

R-2145 Part A

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of Revision: 09/02/2022 Date of Issue: 08/15/2013

avantors

NuSil

Version: 5.0

SECTION 1: Identification

1.1. Product Identifier

Product Form	Mixture
Product Name	R-2145 Part A
Synonyms	Silicone Adhesive

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Use of the Substance/Mixture	For professional use only.
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1.3. Details of the Supplier of the Safety Data Sheet

NuSil Technology LLC
1050 Cindy Lane
Carpinteria, California 93013
USA
(805) 684-8780
productstewardship@avantorsciencesgcc.com
www.nusil.com

1.4. Emergency Telephone Number

Emergency Number	800-424-9300 CHEMTREC (in US); +1 703-527-3887 CHEMTREC (International and Maritime)
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SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

GHS-US Classification

Repr. 2	H361
Aquatic Chronic 3	H412

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

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS08

Signal Word (GHS-US)

Warning

Hazard Statements (GHS-US)

H361 - Suspected of damaging fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements (GHS-US)

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

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2.3. Other Hazards

Other Hazards Not Contributing to the Classification

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: Composition/Information On Ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US Classification
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	(CAS-No.) 68909-20-6	10 - 30	Not classified
Octamethylcyclotetrasiloxane	(CAS-No.) 556-67-2	< 0.25	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

SECTION 4: First Aid Measures

4.1. Description of First-aid Measures

First-aid Measures General

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation

When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact

Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion

Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries

Suspected of damaging fertility or the unborn child.

Symptoms/Injuries After Inhalation

Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact

Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact

May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion

Ingestion may cause adverse effects.

Chronic Symptoms

Suspected of damaging fertility or the unborn child.

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4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

- Suitable Extinguishing Media : Water spray, dry chemical, foam, carbon dioxide.
Unsuitable Extinguishing Media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

- Fire Hazard Not considered flammable but may burn at high temperatures.
Explosion Hazard Product is not explosive.
Reactivity Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

- Precautionary Measures Fire Exercise caution when fighting any chemical fire.
Firefighting Instructions Use water spray or fog for cooling exposed containers.
Protection During Firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment And Emergency Procedures

- General Measures Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

6.1.1. For Non-Emergency Personnel

- Protective Equipment Use appropriate personal protective equipment (PPE).
Emergency Procedures Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective Equipment Equip cleanup crew with proper protection.
Emergency Procedures Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials 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 Clean up spills immediately and dispose of waste safely.
Transfer spilled material to a suitable container for disposal.
Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

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SECTION 7: Handling And Storage

7.1. Precautions for Safe Handling

Precautions for Safe Handling

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do NOT breathe (vapor, mist, spray).

Hygiene Measures

Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures

Comply with applicable regulations.

Storage Conditions

Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials

Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

For professional use only.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), or OSHA (PEL).

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica (68909-20-6)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	6 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	20 mppcf (80 mg/m ³ /%SiO ₂)

8.2. Exposure Controls

Appropriate Engineering Controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials For Protective Clothing

Chemically resistant materials and fabrics.

Hand Protection

Wear protective gloves.

Eye And Face Protection

Chemical safety goggles.

Skin And Body Protection

Wear suitable protective clothing.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

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Other Information

When using, do not eat, drink or smoke.

SECTION 9: Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Physical State	Liquid
Appearance	Black
Odor	Odorless
Odor Threshold	No data available
pH	No data available
Evaporation Rate	No data available
Melting Point	No data available
Freezing Point	No data available
Boiling Point	No data available
Flash Point	> 135 °C (275 °F)
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor Pressure	No data available
Relative Vapor Density at 20 °C	No data available
Relative Density	> 1
Solubility	No data available
Partition Coefficient n-Octanol/Water	No data available
Viscosity	No data available

9.2. Other Information

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products

Will decompose above 150 °C (> 300 °F) releasing formaldehyde vapors. Formaldehyde is a potential carcinogen and can act as a potential skin and respiratory sensitizer. Formaldehyde can also cause respiratory and eye irritation.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity : Not classified

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Octamethylcyclotetrasiloxane (556-67-2)	
LD50 Oral Rat	1540 mg/kg
LD50 Dermal Rabbit	794 µl/kg
LC50 Inhalation Rat	36 g/m ³ (Exposure time: 4 h)
Skin Corrosion/Irritation	Not classified
Serious Eye Damage/Irritation	Not classified
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive Toxicity	: Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (Single Exposure)	: Not classified
Specific Target Organ Toxicity (Repeated Exposure)	: Not classified
Aspiration Hazard	Not classified
Symptoms/Injuries After Inhalation	Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact	Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact	May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion	Ingestion may cause adverse effects.
Chronic Symptoms	Suspected of damaging fertility or the unborn child.

SECTION 12: Ecological Information

12.1. Toxicity

Ecology - General Harmful to aquatic life with long lasting effects.

Octamethylcyclotetrasiloxane (556-67-2)	
LC50 Fish	> 22 µg/l
NOEC Chronic Fish	0.0044 mg/l

12.2. Persistence and Degradability

R-2145 Part A	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

R-2145 Part A	
Bioaccumulative Potential	Not established.
Octamethylcyclotetrasiloxane (556-67-2)	
BCF Fish 1	12400
Log Pow	5.1

12.4. Mobility In Soil

No additional information available

12.5. Other Adverse Effects

Other Information Avoid release to the environment.

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SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Waste Disposal	Dispose of contents/container in accordance with local, regional, national, and international regulations.
Recommendations	
Additional Information	Container may remain hazardous when empty. Continue to observe all precautions.
Ecology - Waste Materials	This material is hazardous to the aquatic environment. Keep out of sewers and waterways. Avoid release to the environment.

SECTION 14: Transport Information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

- 14.1. In Accordance with DOT** Not regulated for transport
14.2. In Accordance with IMDG Not regulated for transport
14.3. In Accordance with IATA Not regulated for transport

SECTION 15: Regulatory Information

15.1. US Federal Regulations

All components in this mixture are listed on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, have been exempted, are not listed, not disclosed due to CBI requirements or disclosure rules according to the relevant regulation.

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SARA Section 311/312 Hazard Classes	Health hazard - Reproductive toxicity

15.2. US State Regulations

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica (68909-20-6)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Octamethylcyclotetrasiloxane (556-67-2)	
U.S. - Maine - Chemicals of High Concern	
U.S. - Minnesota - Chemicals of High Concern	
U.S. - Minnesota - Chemicals of High Concern - Persistent Bioaccumulative Toxins	
U.S. - Oregon - Priority Persistent Pollutant - Tier I - Persistent Pollutants	
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	

SECTION 16: Other Information, Including Date of Preparation or Last Revision

Date of Preparation or Latest Revision 09/02/2022

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Other Information

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Flam. Liq. 3	Flammable liquids Category 3
Repr. 2	Reproductive toxicity Category 2
H226	Flammable liquid and vapor
H361	Suspected of damaging fertility or the unborn child
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard

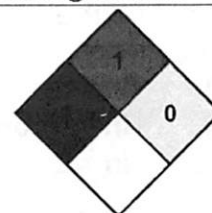
1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA Fire Hazard

1 - Materials that must be preheated before ignition can occur.

NFPA Reactivity Hazard

0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating Health

1 Slight Hazard - Irritation or minor reversible injury possible
* Chronic - Chronic (long-term) health effects may result from repeated overexposure

Flammability Physical

1 Slight Hazard
0 Minimal Hazard

The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, NUSIL TECHNOLOGY LLC AND ITS AFFILIATED COMPANIES ("NUSIL") EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of NuSil's products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, NUSIL DISCLAIMS LIABILITY FOR, AND BY USING NUSIL'S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL NUSIL BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.

NuSil US GHS SDS

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Revision Date: 09/02/2022 Date of Issue: 08/15/2015



Version: 5.0

SECTION 1: Identification

1.1. Product Identifier

Product Form	Mixture
Product Name	R-2145 Part B
Synonyms	Silicone Adhesive

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Use of the Substance/Mixture	For professional use only.
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1.3. Details of the Supplier of the Safety Data Sheet

NuSil Technology LLC
1050 Cindy Lane
Carpinteria, California 93013
USA
(805) 684-8780
productstewardship@avantorsciencesgcc.com
www.nusil.com

1.4. Emergency Telephone Number

Emergency Number	800-424-9300 CHEMTREC (in US); +1 703-527-3887 CHEMTREC (International and Maritime)
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SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

GHS-US Classification

Eye Irrit. 2	H319
Repr. 2	H361
Aquatic Chronic 3	H412

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

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS07

GHS08

Signal Word (GHS-US)

Warning

Hazard Statements (GHS-US)

H319 - Causes serious eye irritation.
H361 - Suspected of damaging fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash hands, forearms and face thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for

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several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Other Hazards Not Contributing to the Classification

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: Composition/Information On Ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	(CAS No) 68909-20-6	10 - 30	Not classified
Titanium dioxide	(CAS No) 13463-67-7	< 10	Not classified
Siloxanes and Silicones, dimethyl, methyl hydrogen	(CAS-No.) 68037-59-2	< 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Glycidoxypropyltrimethoxysilane	(CAS No) 2530-83-8	< 1	Eye Dam. 1, H318 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Octamethylcyclotetrasiloxane	(CAS-No.) 556-67-2	< 0.25	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 1, H410

Full text of H- and EUH-statements: see section 16

SECTION 4: First Aid Measures

4.1. Description of First-aid Measures

First-aid Measures General

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation

When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact

Remove contaminated clothing. Drench affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists.

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First-aid Measures After Eye Contact

Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion

Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries

Causes serious eye irritation. Suspected of damaging fertility or the unborn child.

Symptoms/Injuries After Inhalation

Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact

Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact

Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion

Ingestion may cause adverse effects.

Chronic Symptoms

Suspected of damaging fertility or the unborn child.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Suitable Extinguishing Media

: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media

: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard

Not considered flammable but may burn at high temperatures.

Explosion Hazard

Product is not explosive.

Reactivity

Contact with water, alcohols, acids or bases, and many metals or metallic compounds can liberate flammable Hydrogen gas which can form explosive mixtures in air.

5.3. Advice for Firefighters

Precautionary Measures Fire

Exercise caution when fighting any chemical fire.

Firefighting Instructions

Use water spray or fog for cooling exposed containers.

Protection During Firefighting

Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment And Emergency Procedures

General Measures

Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

6.1.1. For Non-Emergency Personnel

Protective Equipment

Use appropriate personal protective equipment (PPE).

Emergency Procedures

Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective Equipment

Equip cleanup crew with proper protection.

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Emergency Procedures

Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials 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

Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling And Storage

7.1. Precautions for Safe Handling

Precautions for Safe Handling

Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures

Comply with applicable regulations.

Storage Conditions

Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials

Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

For professional use only.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), or OSHA (PEL).

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica (68909-20-6)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	6 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	20 mppcf (80 mg/m ³ /%SiO ₂)
Titanium dioxide (13463-67-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust)

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8.2. Exposure Controls

Appropriate Engineering Controls

Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

Gloves. Protective clothing. Protective goggles.



Materials For Protective Clothing

Chemically resistant materials and fabrics.

Hand Protection

Wear protective gloves.

Eye And Face Protection

Chemical safety goggles.

Skin And Body Protection

Wear suitable protective clothing.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

When using, do not eat, drink or smoke.

SECTION 9: Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Physical State	Liquid
Appearance	White
Odor	Odorless
Odor Threshold	No data available
pH	No data available
Evaporation Rate	No data available
Melting Point	No data available
Freezing Point	No data available
Boiling Point	No data available
Flash Point	> 135 °C (> 275 °F)
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor Pressure	No data available
Relative Vapor Density at 20 °C	No data available
Relative Density	> 1 (water = 1)
Solubility	No data available
Partition Coefficient n-Octanol/Water	No data available
Viscosity	No data available

9.2. Other Information

No additional information available

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SECTION 10: Stability and Reactivity

10.1. Reactivity

Contact with water, alcohols, acids or bases, and many metals or metallic compounds can liberate flammable Hydrogen gas which can form explosive mixtures in air.

10.2. Chemical Stability

Stable at normal conditions.

10.3. Possibility of Hazardous Reactions

Evolved hydrogen gas is flammable and may form explosive mixtures with air.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials

Water, alcohols, acids, bases, strong oxidizing agents, catalytic metals, metallic compounds.

10.6. Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Flammable hydrogen gas. Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity : Not classified

Octamethylcyclotetrasiloxane (556-67-2)

LD50 Oral Rat	1540 mg/kg
LD50 Dermal Rabbit	794 µl/kg
LC50 Inhalation Rat	36 g/m ³ (Exposure time: 4 h)

Titanium dioxide (13463-67-7)

LD50 oral rat	> 10000 mg/kg
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Glycidoxypopyltrimethoxysilane (2530-83-8)

LD50 oral rat	8025 mg/kg
LD50 dermal rabbit	4250 mg/kg
ATE (Oral)	8,025.00 mg/kg body weight
ATE (Dermal)	4,250.00 mg/kg body weight

Skin Corrosion/Irritation	Not classified
Serious Eye Damage/Irritation	Causes serious eye irritation
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified

Titanium dioxide (13463-67-7)

IARC group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity : Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure) : Not classified

Specific Target Organ Toxicity (Repeated Exposure) : Not classified

Aspiration Hazard Not classified

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Symptoms/Injuries After Inhalation	Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact	Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact	Contact causes severe irritation with redness and swelling of the conjunctiva.
Symptoms/Injuries After Ingestion	Ingestion may cause adverse effects.
Chronic Symptoms	Suspected of damaging fertility or the unborn child.

SECTION 12: Ecological Information

12.1. Toxicity

Ecology - General Harmful to aquatic life with long lasting effects.

Octamethylcyclotetrasiloxane (556-67-2)	
LC50 Fish	> 22 µg/l
NOEC Chronic Fish	0.0044 mg/l
Titanium dioxide (13463-67-7)	
LC50 fish 1	> 1000 ml/l (Exposure Time: 96h - Species: Pimephales promelas (static))
Glycidoxypropyltrimethoxysilane (2530-83-8)	
LC50 fish 1	55 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	710 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 (algae)	350 mg/l Exposure time: 96 h - Species: Pseudokirchnerella subcapitata)

12.2. Persistence and Degradability

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Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

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Bioaccumulative Potential	Not established.
Octamethylcyclotetrasiloxane (556-67-2)	
BCF Fish 1	12400
Log Pow	5.1

12.4. Mobility In Soil

No additional information available

12.5. Other Adverse Effects

Other Information Avoid release to the environment.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Waste Disposal Dispose of contents/container in accordance with local, regional, national, and international regulations.
Recommendations Container may remain hazardous when empty. Continue to observe all precautions.
Additional Information
Ecology - Waste Materials This material is hazardous to the aquatic environment. Keep out of sewers and waterways. Avoid release to the environment.

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SECTION 14: Transport Information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

- 14.1. **In Accordance with DOT** Not regulated for transport
- 14.2. **In Accordance with IMDG** Not regulated for transport
- 14.3. **In Accordance with IATA** Not regulated for transport

SECTION 15: Regulatory Information

15.1. US Federal Regulations

All components in this mixture are listed on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, have been exempted, are not listed, not disclosed due to CBI requirements or disclosure rules according to the relevant regulation.

15.2. US State Regulations

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica (68909-20-6)	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
Titanium dioxide (13463-67-7)	
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)	
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)	
U.S. - Idaho - Occupational Exposure Limits - TWAs	
U.S. - Illinois - Toxic Air Contaminant Carcinogens	
RTK - U.S. - Massachusetts - Right To Know List	
U.S. - Michigan - Occupational Exposure Limits - TWAs	
U.S. - Minnesota - Chemicals of High Concern	
U.S. - Minnesota - Hazardous Substance List	
U.S. - Minnesota - Permissible Exposure Limits - TWAs	
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour	
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - New York - Occupational Exposure Limits - TWAs	
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour	
U.S. - Oregon - Permissible Exposure Limits - TWAs	
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
U.S. - Tennessee - Occupational Exposure Limits - TWAs	
U.S. - Texas - Effects Screening Levels - Long Term	
U.S. - Texas - Effects Screening Levels - Short Term	
U.S. - Vermont - Permissible Exposure Limits - TWAs	
U.S. - Washington - Permissible Exposure Limits - STELs	
U.S. - Washington - Permissible Exposure Limits - TWAs	
Titanium dioxide (13463-67-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

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Octamethylcyclotetrasiloxane (556-67-2)

U.S. - Maine - Chemicals of High Concern
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Chemicals of High Concern - Persistent Bioaccumulative Toxins
U.S. - Oregon - Priority Persistent Pollutant - Tier I - Persistent Pollutants
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Glycidoxypropyltrimethoxysilane (2530-83-8)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

SECTION 16: Other Information, Including Date of Preparation or Last Revision

Date of Preparation or Latest Revision 09/02/2022

Other Information

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard

: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 1 - Must be preheated before ignition can occur.

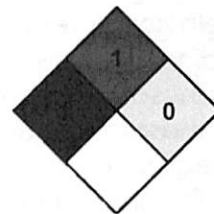
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NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 1 Slight Hazard

Physical

: 0 Minimal Hazard

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