



Bactisure™ Wound Lavage

Advancing Biofilm Removal

Bactisure Wound Lavage

Bactisure Wound Lavage is used to remove debris, including microorganisms, from wounds using pulsed lavage. It is a clear, colourless and low-odour solution. Active ingredients include ethanol (solvent), acetic acid (pH modifier), sodium acetate (buffer), benzalkonium chloride (surfactant), and water. Product is available in sterile 1000 mL polypropylene plastic bags with an integrated single spike port.



A New Approach to Biofilm Removal

Bacteria can produce Extracellular Polymeric Substance (EPS) to shield themselves from both mechanical and chemical attack. Bactisure Wound Lavage was specifically designed to remove these structurally resistant forms of bacteria. Our solution physically deconstructs the protective EPS matrix, making bacteria more susceptible to traditional antibiotics and the body's normal defense mechanisms.

Indicated for Use on All Wound Types

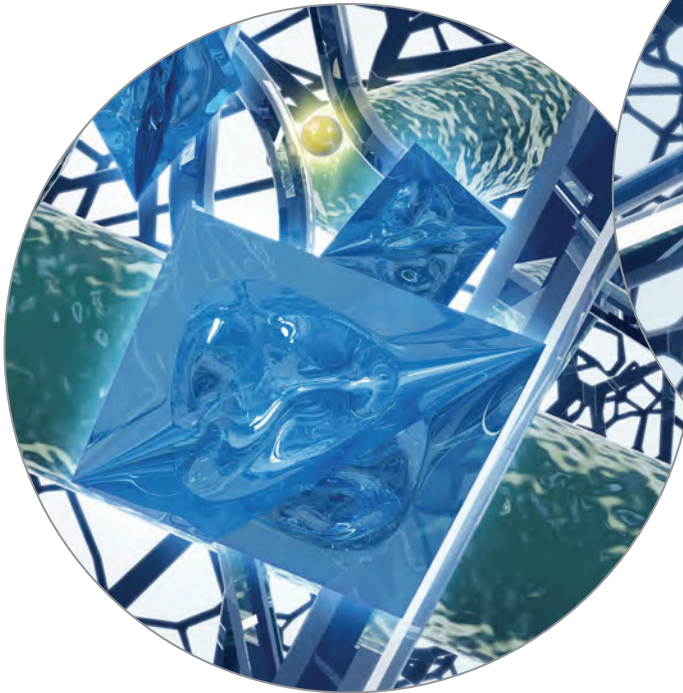
- Apply just prior to wound closure using Zimmer Biomet Pulsavac Plus or similar pulsed lavage system.
- Immediately rinse with an equal amount of normal saline using pulsed lavage.
- Not intended for repeated use.
- Not indicated for use during dressing changes or for use by soaking the product into dressings.
- Do not use if there is a history of allergy to any of the ingredients.

Does Not Harm Human Tissue*

- **Safe for use** – NAMSA Toxicology Report¹
- **Non-irritant** – ISO Intramuscular Implantation Test with Histopathology²
- **Normal wound healing** – Porcine Dermal Testing³

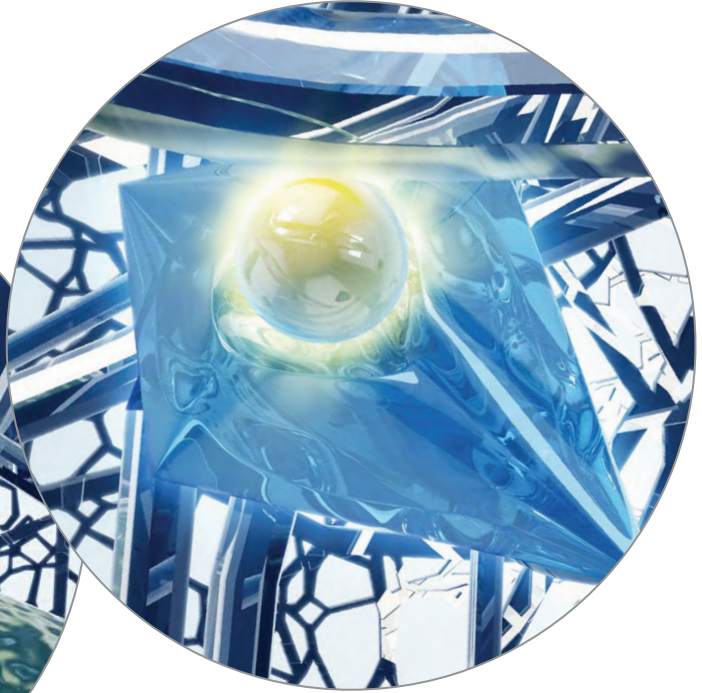
* When used as labeled.

Deconstructs and Removes



Deconstructs

Bactisure Wound Lavage breaks up crosslinks within biofilm EPS.



Removes

With EPS crosslinks removed, Bactisure Wound Lavage solubilises biofilms for easy removal via pulsed lavage. Exposed bacteria are subject to lavage removal or inactivation via traditional antibiotics and the body's normal defense mechanisms.

Biofilm's Role in Chronic Wound Infections

- Over 90% of all bacteria exist in biofilms.⁴
- Biofilms are formed in the body when bacteria coalesce on surface structures and produce an Extracellular Polymeric Substance (EPS).⁴
- The EPS then shields bacteria from both mechanical and chemical attack.⁴
- EPS shielded bacteria in a biofilm can be 1000x more resistant to antibiotics than planktonic (free-floating) bacteria.⁴
- The periodic release of planktonic bacteria from biofilms have been linked to chronic relapsing infections.⁵

Focused on Patient Outcomes

Figure 1 – Mature Biofilm/EPS Removal: Static vs. Pulsed Lavage Performance⁷

2-Min. Static and 30-Sec. Pulsed Lavage, Titanium Substrate

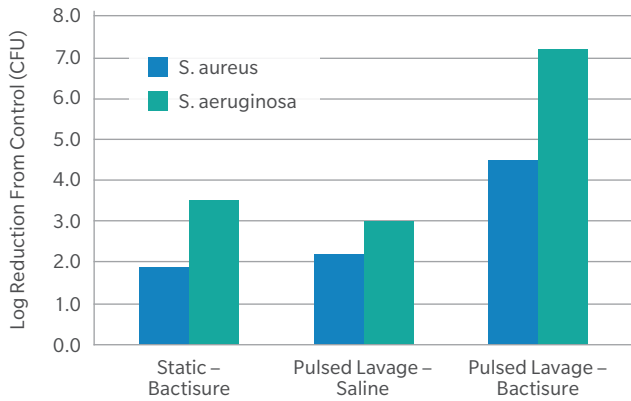


Figure 2 – In Vitro Removal of Contaminants⁸

30 Second Suspension Time

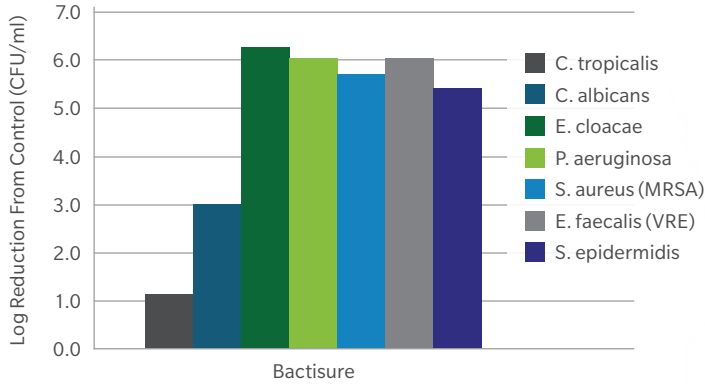
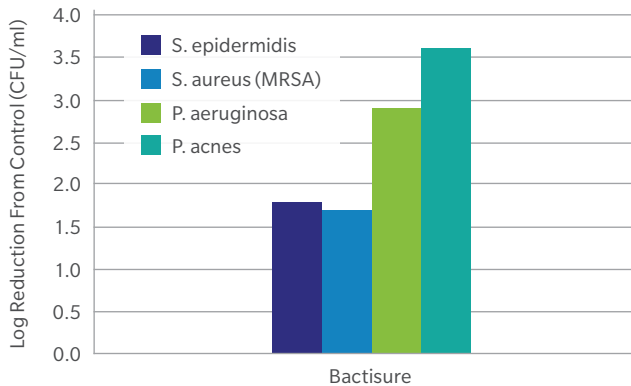


Figure 3 – Mature Biofilm/EPS Removal⁹

2-Min. Static - Stainless Steel Substrate



Enhancing Wound Care

Irrigation and debridement are considered essential components of wound management and infection control.⁶ Bactisure Wound Lavage can enhance these standard wound care practices when used as an adjunct to normal saline wound lavage⁷ (See Figure 1). Moreover, independent laboratory testing suggests that Bactisure Wound Lavage can effectively remove common wound pathogens including the bacteria found in biofilms^{8,9} (See Figures 2 and 3). Bactisure Wound Lavage also conforms to USP <51> requirements for rapid in-solution inactivation of common pathogens.^{10,11}



Ordering Information

Bactisure Product



Bactisure Wound Lavage – 1L Bag, 6/BX

00-8887-002-00

References

1. North American Science Associates (NAMSA) Safety Evaluation Report, N142006, per ISO 10993-12 & 10993-18.
2. ISO Intracutaneous Reactivity Testing, WuXi AppTec protocol #9107015-5, per ISO 10993-10.
3. Porcine Dermal Full-Thickness Wound Wash Study, WuXi AppTec report 32255.
4. Montana State University. (n.d.). Biofilm Basics: Section 1. Retrieved from http://www.erc.montana.edu/biofilm-basics/what_are_biofilms.html.
5. Costerton, J. W., Stewart, P. S., & Greenberg, E. P. (1999). Bacterial biofilms: a common cause of persistent infections. *Science* (New York, N.Y.), 284(5418), 1318-22.
6. Hannigan *et al*, *Adv Wound Care* 2015; Parvisi *et al*, *Bone & Joint J* 2013; Mak *et al*, *Int J Nurs Stud* 2015.
7. Dr. Garth James, Montana State University Center for Biofilm Education; Next Science report TR-02-14-025.
8. Antimicrobial Test Labs, Inc. study GLP1175.
9. Dr. Garth James, Montana State University Center for Biofilm Education; Next Science report TR-02-14-010.
10. Antimicrobial Test Labs, Inc. study GLP1177.
11. Note: Reductions in microbial growth in solution have not been shown to definitively correlate with reductions in infections in patients.

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