

**SILICON DIOXIDE, crystalline**

Safety Data Sheet SIS6964.0

Date of issue: 18/02/2015

Revision date: 13/04/2017

Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Substance
Physical state	: Solid
Substance name	: SILICON DIOXIDE, crystalline
Product code	: SIS6964.0
Formula	: O ₂ Si
Synonyms	: SILICA QUARTZ POWDER
Chemical family	: INORGANIC SILICATE

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

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**GELEST INC.**Fritz-Klatte-Strasse 8
65933 Frankfurt**Germany**

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

info@gelestde.com - www.gelestde.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****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients**3.1. Substances**

Substance type	: Mono-constituent
Name	: SILICON DIOXIDE, crystalline
CAS-No.	: 7631-86-9
EC-No.	: 231-545-4

SILICON DIOXIDE, crystalline

Safety Data Sheet

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Silicon dioxide	(CAS-No.) 7631-86-9 (EC-No.) 231-545-4	97 - 100	Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of 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/effects after inhalation	: May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea. May be harmful if inhaled. Exposure to respirable silica can cause silicosis, a fibrosis (scarring) of the lungs.
Symptoms/effects after skin contact	: May cause skin irritation. May be harmful in contact with skin. There is evidence that silica can exacerbate scleroderma, an immune disorder of the skin.
Symptoms/effects after eye contact	: May cause eye irritation. May cause abrasion of cornea.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Chronic symptoms	: Silicosis can occur after many years of exposure to relatively low levels of airborne respirable silica.

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	: Not combustible.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: None known.
-------------	---------------

5.3. Advice for firefighters

Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.
--------------------------------	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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

6.1.2. For emergency responders

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Sweep or shovel spills into appropriate container for disposal.
-------------------------	---

SILICON DIOXIDE, crystalline

Safety Data Sheet

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	: While not flammable, the ability of fumed silica to generate static charge may present a hazard when used in combination with flammable liquids.
Precautions for safe handling	: Avoid contact with skin and eyes. Do not breathe dust. Avoid dust formation. Provide local exhaust or general room ventilation to minimize exposure to dust.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed. Store in a dry place.
Incompatible materials	: Strong oxidizers.
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

Silicon dioxide (7631-86-9)		
Austria	MAK (mg/m ³)	4 mg/m ³ (also Silica manufactured through wet process-inhalable fraction)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	4 mg/m ³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-inhalable fraction)
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³
Latvia	OEL TWA (mg/m ³)	1 mg/m ³
USA IDLH	US IDLH (mg/m ³)	3000 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	6 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³
Switzerland	MAK (mg/m ³)	4 mg/m ³ (inhalable dust, also manufactured in wet processing)
United Kingdom	WEL TWA (mg/m ³)	6 mg/m ³ (inhalable dust) 2.4 mg/m ³ (respirable dust)
United Kingdom	WEL STEL (mg/m ³)	18 mg/m ³ (calculated-inhalable dust) 7.2 mg/m ³ (calculated-respirable dust)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	0.1 mg/m ³ (respirable fraction) 4 mg/m ³
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	6 mg/m ³ (total inhalable dust) 2.4 mg/m ³ (respirable dust)
Ireland	OEL (15 min ref) (mg/m ³)	18 mg/m ³ (calculated-total inhalable dust) 7.2 mg/m ³ (calculated-respirable dust)
Norway	Grønseverdier (AN) (mg/m ³)	1.5 mg/m ³ (respirable dust)
Norway	Grønseverdier (Korttidsverdi) (mg/m ³)	1.5 mg/m ³ (respirable dust)
Slovakia	NPHV (priemerná) (mg/m ³)	4 mg/m ³ (total aerosol)
Australia	TWA (mg/m ³)	2 mg/m ³ (respirable dust)

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

SILICON DIOXIDE, crystalline

Safety Data Sheet

Eye protection:

Chemical goggles. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 60.09 g/mol
Colour	: White.
Odour	: No data available
Odour threshold	: No data available
Refractive index	: 1.54
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 1610 °C
Freezing point	: No data available
Boiling point	: 2230 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 0.01 mm Hg @ 20°C
Relative vapour density at 20 °C	: No data available
Relative density	: 2.65
% Volatiles	: 0 %
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
Oxidising properties	: No data available
Explosive 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.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SILICON DIOXIDE, crystalline

Safety Data Sheet

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Silicon dioxide (7631-86-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 2.2 mg/l (Exposure time: 1 h)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

IARC has concluded that there was sufficient evidence of the carcinogenicity of crystalline silica to experimental animals, but that there was limited evidence of carcinogenicity of crystalline silica to humans..

Silicon dioxide (7631-86-9)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea. May be harmful if inhaled. Exposure to respirable silica can cause silicosis, a fibrosis (scarring) of the lungs.

Symptoms/effects after skin contact : May cause skin irritation. May be harmful in contact with skin. There is evidence that silica can exacerbate scleroderma, an immune disorder of the skin.

Symptoms/effects after eye contact : May cause eye irritation. May cause abrasion of cornea.

Symptoms/effects after ingestion : May be harmful if swallowed.

Chronic symptoms : Silicosis can occur after many years of exposure to relatively low levels of airborne respirable silica.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

Silicon dioxide (7631-86-9)	
LC50 fish 1	5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia)
EC50 Daphnia 2	> 1000 mg/l Daphnia-magna: 24H

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Silicon dioxide (7631-86-9)	
BCF fish 1	(no bioaccumulation expected)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Product/Packaging disposal recommendations : Landfill. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SILICON DIOXIDE, crystalline

Safety Data Sheet

SECTION 14: Transport information

14.1. UN number

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not applicable
----------------------------------	------------------

IMDG

Transport hazard class(es) (IMDG)	: Not applicable
-----------------------------------	------------------

IATA

Transport hazard class(es) (IATA)	: Not applicable
-----------------------------------	------------------

ADN

Transport hazard class(es) (ADN)	: Not applicable
----------------------------------	------------------

RID

Transport hazard class(es) (RID)	: Not applicable
----------------------------------	------------------

14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

- Overland transport

No data available

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available

- Rail transport

No data available

SILICON DIOXIDE, crystalline

Safety Data Sheet

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

SILICON DIOXIDE, crystalline is not on the REACH Candidate List

SILICON DIOXIDE, crystalline is not on the REACH Annex XIV List

SILICON DIOXIDE, crystalline is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

SILICON DIOXIDE, crystalline is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 0 %

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) nwg, Non-hazardous to water (KBwS-Beschluss; ID No. 849)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

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; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
--

Other information : Prepared by safety and environmental affairs.

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2019 Gelest Inc. Morrisville, PA 19067