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

1.1. Product identifier

Product name: Synthetic Amorphous Silica
Product code: N0142
EC number: 231-545-4
REACH Registration number

Registration number	Legal entity
01-2119379499-16-0041	-

CAS number: 7631-86-9 / 112926-00-8
Other means of identification:
Flo-Gard: All grades; Hi-Sil: All grades; Lo-Vel 27; Lo-Vel 29; Lo-Vel 39A; Lo-Vel 275; Lo-Vel 2000; Lo-Vel 2003; Lo-Vel 6000; Lo-Vel 6200; Lo-Vel HSF; Silene 732D

According to REACH-Regulation (EC) 1907/2006 this substance contains nanoforms (nano structured). The product does not fall under the definition of "engineered nanomaterial" according to the food information regulation (EU) 1169/2011

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

Product use: Industrial applications.
Use of the substance/mixture: Additive
Uses advised against: Product is not intended, labelled or packaged for consumer use.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

QEMETICA NL SIlica B.V.
Valgenweg 1-3, 9936 HV Farmsum
The Netherlands
Postal Adress: P.O. Box 181, 9930AD Delfzijl, The Netherlands
Customer Service: +31-596-676710
Technical Service: +31-596-676710

QEMETICA US Silica LLC
3150 Pete Manena Road,
Westlake, LA 70669, USA
Customer Service: 1-800-243-6745

E-mail address for the person responsible for the safety data sheet:
sds@qemetica.com

1.4. Emergency telephone number

Emergency Phone:
112 (European emergency number)
+31 85 888 0596(CHEMTREC, CCN1020385)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Product definitione: Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2. Label elements

Signal word:	No signal word.
Hazard statements:	No known significant effects or critical hazards.

Precautionary statements

Prevention:	Not applicable.
Response:	Not applicable.
Storage:	Not applicable.
Disposal:	Dispose of contents and container in accordance with all local, regional, national and international regulations. P501
Hazardous ingredients:	Not applicable.
Supplemental label elements:	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings:	Not applicable.
Tactile warning of danger:	Not applicable.

2.3. Other hazards

Product meets the criteria for PBT or vPvB:

PBT	P	B	T	VPvB	vP	vB
Not applicable (Inorganic)	N/A	N/A	N/A	Not applicable (Inorganic)	N/A	N/A

Other hazards which do not result in classification: Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

3.1. Substances: Mono-constituent substance

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Silica, amorphous, precipitated and gel	REACH #: 01-2119379499-16-0041 CAS: 112926-00-8	100	Not classified. **See Section 16 for the full text of the H statements declared above.**	-	[1]

Contains no detectable crystalline silica (detection limit <0.1% by weight).
There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
[1] Constituent
Occupational exposure limits, if available, are listed in Section 8.
SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact: Protect the non-irritated eye, remove contact lenses. Rinse the contaminated eyes carefully with water for 10-15 minutes. Avoid strong streams of water – the risk of damaging the cornea. After rinsing put on an aseptic – sterile dressing and seek immediate medical advice.

Inhalation: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion: If swallowed, seek medical advice immediately and show the packing or label. Keep person warm and at rest. Do NOT induce vomiting.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

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

Potential acute health effects

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
irritation
redness

Inhalation: Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact: No specific data.

Ingestion: No specific data.

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

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatment: No specific treatment

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture: When transferring material into flammable solvents, use proper grounding to avoid electrical sparks.

Hazardous combustion products: Decomposition products may include the following materials: metal oxide/oxides.

5.3. Advice for firefighters

Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training.
Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Put on appropriate personal protective equipment.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

6.2. Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Small spill:

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill:

Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1. Precautions for safe handling

Protective measures:

Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.
When transferring material into flammable solvents, use proper grounding to avoid electrical sparks.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2. Conditions for safe storage, including any incompatibilities

Do not store below the following temperature: -30°C (-22°F). Store in accordance with local regulations. Store in original container protected from moisture, direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1. Control parameters

Occupational exosure limits

No exposure limit value known.

Recommended monitoring procedures: Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs

DNELs - Not available.

PNECs

PNECs - Not available.

8.2. Exposure controls

Appropriate engineering controls Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants

below any recommended or statutory limits.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety glasses with side shields. Use eye protection according to EN 166.

Skin protection:

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves nitrile rubber, butyl rubber, PVC, Viton®

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator conforming to EN140. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Mask type: full-face mask halfface mask Filter type: particulate filter P3 Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1. Information on basic physical and chemical properties

Appearance:

Physical state: Solid

Product type:	Powder
Color:	White
Odor:	Odorless.
Odor threshold:	Not available.
Melting point/freezing point:	Not available.
Initial boiling point and boiling range	The study does not need to be conducted because the substance is a solid that melts above 300°C (572 °F)
Flammability	The substance is not flammable.
Upper/lower flammability or explosive limits	The substance is not explosive.
Minimum explosive concentration (MEC)	Not applicable.
Flash point	Not applicable. Product does not sustain combustion
Auto-ignition temperature	Not applicable.
Decomposition temperature	Stable under recommended storage and handling conditions (see Section 7).
pH	5 to 9
Viscosity	Kinematic (40°C): Not applicable.

Solubility(ies)

Media	Result
cold water	Soluble

Water Solubility at room temperature	>0.02 g/l
Partition coefficient: n-octanol/water	Not applicable – inorganic substance.
Vapor pressure	Not applicable.
Evaporation rate	Not applicable.
Relative density	Not available.
Explosive properties	Not available.
Oxidizing properties	Product does not present an oxidizing hazard.

Particle characteristics

Median particle size: 1 to 300 µm (agglomerates)

Size distribution

Distribution (dN)	Size
50	2 to 60 nm (of primary particles)

Method:TEM

Shape	Spheroidal
Crystallinity	Amorphous.
Additional information	Synthetic amorphous silica (SAS) consists of primary particles fused into aggregates by covalent bonds. There are no phase boundaries between these composite particles. These aggregates grow together to form agglomerates held together by van der Waals forces and hydrogen bonds. SAS powder products are brought into the market as agglomerates (the median particle size is found above, in this section). The primary particles can be measured by TEM (for Qemetica distribution see d50, number based), but do not occur as isolated particles.

9.2. Other information
No additional information.

SECTION 10: Stability and reactivity

10.1. Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability
The product is stable.

10.3. Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid
High temperature (>800 C) treatment (calcining). Avoid alteration of product properties before use. Calcining (which may result in crystalline formation) or mixing with additives may alter toxicological properties.

Refer to protective measures listed in sections 7 and 8.

10.5. Incompatible materials
Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

10.6. Hazardous decomposition products
Depending on conditions, decomposition products may include the following materials: metal oxide/oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute Toxicity:

Product/ingredient name	Result	Species	Dose	Exposure
Silica, amorphous, precipitated and gel	LD50 Dermal LD50 Oral	Rabbit Rat	>5000 mg/kg >5000 mg/kg	- -

Conclusion/Summary: Not available.

Irritation/Corrosion:
Conclusion/Summary
Skin: The substance does not meet the classification criteria.
Eyes: The substance does not meet the classification criteria.
Respiratory: The substance does not meet the classification criteria.
Sensitization:
Conclusion/Summary
Skin: The substance does not meet the classification criteria.
Respiratory: The substance does not meet the classification criteria.

Mutagenicity:
Conclusion/Summary: The substance does not meet the classification criteria.

Carcinogenicity:
Conclusion/Summary: The substance does not meet the classification criteria.

Reproductive Toxicity:
Conclusion/Summary: The substance does not meet the classification criteria.

Teratogenicity:
Conclusion/Summary: The substance does not meet the classification criteria.

Specific target organ toxicity (single exposure):
Not available.

Specific target organ toxicity (repeated exposure):
The substance does not meet the classification criteria.

Aspiration hazard:
The substance does not meet the classification criteria.

Information on the likely routes of exposure Not available.

Potential acute health effects

Inhalation	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Ingestion:	No known significant effects or critical hazards.
Skin contact:	No known significant effects or critical hazards
Eye contact:	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion:	No specific data.
Skin contact:	No specific data.
Eye contact:	Adverse symptoms may include the following: irritation redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects:	Not available.
Potential delayed effects:	Not available.

Long term exposure

Potential immediate effects:	Not available.
Potential delayed effects:	Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	Not available.
General:	Repeated or prolonged inhalation of dust may lead to chronic

respiratory irritation. An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time span of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers.
Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposures. Laboratory studies have also been conducted in small animals via inhalation of levels of precipitated silica dust of up to 126 mg/cu.m. per periods from six months to two years. Although precipitated silica was temporarily deposited in the animals´ lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, Qemetica indicate a very low order of pulmonary activity for synthetic precipitated silicas. Qemetica recommends that persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Reproductive Toxicity: No known significant effects or critical hazards.
Other information Not available.

An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time span of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposures. Laboratory studies have also been conducted in small animals via inhalation of levels of precipitated silica dust of up to 126 mg/cu.m. per periods from six months to two years. Although precipitated silica was temporarily deposited in the animals´ lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, Qemetica indicate a very low order of pulmonary activity for synthetic precipitated silicas. Qemetica recommends that persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1. Toxicity

Product/ingredient name	Result	Species	Exposure
Silica, amorphous, precipitated and gel	NOEC >1000 ppm	Daphnia - *Daphnia magna*	24 hours
	Acute NOEC >10000 ppm Fresh water	Fish	96 hours Static
	Acute NOEC >10000 ppm	Fish - Brachydanio rerio	4 days Static

Conclusion/Summary : Not available.

12.2. Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Silica, amorphous, precipitated and gel	-	-	Not readily- it is an inorganic material and does not break down through biological processes like organic substances

12.3. Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Silica, amorphous, precipitated and gel	-	0	low

12.4. Mobility in soil

Soil/water partition coefficient (K_{OC}): Not available.
Mobility: Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	**PBT**	**P**	**B**	**T**	**vPvB**	**vP**	**vB**
Synthetic Amorphous Silica	Not applicable (Inorganic)	N/A	N/A	N/A	Not applicable (Inorganic)	N/A	N/A

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1. Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)

Waste code	Waste designation
06 08 99	wastes not otherwise specified

Packaging

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental	No.	No.	No.	No.

hazards				
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.	Not applicable.

Additional information:
ADR/RID: None identified.
ADN: None identified.
IMDG: None identified.
IATA: None identified.

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments:

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Water Discharge Policy (ABM):

B(4) Low hazard for aquatic organisms. Decontamination effort: B

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements
Not applicable.

Full text of classifications [CLP/GHS]
Not applicable.

History

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Date of previous issue	-
Prepared by	EHS
Version	1

Disclaimer

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