



BIOSAFE QUATERNARY SILOXANE POWDER

Safety Data Sheet BIOSAFE® HM 4100

Date of issue: 03/26/2014

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Version: 3.0

SECTION 1: Identification

1.1. Product identifier

Product name : BIOSAFE QUATERNARY SILOXANE POWDER
 Product code : BIOSAFE® HM 4100
 Product form : Substance
 Physical state : Solid
 Formula : C23H52ClNO3Si
 Synonyms : 3-(TRIHYDROXYSILYL)PROPYLDIMETHYLOCTADECYL AMMONIUM CHLORIDE OCTADECYLDIMETHYL(3-TRIHYDROXYSILYLPROPYL)AMMONIUM CHLORIDE, 84% active condensed SILSESQUIOXANES, 3-(DIMETHYLOCTADECYLAMMONIO)PROPYL, HYDROXY-TERMINATED, CHLORIDES
 Chemical family : ORGANOTRIHYDROXYSILANE

1.2. Recommended use of the chemical and restrictions on use

Recommended use : Antimicrobial product
 For research and industrial use only

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
 11 East Steel Road
 Morrisville, PA 19067
USA
 T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Serious eye damage/eye irritation Category 2B H320
 Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : H320 - Causes eye irritation
 Precautionary statements (GHS-US) : P264 - Wash hands thoroughly after handling
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent
 Name : BIOSAFE QUATERNARY SILOXANE POWDER
 CAS No : 199111-50-7

Name	Product identifier	%	GHS-US classification
Polysilsesquioxane steardimonium chloride	(CAS No) 199111-50-7	81 - 100	Eye Irrit. 2B, H320

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

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4.1. Description of first aid measures

First-aid measures general	: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	: If you feel unwell, seek medical advice. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of inhalation exposure.
Symptoms/injuries after skin contact	: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure.
Symptoms/injuries after eye contact	: Causes eye irritation.
Symptoms/injuries after ingestion	: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
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5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Wear protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Collect spillage. Minimize generation of dust. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin and eyes. Do not breathe dust. Use personal protective equipment as required.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed.
Incompatible materials	: Peroxides. Oxidizing agent. Alcohols. Acids.
Storage area	: Store away from heat. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation.
Personal protective equipment	: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Neoprene or nitrile rubber gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. N95 Particulate Respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: White crystalline powder.
Color	: White. Straw yellow.
Odor	: Slight. Amine-like.
Odor threshold	: No data available
Refractive index	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 200 °F
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.335 g/ml
VOC content	: 0 %
Solubility	: Water: < 6 % @ 25 °C
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Stable when stored in sealed containers.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

Peroxides. Oxidizing agent. Alcohols. Acids.

10.6. Hazardous decomposition products

Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Polysilsesquioxane steardimonium chloride (199111-50-7)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5050 mg/kg
LC50 inhalation rat (mg/l)	> 2.19 mg/l

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of inhalation exposure.

Symptoms/injuries after skin contact : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure.

Symptoms/injuries after eye contact : Causes eye irritation.

Symptoms/injuries after ingestion : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to fish and aquatic invertebrates.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

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Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Improper disposal of pesticides or pesticide residues is a violation of US Federal law. Preferred option for disposal of waste pesticides is incineration at a licensed and permitted facility.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

BIOSAFE QUATERNARY SILOXANE POWDER (199111-50-7)	
EPA FIFRA Registration	HM 4100 is a Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulated antimicrobial, EPA registration number 83019-1.
TSCA Exemption/Exclusion	This substance is excluded from U.S. TSCA notification requirements according to 40 CFR 720.30(a).

Polysilsesquioxane steardimonium chloride (199111-50-7)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases::

H320

Causes eye irritation

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling.

HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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Safety Data Sheet

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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