



Con^{mic}Shield® HD is an invisible durable protective additive for concrete and repair mortars. 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® HD 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® HD offers users the following benefits:

- Product Performance with little degradation up to 375 ° F.
- Essentially Non-toxic, 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.

Physical Properties

Physical State: Pale yellow or light blue, slightly viscous liquid at 77°F /25 °C
 pH: 5
 Specific Gravity (@ 68°F/20°C): 1.0g/ml
 Density: 8.48 lbs per gallon

EPA Reg. No. 75174-7-73453

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 ConShield Technologies. Since this material is moisture-sensitive, keep containers tightly sealed.

STORAGE, HANDLING AND PRECAUTIONARY INFORMATION

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

See SDS for more details

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

Gram-Positive Bacteria	Gram-Negative Bacteria
Bacillus subtilis (vegetation forms)	Aerobacter aerogenes
Corynebacterium sp.	Acinetobacter sp.
Lactobacilli sp.	Enterbacter sp
Methicillin-resistant Staphylococcus aureus	Escherichia coli
Streptococcus veridan	Klebsiella sp.
Streptococcus fecalis	Listeria monocytogenes
	Mycobacterium tuberculosis
Streptococcus pneumonia	Prtoeus sp.
Streptomyces sp.	Pseudomonas aeruginosa
Shigella sp.	Pseudomonas cepacia
	Pseudomonas sp
Fungi	Salmonella choleraesuis
Aspergillus flares	Salmonella typhoea
Aspergillus niger	Serratia Marcescens
	Thiobacillus
Aspergillus terreus	
Aspergillus verrucaria	Algae
Alternaria sp.	Cyanophyta (blue-green) ocellatoria
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	

MATERIAL SAFETY DATA SHEET

Code: Con^{MIC}Shield_{HD}
Issue Date: 1/14/2014
Revised Date: 8/1/2014

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Con^{MIC}Shield_{HD}
SYNONYMS: Microbiostatic Agent - A Silicone Quaternary Ammonium Salt

MANUFACTURER: ConShield Technologies, Inc ,
OFFICE: 541 Tenth Street NW, #233 - Atlanta, GA 30318-5713
E-MAIL: info@conshield.com

EMERGENCY TELEPHONE NUMBER: 1-515-270-4576
NON-EMERGENCY TELEPHONE NUMBER: 1-515-270-4576
FAX: 1-404-420-2160

CHEMICAL FAMILY: Organosilane
PREPARED BY: ConShield Technologies, Inc

SECTION 2: HAZARDS IDENTIFICATION

ROUTES OF ENTRY: Inhalation, skin contact, ingestion, and eye contact

POTENTIAL HEALTH EFFECTS

EYES: Direct contact will cause temporary eye injury.
SKIN: May cause slight irritation.
INGESTION: Harmful if swallowed.
INHALATION: None.

CARCINOGENS:

OSHA: No ACGIH: No NTP: No IARC: No

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	<u>CAS NO.</u>	<u>% WEIGHT</u>	<u>TWA</u>	<u>STEL</u>
3-(Trihydroxysilyl) propyldimethyloctadecyl ammonium chloride	27668-52-6	1.5%	N/A	N/A
Other inert ingredients		98.5%		

The above information is not intended for use in preparing product specifications.

SECTION 4: FIRST AID MEASURES

EYES: Hold eye open and flush with a steady, gentle stream of water for 15-20 minutes. If present remove contact lenses after the first 5 minutes, and then continue rinsing. Call a poison control center or doctor for treatment advice

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have the person to sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

SECTION 4: FIRST AID MEASURES CONTINUED

INHALATION: Move person to fresh air. If not breathing, give artificial respiration. Seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR: UPPER: Not applicable - LOWER: Not applicable

FLASH POINT: Not applicable – EXTINGUISHING MEDIA: Not applicable

SPECIAL FIRE FIGHTING PROCEDURES: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Steps to be taken if material is released or spilled: Do not contaminate water, food or feed by material. Disposal of collected product, residues, and clean-up materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop, wipe, or soak up with absorbent and contain for salvage or disposal. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions, or high pressure steam for large areas. For non-silicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. See applicable regulatory compliance information in Section 15.

SECTION 7: HANDLING AND STORAGE

HANDLING: Wear appropriate personal protective equipment. (See Section 8)

STORAGE: Store in original closed container in a secure area inaccessible to children and away from food or feed.

OTHER PRECAUTIONS: Do not freeze product

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Local exhaust: Recommended

General Ventilation: Recommended

RESPIRATORY PROTECTION: Use respiratory protection unless adequate local exhaust ventilation is provided or air sampling data show exposures are within recommended exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls. A suitable respirator would be a self-contained breathing apparatus (SCBA) or other supplied respirator.

EYE PROTECTION: Wear protective eyewear (goggles, face shield, or safety glasses with side shields).

SKIN PROTECTION: Chemical protective gloves are recommended. (suitable gloves: SilverShield[®], 4H[®], Viton[®])

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Liquid

ODOR: Odorless or slight alcoholic

PHYSICAL STATE: Pale yellow, slightly viscous liquid at 25 °C

pH: 5

BOILING POINT: F: 212° C: 100°

MELTING POINT: F: not applicable C: not applicable

FREEZING POINT: F: 32° C: 0°

VAPOR PRESSURE: Not available

SPECIFIC GRAVITY (@ 68°F/20°C): 1.0g/ml

SOLUBILITY IN WATER: Complete

DENSITY: 8.48 lbs per gallon

VOLATILE CONTENT (>0.1 mm Hg): <10%

VISCOSITY (@ 68°F/20°C): 393 mPa •s

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Under normal conditions this material is stable.

CONDITIONS TO AVOID (STABILITY): None

INCOMPATIBILITY (MATERIAL TO AVOID): Acids, alkalis, strong oxidizing agents, and anionic surfactant

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: Inhalation, Skin Contact, Ingestion, Eye Contact

TOXICITY: Moderately Toxic

Eye Irritation: Mildly irritating to eyes [Rabbit]

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or regional office of the EPA.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not contaminate water, food, or feed by storage and disposal. If these wastes cannot be disposed of by use according to the label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

SECTION 13 NOTES: Contaminated products/soil/water may be RCRA/OSHA hazardous waste.

Inactivation of solutions containing Con^{MIC}Shield may be accomplished by addition of an anionic surfactant or detergent in quantity equivalent to that of Con^{MIC}Shield in solution. Container disposal: (*plastic*) Triple rinse (or equivalent), then offer for recycling or reconditioning, puncture and dispose of in a sanitary landfill, incineration, or by burning (if allowed by the state and local authorities). If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: Not regulated
SECTION 14 NOTES: None

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (Toxic Substances Control Act) Status: All components of this product are listed on the TSCA inventory of chemical substances.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):

SARA 302 COMPONENTS – 40 CFR 355 APPENDIX A: None

311/312 HAZARD CATEGORIES:

Acute: No

Chronic: No

Fire: No

Pressure: No

Reactive: No

STATE REGULATIONS:

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer. NOT KNOWN

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause birth defects or other reproductive harm. NOT KNOWN

New Jersey: 3-(Trimethoxysilyl) propyldimethyloctadecyl ammonium chloride; Chloropropyl trimethoxysilane

Pennsylvania: 3-(Trimethoxysilyl) propyldimethyloctadecyl ammonium chloride; Chloropropyl trimethoxysilane

INTERNATIONAL REGULATIONS

European Inventory of Existing Commercial Chemical EINECS registry number for 3-(trimethoxysilyl) propyldimethyloctadecyl ammonium chloride is 248-595-8. (EINECS No. 248-595-8)

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION: Prepared by ConShield Technologies, Inc.

DISCLAIMER: This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.