Page 1/5

1 Identification

- · Product identifier
- · Product Name: <u>1 µg/mL Silicon</u>
- · Part Name: CLSI9-1BY
- · Application of the substance / the mixture Certified Reference Material
- Details of the supplier of the safety data sheet
 Manufacturer/Supplier: Spex CertiPrep, LLC.
 203 Norcross Ave, Metuchen, NJ 08840 USA

USMet-CRMSales@antylia.com

- · Information department: product safety department
- Emergency telephone number: Emergency Phone Number (24 hours) CHEMTREC (800-424-9300) Outside US: 703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Regulated
- · Hazard pictograms Not Regulated
- · Signal word Not Regulated
- · Hazard statements Not Regulated
- · Classification system:
- · NFPA ratings (scale 0 4)

 $\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \end{array} \begin{array}{l} Health = 0 \\ Fire = 0 \\ Reactivity = 0 \end{array}$

· HMIS-ratings (scale 0 - 4)

HEALTH \bigcirc Health = 0FIRE \bigcirc Fire = 0REACTIVITY \bigcirc Reactivity = 0

· Other hazards

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components: Not Regulated
 Chamical identification of the substance/preparation

· Chemical identification of the substance/preparation	
7732-18-5 water, distilled, conductivity or of similar purity	99.9994%
16919-19-0 ammonium hexafluorosilicate	0.0006%

4 First-aid measures

- · Description of first aid measures
- · General information: No special measures required.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.
- · After eye contact: Rinse opened eye for several minutes under running water.
- · After swallowing: Do not give anything to eat or drink Do not induce vomitting
- · Information for Doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.

(Contd. on page 2)

- US

Safety Data Sheet acc. to OSHA HCS

Printing date 04/12/2022

Product Name: 1 µg/mL Silicon

· Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters

· PAC-2:

16919-19-0 ammonium hexafluorosilicate

· PAC-3:

16919-19-0 ammonium hexafluorosilicate

7 Handling and storage

- · Handling:
- · Precautions for safe handling
- No special measures required.
- Follow good laboratory practices.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

- · Control parameters
- · Components with limit values that require monitoring at the workplace:
- The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
- · Respiratory protection: Not required.
- Protection of hands:
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

US

(Contd. of page 1)

130 mg/m³

780 mg/m³

Reviewed on 04/12/2022

· Protective equipment: No special measures required. 6 Accidental release measures · Personal precautions, protective equipment and emergency procedures Not required. • Environmental precautions: Dilute with plenty of water. · Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). · Reference to other sections See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information. · Protective Action Criteria for Chemicals · PAC-1: 16919-19-0 ammonium hexafluorosilicate 12 mg/m³ Safety Data Sheet acc. to OSHA HCS

Printing date 04/12/2022

Product Name: 1 µg/mL Silicon

 \cdot Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Goggles recommended during refilling.

9 Physical and chemical propertie	25
· Information on basic physical and	chemical properties
· General Information	
· Appearance:	
Form:	Liquid
Color: • Odor:	According to product specification Characteristic
· Odour: · Odour Threshold:	Not applicable.
· pH-value:	Not applicable.
1	
• Change in condition Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
• Decomposition temperature:	Not applicable.
· Auto igniting:	Product is not selfigniting.
• Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F)	1 g/cm ³ (8.345 lbs/gal)
· Relative density	Not applicable.
· Vapor density	Not applicable.
• Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/wat	er): Not applicable.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
Water:	100.0 %
VOC content:	0.00 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- on the skin: No irritant effect.

(Contd. on page 4)

Reviewed on 04/12/2022

(Contd. of page 2)

Safety Data Sheet acc. to OSHA HCS

Printing date 04/12/2022

Reviewed on 04/12/2022

(Contd. of page 3)

Product Name: 1 µg/mL Silicon

• on the eye: No irritating effect.

· Sensitization: No sensitizing effects known.

• Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- \cdot Additional ecological information:
- · General notes: Not hazardous for water.
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation: Smaller quantities can be disposed of with household waste.

· Uncleaned packagings:

- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

· UN-Number · DOT, ADR, IMDG, IATA	Not Regulated	
· UN proper shipping name · DOT, ADR, IMDG, IATA	Not Regulated	
· Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	Not Regulated	
· Packing group · DOT, ADR, IMDG, IATA	Not Regulated	
· Environmental hazards:	Not applicable.	
· Special precautions for user	Not applicable.	
• Transport in bulk according to Annex II of MARPOL73/78 an Code	nd the IBC Not applicable.	
· UN "Model Regulation":	Not Regulated	

15 Regulatory information

• Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

(Contd. on page 5)

us –

Printing date 04/12/2022

Reviewed on 04/12/2022

Product Name: 1 µg/mL Silicon

Sara Section 313 (Specific toxic chemical listings): None of the ingredients is listed. TSCA (Toxic Substances Control Act): All components have the value ACTIVE. Hazardous Air Pollutants None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed.	of page 4)
None of the ingredients is listed. TSCA (Toxic Substances Control Act): All components have the value ACTIVE. Hazardous Air Pollutants None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NOSH-Ca (National Institute for Occupational Safety and Health)	
TSCA (Toxic Substances Control Act): All components have the value ACTIVE. Hazardous Air Pollutants None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed.	
All components have the value ACTIVE. Hazardous Air Pollutants None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. CLARCINGENERGE EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Hazardous Air Pollutants None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Proposition 65 Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Chemicals known to cause cancer: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NONE of the ingredients is listed.	
None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NONE of the ingredients is listed. NONE of the ingredients is listed. NONE of the ingredients is listed.	
None of the ingredients is listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NONE of the ingredients is listed. NONE of the ingredients is listed. NONE of the ingredients is listed.	
None of the ingredients is listed. Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NONE of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Chemicals known to cause developmental toxicity: None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NONE of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed. Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
Carcinogenic categories EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
EPA (Environmental Protection Agency) None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed. TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
TLV (Threshold Limit Value) None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed. NIOSH-Ca (National Institute for Occupational Safety and Health)	
NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
GHS label elements Not Regulated	
Hazard pictograms Not Regulated	
Signal word Not Regulated Hazard statements Not Regulated	
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: product safety department

· Contact:

Spex CertiPrep, LLC. 1-732-549-7144

Date of preparation / last revision 04/12/2022 / Abbreviations and acronyms:
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit