

## SAFETY DATA SHEET – NANO-BIOSILICA

### Section 1. Identification

**Product identifier:** Nano-BioSilica

**Product Type:** Powder

**Recommended use:** Nanoparticle for construction, agriculture and manufacturing applications

**Supplier's details:** Carbon OxyTech Inc.  
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3655 36 Street NW, Calgary, AB T2L 1Y8, Canada

**Emergency telephone number:** +1 (403) 641-0111, CA, (24/7)

### Section 2. Hazards Identification

#### GHS INFORMATION

**Classification of the substance or mixture:** Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

**GHS Label elements, including precautionary statements:** Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

**Hazards not otherwise classified (HNOC) or not covered by GHS:** none

### Section 3. Composition/Information on Ingredients

**Substances:** Synonyms: Silicic anhydride, Silicon dioxide amorphous, Silica, Silicon dioxide, Silica, fumed

**Formula:** O<sub>2</sub>Si

**Molecular weight:** 60.08 g/mol

**CAS-No.** 112945-52-5

**Component:** silicon dioxide, amorphous, fumed, free of crystals, hydrophilic, pyrogenic

**Concentration:** <= 100 %

**Chemical Characterization:** Organic powder containing humic and fulvic acids with inert components.

### Section 4. First Aid Measures

#### Description of first-aid measures

**If inhaled:** After inhalation: fresh air.

**In case of skin contact:** In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

**In case of eye contact:** After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed:** After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**

No data available

**Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**Section 5. Fire-Fighting Measures**

**Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

**Environmental precautions**

Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**Reference to other sections**

For disposal see section 13.

**Section 6. Accidental Release Measures**

**Precautions for safe handling**

For precautions see section 2.2.

**Conditions for safe storage, including any incompatibilities**

**Storage conditions**

Tightly closed. Dry.

Hygroscopic.

**Storage class**

Storage class (TRGS 510): 13: Non Combustible Solids

**Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**Section 7. Handling and Storage**

Components	CAS-No.	Value	Control parameters	Basis
silicon dioxide, amorphous, fumed, free of crystals, hydrophilic, pyrogenic	112945-52-5	TWAEV	6 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

**Section 8. Exposure Controls / Personal Protection**

**Appropriate engineering controls**

Change contaminated clothing. Wash hands after working with substance.

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Full contact**

Material: Nitrile rubber  
 Minimum layer thickness: 0.11 mm  
 Break through time: 480 min  
 Material tested:KCL 741 Dermatril® L

**Splash contact**

Material: Nitrile rubber  
 Minimum layer thickness: 0.11 mm  
 Break through time: 480 min  
 Material tested:KCL 741 Dermatril® L

**Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

#### **Control of environmental exposure**

Do not let product enter drains.

### **Section 9. Physical and Chemical Properties**

#### **Information on basic physical and chemical properties**

##### **a) Appearance**

Form: powder  
odorless

##### **b) Odor Threshold**

Not applicable

##### **d) pH**

3.6 - 4.3 at 40 g/l

##### **e) Melting point/freezing point**

Melting point/range: ca.1,700 °C (ca.3,092 °F)

##### **f) Initial boiling point and boiling range**

2,200 °C 3,992 °F at 1,013.25 hPa

##### **g) Flash point**

( )Not applicable

##### **h) Evaporation rate**

No data available

##### **i) Flammability (solid, gas)**

The product is not flammable.

##### **j) Upper/lower flammability or explosive limits**

No data available

##### **k) Vapor pressure**

No data available

##### **l) Vapor density**

No data available

##### **m) Density**

No data available

##### **n) Water solubility**

0.001 g/l at 20 °C (68 °F) - insoluble

##### **o) Partition coefficient: n-octanol/water**

No data available

**p) Autoignition temperature**

No data available

**q) Decomposition temperature**

2,000 °C (> 3,632 °F) -

**r) Viscosity**

No data available

**s) Explosive properties**

No data available

**t) Oxidizing properties**

none

**Other safety information**

No data available

<b>Section 10. Stability and Reactivity</b>
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**Reactivity**

No data available

**Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature).

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

Exposure to moisture may affect product quality.  
no information available

**Incompatible materials**

Strong acids, Strong bases, Hydrogen fluoride, Oxidizing agents, Ammonia, Oxygen difluoride, Chlorine trifluoride.

**Hazardous decomposition products**

In the event of fire: see section 5

<b>Section 11. Toxicological Information</b>
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**Information on toxicological effects**

**Acute toxicity**

Acute toxicity estimate Oral - > 2,000 mg/kg  
(Calculation method)  
LD50 Oral - Rat - 3,160 mg/kg

Remarks: (RTECS)  
LC0 Inhalation - Rat - 4 h - 0.139 mg/l  
Remarks: (External MSDS)  
LD50 Dermal - Rabbit - > 5,000 mg/kg  
Remarks: (External MSDS)  
No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

Test Type: Rat  
Test system: Lungs  
Remarks: Body fluid assay  
Species: Rat  
Application Route: Intratracheal  
Remarks: Unscheduled DNA synthesis

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Section 12. Ecological Information**

**Toxicity**

Toxicity to fish  
LC50 - Danio rerio (zebra fish) - > 10,000 mg/l - 96 h  
(OECD Test Guideline 203)

**Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Endocrine disrupting properties**

No data available

**Other adverse effects**

No data available

**Section 13. Disposal Considerations**

**Disposal Instructions:** Waste disposal must comply with all applicable local, regional, and national regulations. Be aware that local requirements may be stricter than those at the regional or national level.

**Section 14. Transport Information**

**TDG**

Not regulated as a dangerous good

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**Further information**

Not classified as dangerous in the meaning of transport regulations.

**Section 15. Regulatory Information**

**Chemical Inventories**

**Canada (DSL):** The components of this product are in compliance with the chemical notification requirements of the Domestic Substances List (DSL) under the Canadian Environmental Protection Act (CEPA), 1999.



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## Section 16. Other Information

**Disclaimer:** The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** May, 2026

**Version:** 1.0

**GHS SDS Prepared by:** Carbon OxyTech Inc.