

## MATERIAL SAFETY DATA SHEET

**Dilute Silane Solution – Contains 0.1 to 5% antimicrobial in Water**

BACTIDEFENSE 90 & BACTIDEFENSE 90 FABRIC

Current Version:12/01/2022

### SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

CSG ARMAX 775 East Blithedale Suite 533, Mill Valley, CA 94941	Customer Service: info@bactidefense.com Product Disposal Information: info@bactidefense.com
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Generic Description:	Organosilane in water
Physical Form:	Liquid
Color:	Colorless
Odor:	None
NFPA Profile:	Health 1    Flammability 0    Reactivity 0

Note: NFPA : National Fire Protection Association

### SECTION 2 – OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt. %</u>	<u>Component</u>	<u>Exposure Limits</u>
027668-52-6	0.5-5%	Octadecylaminodimethyltrimethoxy-silyl propyl Ammonium Chloride	None
00067-56-1	<0.1%	Methyl Alcohol	OSHA PEL (final rule) and ACGIH TLV-skin: TWA 200ppm, STEL 250 ppm
07732-18-5	94-99.5%	Water	None

Comments:

### SECTION 3 – EFFECTS OF OVEREXPOSURE

#### Acute Effects

Eye:	Direct contact may cause irritation.
Skin:	No untoward effects
Inhalation:	No untoward effects
Oral:	No untoward effects

#### Prolonged/Repeated Exposure Effects

Skin:	No untoward effects
Inhalation:	No untoward effects
Oral:	No untoward effects

#### Signs and Symptoms of Overexposure

No known applicable information

#### Medical Conditions Aggravated by Exposure

No Known applicable information

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for detailed toxicology information.

### SECTION 4 – FIRST AID MEASURES

Eye:	Immediately flush with water for 15 minutes. Get medical attention.
Skin:	Get medical attention if irritation or ill effects develop or persist.
Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.
Oral:	Get medical attention if ill effects develop or persist.
Comments:	None

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### SECTION 5 – FIRE FIGHTING MEASURES

Flash Point (TAG Open Cup):	None
Autoignition Temperature:	Not Applicable
Extinguishing Media:	Not Applicable
Fire Fighting Procedures:	Not Applicable
Unusual Fire Hazards:	Not Applicable

#### Hazardous Decomposition Products:

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Nitrogen oxides. Chlorine compounds. Silicon dioxide. Formaldehyde.

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

Containment/Cleanup:	Use absorbent material to collect and contain for disposal in landfill. Neutralize with anionic detergent
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### SECTION 7 – HANDLING AND STORAGE

**Storage:** Store in tightly closed containers in a cool, dry area away from heat and other possible ignition sources. Store below 100 F.

**Handling:** Use non sparking tools to open containers. Maintain appropriate class of fire extinguishers nearby in case of fire. Use with adequate ventilation. Do not breathe vapor. Do not get into eyes. Do not take internally. Avoid skin contact.

### SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Engineering Controls

Local exhaust:	Recommended
General ventilation:	Recommended

#### Personal Protective Equipment for Routine Handling

Eyes:	Use chemical worker's goggles.
Skin:	Wash at mealtime, before smoking, applying cosmetics, and end of shift. Contaminated clothing and shoes should be cleaned before reuse. Rubber or plastic gloves are recommended.
Inhalation/Suitable Respirator:	No special requirements use mask.

#### Personal Protective Equipment for Spills

Eyes:	Use chemical worker goggles.
Skin:	Wash at mealtime, before smoking, applying cosmetics, and end of shift. Contaminated clothing and shoes should be cleaned before reuse. Rubber or plastic gloves are recommended.
Inhalation/Suitable Respirator:	No special requirements use mask.
Precautionary Measures:	Do not get in eyes. Avoid skin contact. Do not breathe vapor. Do not take internally.
Comments:	None

NOTE: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

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### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid Color: Colorless Odor: Alcohol Specific Gravity @25C: 1.00 Viscosity: Not Determined Freezing/Melting Point: 32 °F/0°C	Boiling Point: 212°F/100°C Vapor Pressure @25C: Not Determined Vapor Density: Not Determined Solubility in Water: Miscible pH: ~5.5 Volatile content: <0.5%
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Note: The above information is not intended for use in preparing product specifications. Contact Quadsil before writing specifications.

### SECTION 10 – STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Hazardous polymerization will not occur
<b>Conditions to Avoid:</b>	None
<b>Materials to Avoid:</b>	Anionic materials, i.e. surfactants. Materials that would shift pH to 10.5.
<b>Comments:</b>	None

### SECTION 11 – TOXICOLOGICAL INFORMATION

#### ACUTE TOXICOLOGY DATA FOR PRODUCT

Not determined

### SECTION 12 – ECOLOGICAL INFORMATION

#### Environmental Fate and Distribution

No specific information is available.

#### Ecotoxicity

No specific information is available.

#### Persistence and Degradation

Octadecylaminodimethyltrimethoxy-silylpropyl Ammonium Chloride should remain bound to the silicon or organic components of the soil.

#### Ecotoxicity Classification Criteria

Hazard Parameters(LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity(mg/L)	<=1	> 1 and <=100	> 100
Acute Terrestrial Toxicity(mg/kg)	<-100	> 100 and <=2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ATMA STP 1179, p.34, 1993

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

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### SECTION 13 – DISPOSAL CONSIDERATIONS

#### RCRA Hazard Class(40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

Federal Hazardous Waste Code: N/A

Characteristic Waste: Ignitable: No Corrosive: N/A Reactive: N/A TCLP:N/A

Comments: State or local laws may impose additional regulatory requirements regarding disposal.

N/A = Not Applicable

Call Quadsil, (989) 496-1434, if additional information is required

### SECTION 14 – TRANSPORT INFORMATION

#### DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name: Not Regulated

#### Ocean Shipment (IMDG)

Proper Shipping Name: Not Regulated

#### Air Shipment (IATA)

Proper Shipping Name: Not Regulated

N/A = Not Applicable

Call Quadsil, (989) 496-1434 if additional information is required.

### SECTION 15 – REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

#### EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:

None

Section 304 CERCLA Hazardous Substances: (40CFR 355)

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
000067-56-1	<0.5%	Methanol

Section 312 Hazard Class:

	Acute: N	Chronic: N	Fire: N	Pressure: N	Reactive: N
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Y = Yes N = No

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## Dilute Silane Solution – Contains 0.1 to 5% antimicrobial in Water

Section 313 Toxic Chemicals:

### Supplemental State Compliance Information:

<u>CAS Number</u>	<u>Wt. %</u>	<u>Component</u>
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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.

None Known