



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-----------------|--|
| Product form | : Mixture |
| Physical state | : Liquid |
| Product name | : CERAMIC™ SI-A |
| Product code | : PP1-SESI-A |
| Formula | : (CH ₃ CO ₂ CH ₂ CH ₂ O _{1.5} Si) _n |
| Synonyms | : BCE RESIN; b-ACETOXYETHYLSILSEQUIOXANE; SILOXANES AND SILICONES, 2-(ACETYLOXY)ETHYL HYDROXY, POLYMERS WITH 2-(ACETYLOXY)ETHYL SILSESQUIOXANES; POLY(2-ACETOXYETHYLSILSESQUIOXANE) solution |
| Chemical family | : SILICONE RESIN |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|------------------------------|--|
| Use of the substance/mixture | : Chemical intermediate For research 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: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 3 H226
 Eye Irrit. 2A H319
 STOT SE 3 H336

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS07

| | |
|-----------------------------------|---|
| Signal word (GHS-US) | : Warning |
| Hazard statements (GHS-US) | : H226 - Flammable liquid and vapor H319 - Causes serious eye irritation H336 - May cause drowsiness or dizziness |
| Precautionary statements (GHS-US) | : P280 - Wear protective gloves/protective clothing/eye protection/face protection P210 - Keep away from heat, open flames, sparks. - No smoking P240 - Ground/bond container and receiving equipment P241 - Use explosion-proof electrical equipment P242 - Use only non-sparking tools P243 - Take precautionary measures against static discharge P261 - Avoid breathing vapors P264 - Wash hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing 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 P312 - Call a doctor if you feel unwell |

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P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Keep in a cool place
P405 - Store locked up
P501 - Dispose of contents/container to licensed waste disposal facility

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|-----------------------------------|----------------------|---------|--|
| Methoxypropanol | (CAS No) 107-98-2 | 80 - 82 | Flam. Liq. 3, H226 Eye Irrit. 2A, H319 STOT SE 3, H336 |
| Poly(2-acetoxyethylsilsequioxane) | (CAS No) 349656-50-4 | 18 - 20 | Eye Irrit. 2A, H319 |

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Remove contaminated clothing and shoes. 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 : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- 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. Get medical advice/attention.
- First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

- Symptoms/injuries after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract.
- Symptoms/injuries after skin contact : May cause skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : May be harmful if swallowed.

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 : Flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Eliminate ignition sources. Use special care to avoid static electric charges.

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 liquid 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 : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

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

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use only non-sparking tools.
- Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
- Storage conditions : Keep container tightly closed. Store in sealed containers below 5°C. Keep in a cool place. Store locked up.
- Incompatible materials : Base. Amines.
- Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Methoxypropanol (107-98-2) | | |
|----------------------------|---------------------------------------|-----------------------|
| USA ACGIH | ACGIH TWA (ppm) | 50 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 100 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 360 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 100 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 540 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 150 ppm |

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. Contact lenses should not be worn.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Clear liquid.
- Color : Straw.
- Odor : Mild.
- Odor threshold : No data available
- Refractive index : No data available
- pH : No data available

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| | |
|---|------------------------------|
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : 117 °C initial |
| Flash point | : 34 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Flammable liquid and vapor |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : 0.97 |
| VOC content | : > 80 % |
| Solubility | : Insoluble in water. |
| 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

10.2. Chemical stability

Stable in sealed containers at temperatures below 5°C.

10.3. Possibility of hazardous reactions

Degrades at temperatures above 180°C. Reacts with base including amines, generating ethylene.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Base. Amines.

10.6. Hazardous decomposition products

Acetic acid. Ethylene. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Methoxypropanol (107-98-2)

| | |
|----------------------------|-------------|
| LC50 inhalation rat (mg/l) | > 6 mg/l/4h |
|----------------------------|-------------|

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

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

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Symptoms/injuries after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

| Methoxypropanol (107-98-2) | |
|----------------------------|--|
| LC50 fish 1 | 20.8 g/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 Daphnia 1 | 23300 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| Methoxypropanol (107-98-2) | |
|----------------------------|--------|
| BCF fish 1 | < 2 |
| Log Pow | -0.437 |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.
Effect on ozone layer : No additional information available
Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT) : 1139
DOT NA no. : UN1139

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Coating solution
(POLY(2-ACETOXYETHYLSILSESQUIOXANE) solution)
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Emergency Response Guide (ERG) Number : 127
Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)

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DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

SERAMIC™ SI-A (349656-50-4)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States

Methoxypropanol (107-98-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Poly(2-acetoxyethylsilsesquioxane) (349656-50-4)

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

15.2. International regulations

Methoxypropanol (107-98-2)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

Poly(2-acetoxyethylsilsesquioxane) (349656-50-4)

15.3. US State regulations

SERAMIC™ SI-A(349656-50-4)

U.S. - California - Proposition 65 - Carcinogens List

No

U.S. - California - Proposition 65 - Developmental Toxicity

No

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

No

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

No

Methoxypropanol (107-98-2)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

Non-significant risk level (NSRL)

No

No

No

No

Poly(2-acetoxyethylsilsesquioxane) (349656-50-4)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

Non-significant risk level (NSRL)

No

No

No

No

Methoxypropanol (107-98-2)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

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SECTION 16: Other information

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.

Full text of H-phrases::

| | |
|------|-----------------------------------|
| H226 | Flammable liquid and vapor |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |

HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 3 Serious Hazard
Physical : 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 05/06/2016 Version: 1.0

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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