Clearstream's Biostatic Antimicrobial

A SILANE QUATERNARY AMMONIUM SALT Biostatic/Fungistatic/Algistatic

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PRODUCT DESCRIPTION: BIOTREXX® Antimicrobial is a highly effective biostatic/fungistatic/ algistatic surface and environmental treatment that is specifically designed to form a covalent bond on virtually any indoor/outdoor surface. This bond creates a long-lasting antimicrobial barrier inhibiting the growth of microorganisms with broad spectrum activity, effective against gram (+) and gram (-) bacteria, fungi, algae, and yeasts.

FEATURES: Excellent durability BIOTREXX® Antimicrobial imparts durable, broad spectrum antimicrobial activity to the surface of a wide variety of substrates; it is non-toxic, leach-resistant and non-migrating and is not consumed by microorganisms. It imparts a safe durable barrier that protects treated surfaces and i s highly effective in extreme temperatures, humidity, and wet weather conditions. Increased efficiency—through Certified application; durable bacteriostatic, fungistatic and algistatic surfaces can be attained with a minimum amount of BIOTREXX® Antimicrobial.

CASE STUDY: One of the Largest Commercial Indoor Cannabis Cultivation, Processing, and Packaging Operations in Northern California

The Challenge: Safely Control and Eliminate Pervasive Aspergillus Growth and Contamination within industry and regulatory guidelines and requirements.

The Facilities Issue: Significant registered Airborne and Surface levels (in excess of 3,000 m/3) of Aspergillus found in Grow, Dry, Trim, and Packaging areas. Extremely high ATP registered RLU readings (in excess of 12,000 RLU's) even after spatial sanitized cleaning. Frequent crop testing failures and negative financial impact.

The Treatment: Apply BIOTREXXAntimicrobial via Electro-Static application to all Grow Room surfaces including walls, ceilings, floors, doors, lighting, shelving, piping, and fixtures after room was cleared from previous crop, wiped down and completely dry. Then reapply after each grow cycle (approximately 60 days). Apply BIOTREXX® monthly to each Dry Room after spatial cleaning and dry. Apply BIOTREXX® monthly to Trim and Packaging Areas and equipment.

Air Testing Summary (Mold specific Microorganisms): Conducted over 40 Air Test Events and submitted with full Chain of Custody tracking to *EPA registered laboratory* for Full Microorganism Analysis and Enumeration. **No Registered Airborne Aspergillus found in any of the spaces following BIOTREXX applications.**

Bio-Tape Culture Testing Summary (Mold Specific Microorganisms); Bio Tape samples gathered via Certified Testing Engineer and submitted with full Chain of Custody tracking to *EPA registered laboratory* for Full Microorganism Analysis and Enumeration. **No Registered Surface based Aspergillus found in any of the spaces following applications.**

ATP Testing Summary : ATP Bioluminescence Testing performed in all areas regularly and logged for ongoing tracking. ATP Indicates overall level of cleanliness. ATP testing context; 30RLU is the limit within the Food Prep Industry. Hospitals and Sensitive areas utilize ATP to gauge their levels of cleanliness typically seeking readings of 100-500 RLU. The Average RLU prior to BIOTREXX® was well over 1K's RLU with many reaching into the 10K's. **After applications, the average RLU Reading over 80 Test Events in the Cultivation Area: 72 RLU.**

Testing Method	*Testing Space*	*Plants/Soil Present*	*Grow Conditions**	*Grow cycle*	*Application Type*	*Surface coverage*	*# of Events*	*Avg. Result*
Air Cassette - Mold Spores	Cultivation Room	Yes	Optimized	60 days	Electro-static	All non-plant surfaces	Over 40	0 m/3
Bio-Tape - Mold Spores	Cultivation Room	Yes	Optimized	60 days	Electro-static	All non-plant surfaces	Over 20	0 m/3
ATP - Bioluminescence	Cultivation Room	Yes	Optimized	60 days	Electro-static	All non-plant surfaces	Over 80	72 RLU

** Temp., Humidity, Moisture optimized for growth*

Conclusion: BIOTREXX® Eco-Friendly Environmental Solutions continue to provide a completely safe, amazingly effective, and budget friendly efficient solution to their client's pervasive and costly Aspergillus problem.