Remove Pathogens.
Preserve Protection.

Switch to microbiome-friendly cleaning for healthcare environments.

Scientifically validated to prevent pathogen transfer and biofilm formation Reduces antimicrobial resistance risk Safe for patients, staff, and sensitive equipment

COGENT
ENVIRONMENTAL SOLUTIONS

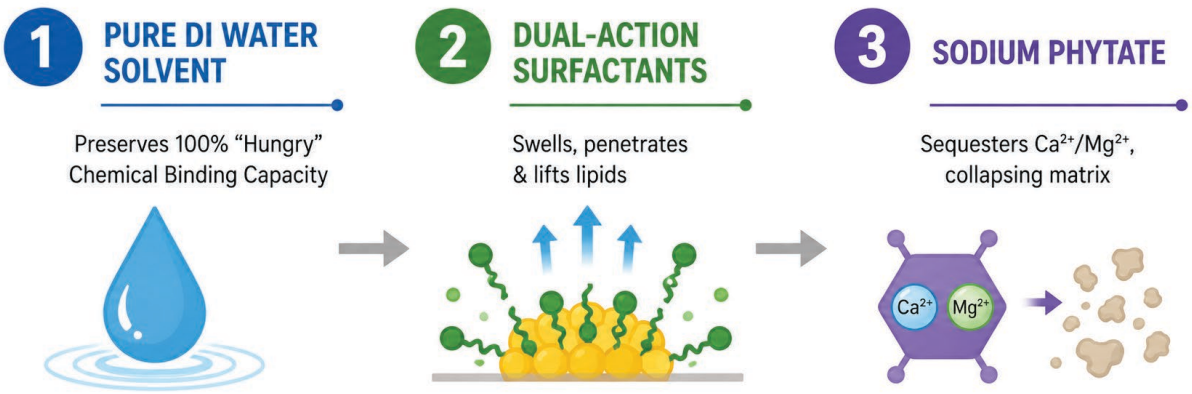
Choose Cogent One Health™
The Next Generation of Cleaning

Cogent One Health™ – Clean with Purpose

This master summary compiles the exact biochemical mechanisms, validation data, and peer-reviewed evidence establishing Sodium Phytate as a disruptive alternative to traditional hospital disinfectants. By executing a simple, daily Two-Cloth "Wipe Dry" routine using Cogent One Health RTU (formulated with pure Deionized Water and targeted surfactants), hospitals can completely drop chemical-kill agents in non-critical zones, effectively clearing the dry surface biofilm reservoir while allowing a healthy, protective environmental microbiome to re-establish.

I. THE COGENT FORMULATION: CORE MECHANISMS

Unlike legacy disinfectants that attempt to chemically "kill" bacteria through an impenetrable outer layer, this non-biocidal solution attacks the structural foundation of the biofilm matrix using three highly targeted steps:



1. The Pure Deionized (DI) Water Solvent: Standard facility tap water contains minerals that pre-saturate cleaning chemistry. Using 100% DI water ensures that every single binding site on the sodium phytate molecule remains completely open, unbonded, and "hungry" to pull minerals out of the environment.

2. The Dual-Action Surfactant System: A targeted blend of anionic and nonionic surfactants lowers surface tension. Anionic surfactants introduce a negative charge that forces the dense biofilm matrix to swell and unfold, while nonionic surfactants penetrate microscopic cracks to emulsify surface skin lipids and oils.

3. The Sodium Phytate "Ionic Crowbar": Sodium phytate is a highly structured, plant-derived organophosphate chelating agent. The dense framework of a dry surface biofilm relies entirely on divalent cations—specifically Calcium (Ca^{2+}) and Magnesium (Mg^{2+})—to act as structural "bridges" that cross-link and harden the matrix. Sodium phytate aggressively captures and sequesters these ions away from the biofilm, forcing its physical structure to destabilize and collapse.

II. THE PEER-REVIEWED EVIDENCE BASE

This strategic use of sodium phytate (phytic acid salts) is heavily backed by independent, international microbiology and medical literature:

*Matrix Breakdown Against Superbugs: Research published in Antimicrobial Agents and Chemotherapy and Frontiers in Cellular and Infection Microbiology demonstrates that Sodium phytate complexes rapidly penetrate mature biofilms, drastically lowering the minimum biofilm eradication concentration (MBEC) for high-risk pathogens like MRSA and Pseudomonas aeruginosa.*Rapid Destruction of Biomass: A landmark study in the Journal of Oral Microbiology confirms that phytate salts dissolve the Extracellular Polymeric Substance (EPS) framework by stripping away metal stabilizers, converting a hardened colony into loose, easily displaced cells.*The Science of Surface Pre-Conditioning: The foundational validation for the non-rinse protocol comes from Microbiology Spectrum (2023), which explicitly proved that "phytic acid was found to cause significant inhibition of dual-species biofilm formation when used as a surface preconditioning agent". Further data in Colloids and Surfaces B: Biointerfaces shows that leaving the trace phytate film creates an electrostatic shield that actively repels initial bacterial docking. [1, 2, 3]

III. CLINICAL VALIDATION: THE CREMCO QCT3 BENCHMARKS

To verify this non-disinfectant strategy under realistic hospital conditions, the protocol was subjected to independent Cremco QCT3 (Quantitative Carrier Test Tier 3) testing—a high-friction, organic-soil standard. The results confirm clinical-grade extraction:

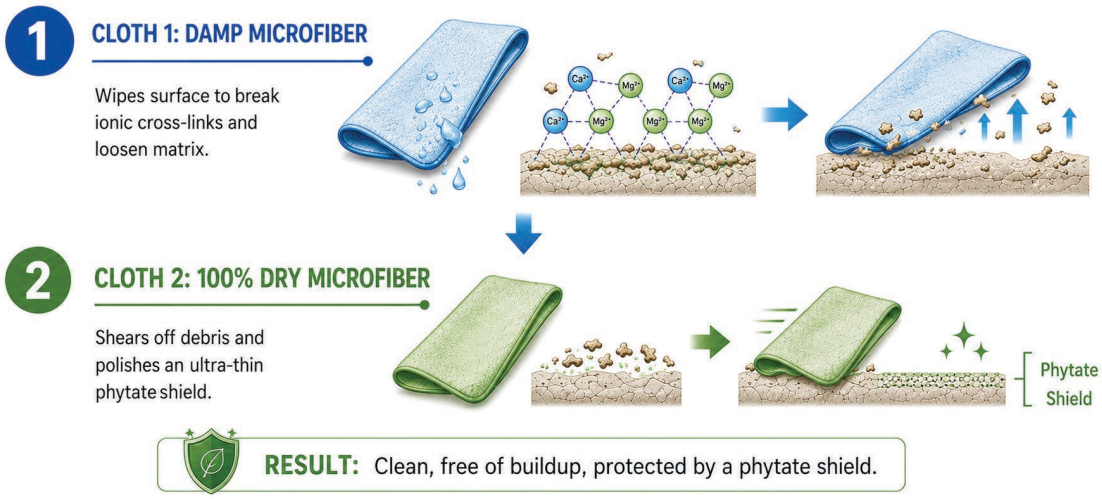
*99.9% Physical Bacterial Removal (3-Log Reduction): Confirms that de-solidifying the EPS cross-links allows a cloth to completely sweep away dense bacterial communities.

*97.8% Non-Enveloped Viral Removal: Proves the surfactant blend breaks the severe electrostatic forces pinning highly resilient viral capsids (e.g., Norovirus) to hospital substrates.

*Near-Zero Cross-Contamination Transfer: The QCT3 transfer tier verified that the method prevents almost all transfer to adjacent surfaces during the wiping process, ensuring that pathogens are securely locked into the cleaning cloth rather than spread down a row of beds.

IV. THE DAILY ROUTINE: THE TWO-CLOTH "WIPE DRY" WORKFLOW [4]

To eliminate airborne aerosol exposure for staff and patients, spraying is completely banned. The daily routine is a continuous, mechanical conditioning sequence:



*Step 1: Apply Cogent One Health RTU directly to Cloth 1 (Blue Microfiber) using a squirt-top bottle or extract a moistened wipe. Wipe all high-touch ward surfaces systematically from top to bottom.

*Step 2: Follow instantly behind with Cloth 2 (Green Microfiber), which must be kept completely dry. Buff the surface to a flawless, streak-free shine.

*Step 3 (The Conditioning Effect): Do not rinse. The dry cloth naturally shears away the loose biomass while spreading the remaining unevaporated solution into a self-limiting, sub-micron layer. As the moisture flashes off, the sodium phytate settles into a smooth, non-tacky protective shield.

V. WARD-LEVEL BENEFITS: SUBSTRATE SAFETY & MEDICAL ECOLOGY

Transitioning general hospital wards to this continuous surface conditioning loop yields major clinical and asset-protection advantages over traditional disinfectants:

*100% Asset Protection: Standard oxidizers cause environmental stress cracking (ESC)on electronics, hospital mattress covers and micro-pitting on steel. This formulation is completely non-corrosive; it preserves expensive touchscreen monitors and plastic bedpanels and mattress covers, while acting as a natural rust-inhibiting conversion layer onstainless steel.*Re-Establishing Beneficial Microbiomes: Aggressive chemical disinfection wipes out harmless background bacteria, creating a dangerous biological vacuum that is quickly colonized by hyper-resistant superbugs. Dropping disinfectants outside of critical care zones (like the ICU) removes this selective evolutionary pressure.*Competitive Exclusion: The daily routine extracts dangerous, deep-seated pathogen biofilms while leaving a non-toxic surface energy. This allows a healthy, balanced, non-pathogenic environmental microbiome to re-establish on the ward, naturally crowding out invaders through resource competition.

[1]Antimicrobial activity and surface preconditioning study, Microbiology Spectrum:
https://journals.asm.org/doi/abs/10.1128/spectrum.00267-23

[2][Natural Anti-biofilm Agents: Strategies to Control Biofilm-Forming Pathogens
https://pmc.ncbi.nlm.nih.gov/articles/PMC7658412/

[3][Antimicrobial Activity of Phytic Acid: An Emerging Agent in Endodontics
https://www.frontiersin.org/journals/cellular-and-infection-microbiology/articles/10.3389/fcimb.2021.753649/full

[4] 5 Effective Methods to Remove Biofilm
https://www.colgate.com/en-us/oral-health/plaque-and-tartar/biofilm-removal-three-effective-methods)

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Visit site for detailed information and Safety Data Sheet

Product Formats

9506-4: 4 x 3.78L case
9506-6: 6 x 946ml case
9506-12: 12 x 70-count wipes per case