectrum	Carcinogenic; Mucous membrane and tissue irritation; mutagenic; only use in well ventilated areas	Carcinogenic
Iodine Compounds	Denatures proteins	✓✓✓	✓✓✓	✓	✓✓✓	✓	✓✓✓	✓	Stable in storage; relatively safe	Inactivated by QACs; Corrosive; Stains clothes and treated surfaces	Corrosive
Alcohols (e.g. Ethanol, Isopropanol)	Precipitates proteins; denatures lipids	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✗	✗	✗	Fast effecting; no residue	Rapid evaporation; flammable	Flammable
Oxidizing agents (e.g. H2O2)	Denature proteins and lipids	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓	Broad spectrum	Cytotoxic; carcinogenic; corrosive	Highly corrosive
Quaternary Ammonium Compounds (QAC)	Denatures proteins; binds phospholipids of cell membrane	✓✓✓	✓	✓✓	✓✓	✗	✓✓	✗	Stable in storage; non-irritating to skin; effective at high temperature	Only effective to some bacteria; low efficacy;	-

Produced for: Hagenuk Technologie AG

Use biocides safely.

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Read SDS, label and product info before use.
Status: 07.04.2020

Fields of application of the finished utility solutions

The ready-to-use solutions are universally and immediately applicable for hand disinfection, as well as barrier and surface disinfection of waterproof work surfaces, equipment, machines, floors and much more. They can be used on various surfaces such as metals, plastics, tiles, wood etc., e.g. as spray or wipe disinfection.

BIOSATIVA by TREOX D - Hand disinfection

Non-alcoholic broad-spectrum disinfectant for hand disinfection with a broad spectrum of activity - applicable in many hygiene-relevant areas of daily life. Especially suitable for hygienic hand disinfection for allergy sufferers and people with sensitive skin. Also very well suited for use in heavily loaded areas of the food processing and food industry or other areas with very high demands on hygiene and disinfection.

BIOSATIVA by TREOX D - Surface disinfection

Disinfection of surfaces, tools, equipment, processing tables, conveyor belts, escalators, means of transport, transport materials and much more in areas such as: Food processing industry, canteen kitchens, industry and plant engineering, agriculture and animal husbandry, water treatment, CIP disinfection, home, household and leisure, and many more.

The advantages of BIOSATIVA by TREOX D

- broad-spectrum effect - acts bactericidal, levurocidal, virucidal, sporicidal and fungicidal
- Also effective against pathogenic germs, bacteria, viruses and fungi
- Also effective against multi-resistant microorganisms
- Removes effectively biofilms without mechanical processing
- Prevents the formation of resistant germs
- Environmentally friendly and sustainable, from production to disposal no hazardous substances are produced - CO2 neutral production
- 100% biodegradable, decomposes into its natural source materials (water + table salt) after the disinfection process.
- The short environmental persistence results in an extremely low danger for nature
- Non-irritant and non-flammable
- Alcohol-free, colourless, fragrance-free, preservative-free, fat and oil-free
- No chapped or dry hands even when using häufiger
- No skin irritations like burning or itching
- Flexible and very easy to use
- No harmful vapours or residues
- Applicable without personal protective equipment
- No safety storage necessary
- Safe to use in food processing
- Non-toxic for humans and animals
- Suitable for drinking and drinking water (diluted)
- According to 88/279 EWG harmless for the user and according to 67/548 EWG not subject to labelling
- Multiple certified


MADE IN GERMANY



BIOSATIVA by TREOX D - HIGH-EFFECTIVE, RELIABLE, SUSTAINABLE & ENVIRONMENTALLY FRIENDLY



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