UNDERGROUND SOLUTIONS
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APM The trenchless solutions company

Technical Bulletin

ConShield™ biotech armor for concrete

Con^{mic}Shield® is an invisible durable protective additive. It protects the surface against bacteria and fungi, which cause deterioration. It also protects against the growth of odor-causing bacteria *in vitro* tests. It has been shown to form a durable, yet invisible, bonded coating to a number of surfaces and finishes, and is especially effective when added to concrete to prevent MIC corrosion. Con^{mic}Shield® offers the following features:

Good durability – It imparts EXTENDED protection against, broad spectrum, biostatic activity to the surface of a wide variety of substrates: it is leach resistant and nonmigrating.

- Broad-spectrum protection – protects against gram positive and gram-negative bacteria, fungi, algae and yeasts.
- Increased efficiency – through proper application, durable protected surfaces can be attained.

Benefits. Con^{mic}Shield® offers users the following benefits:

- Product Performance with little degradation up to 375 ° F.
- Water based
- Contains no Phenols, Tin, Heavy metals, Lead, Mercury or Formaldehyde.
- Prevents deterioration and discoloration caused by bacteria, fungi, algae and yeasts via wicking.
- Protects against the growth of bacteria and mildew.
- Resists odors
- Compatible with non-ionic, cationic and certain amphoteric surfactants.

Storage and Shelf Life
When stored in original, unopened containers between temperatures of 40-80 ° F, it has a minimum shelf life of 12 months from date of shipment from Con^{mic}Shield® Technologies. Since this material is moisture-sensitive, keep containers tightly sealed.

STORAGE, HANDLING AND PRECAUTIONARY INFORMATION
Con^{mic}Shield® is non-flammable. Store at room temperature. Disposal of Con^{mic}Shield® can be achieved by the addition of anionic surfactant or detergent in quantity equivalent to that of Con^{mic}Shield® agent in solution

See SDS for more details

Con^{mic}Shield® Partial List of Protection Control

Gram-Positive Bacteria	Gram-Negative Bacteria
Bacillus subilis (vegetation forms)	Aerobacter aerogenes
Corynebacterium sp.	Acinetobacter sp.
Lactobacilli sp.	Enterbacter sp
Methicillin-resistant	Escherichia coli
Staphylococcus aureus	Klebsiella sp.
Streptococcus veridan	Listeria monocytogenes
Strepococcus fecalis	Mycobacterium tuberculosis
Streptococcus pneumonia	Prtoeus sp.
Steptomyees sp.	Pseudomonas aeruginosa
Shegella sp.	Pseudomonas cepacia
	Pseudomonas sp
Fungi	Salmonella choleruesius
Aspergillus flares	Salmonella typhoea
Aspergillus niger	Serratia Marcescens
	Thiobacillus
Aspergillus terreus	
Aspergillus verrucaria	**Algae**
Alternaria sp.	Cyanophyta (blue-green) oecillatoria
Cephaldascus fragans	Cyanophyta (blue-green) anabaena
Chaetomium globosum	Chrysophyta (brown)
Epidermophyton sp.	Chlorophyta (green) Seienastum gracile
Penicillium sp.	Chlorophyta (green) Protococcus
Pullularia pulluians	
Stachybotrys	**Viruses**
Tricoderm sp.	Herpes Simplex Type 1
Trichophyton sp.	Influenza A
	HIV B
Yeast	
Saccharomyces cerevisiae	
Candida aibicans	

Treated substrates exhibiting activity

Siliceous surfaces	Man-made fibers	Metals
Glass	Acrylic	Aluminum
Glass wool	Modacrylic	Stainless steel
Sand	Polyester	Galvanized metal
Stone	Cellulose acetate	
Ceramic	Rayon	**Miscellaneous**
	Acetate	Leather
Natural Fibers	Anidex	Wood
Cotton	Spandex	Rubber
Wool	Vinyl	Plastic
Linen	Dacron	Formica
Felt	Viscose	Concrete

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