GD® Sodium Silicate

ACCORDING TO HAZARDOUS PRODUCTS REGULATIONS (HPR)

SECTION 1: IDENTIFICATION

1.1 Product identifier

Product Name	Silicic acid, sodium salt (1.6<MR<=2.6)
	GD® Sodium Silicate
Chemical Name	Sodium silicate, powder
CAS No.	1344-09-8

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

Identified Use(s)	General purpose industrial chemical for use in a wide range of applications. Binding agent, Corrosion inhibitor, Dust binding agent, Flame retardant or fire preventing agent, Flotation agent, Stabiliser, Viscosity control agent, Intermediate.
Uses Advised Against	None known.

1.3 Details of the supplier of the safety data sheet

Company Identification	National Silicates 5104 58 St Whitecourt, AB T7S 1X7 Canada
Telephone:	416-255-7771
E-mail	sds.uk@pqcorp.com

1.4 Emergency telephone number

Emergency Phone No.	416-255-7771/1-800-424-9300 (24 hrs)
Contact	National Silicates/USA CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Hazardous Products Regulations	Skin Irrit. 2 :Causes skin irritation. Eye Dam. 1 :Causes serious eye damage. STOT SE 3 :May cause respiratory irritation.

2.2 Label elements

Hazard Pictogram(s)

Signal Word(s)	Danger
Hazard Statement(s)	H315: Causes skin irritation. H318: Causes serious eye damage.

H335: May cause respiratory irritation.

Precautionary Statement(s)	P261: Avoid breathing dust. P262: Do not get in eyes, on skin, or on clothing. P280: Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

None known.

2.4 Additional Information

None.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredient(s)	CAS No.	%W/W	Hazard Statement(s)
Silicic acid, sodium salt	1344-09-8	>75	Skin Irrit. 2 H315 Eye Dam. 1 H318 STOT SE 3 H335
Water	7732-18-5	<25	Not classified.

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove patient from exposure, keep warm and at rest. Obtain medical attention.
Skin Contact	Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.
Eye Contact	Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
Ingestion	Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Alkaline. Risk of serious damage to eyes. Irritating to respiratory system and skin. The toxicity of sodium silicate is dependent on the silica to alkali ratio and on the pH.

4.3 Indication of any immediate medical attention and special treatment needed

Obtain immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media	Compatible with all standard fire fighting techniques.
Unsuitable Extinguishing Media	None known.

5.2 Special hazards arising from the substance or mixture

Not applicable. Inorganic powder or granules. Non-combustible.

5.3 Advice for firefighters

None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing. Wear eye/face protection. An approved dust mask should be worn if dust is generated during handling. See Section: 8.2

6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Caution - spillages may be slippery. Avoid generation of dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Avoid generation of dust. Emergency shower and eye wash facilities should be readily available. See Also Section 8

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry.

Unsuitable containers: Aluminum

See Also Section 10

Storage temperature	Ambient.
Storage life	Stable under normal conditions.
Incompatible materials	None known.

7.3 Specific end use(s)

General purpose industrial chemical for use in a wide range of applications including Binding agent, Corrosion inhibitor, Dust binding agent, Flame retardant or fire preventing agent, Flotation agent, Stabiliser, Viscosity control agent, Intermediate

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

SUBSTANCE	Occupational Exposure Limits
Silicic acid, sodium salt	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m3 (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40).

8.2 Exposure controls

8.2.1. Appropriate engineering controls	Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.
8.2.2. Personal protection equipment	
Eye Protection	Chemical goggles (EN 166).
Skin protection	Wear suitable protective clothing and gloves. Plastic or rubber gloves For example EN374-3, level 6 breakthrough time (>480min). Wear suitable overalls. For example EN ISO 13982 (dust), EN 14605 (liquid splashes).
Respiratory protection	Avoid inhalation of dusts. Wear suitable respiratory protective equipment if working in confined spaces with inadequate ventilation or where there is any risk of the exposure limits being exceeded. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS(G)53. Dust mask: FFP2 (EN149).
Thermal hazards	Not applicable.
8.2.3. Environmental Exposure Controls	The primary hazard of sodium silicate is the alkalinity. Avoid generation of dust. Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Powder.
Color	White.
Odor	Odorless.
Melting Point/Freezing Point	>1000°C
Boiling point or initial boiling point and boiling range	Not known.
Flammability	Non-flammable.
Lower and upper explosion limit	Not applicable.
Flash Point	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not known.
pH	Alkaline.
Kinematic Viscosity	Not applicable.
Solubility	Solubility (Water) : Soluble. Solubility (Other) : Not known.
Partition coefficient n-octanol/water (log value)	Not known.

vapor pressure	Not known.
Density and/or relative density	Not known.
Relative vapor density	Not applicable.
Particle characteristics	Not known.

9.2 Other information

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

See Section: 10.3

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide.

10.4 Conditions to avoid

See Section: 10.3

10.5 Incompatible materials

See Section: 10.3

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	All symptoms of acute toxicity are due to high alkalinity. Material will cause irritation. Oral LD50 (rat) : 3400mg/kg bw
Acute toxicity - Skin Contact	Material will cause irritation. Dermal LD50 (rat) : >5000mg/kg bw
Acute toxicity - Inhalation	Dust is irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) : >2.06g/m³
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye damage.
Skin sensitization data	Not sensitising.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity	No structural alerts.
Reproductive toxicity	No evidence of reproductive toxicity or developmental toxicity.
Lactation	Not classified.

STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	Not classified. NOAEL oral (rat) : >159mg/kg bw/d
Aspiration hazard	Not classified.

11.2 Other information

Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	EC50 (48 hour) (Daphnia magna) : 1700mg/l
Toxicity - Fish	LC50 (96 hour) (Brachydanio rerio) : 1108mg/l
Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

12.2 Persistence and degradability

Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.

12.3 Bioaccumulative potential

Inorganic. The substance has no potential for bioaccumulation.

12.4 Mobility in soil

Soluble in water. The substance is predicted to have high mobility in soil.

12.5 Other adverse effects

The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Discharge of this product to sewage treatment works is dependent on local regulations with regard to pH controls. Dispose of this material and its container to hazardous or special waste collection point. This material is classified as hazardous waste under EC Directive 2008/98/EC. This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894.

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

Not classified as hazardous for transport.

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not classified as a Marine Pollutant.

14.6 Special precautions for user

Not known

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

Not known

SECTION 15: REGULATORY INFORMATION

This product has been classified in accordance with HPR and the SDS contains all the information required by HPR.

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

Inventory Status	TSCA Inventory Status: Reported/Included. AIIC Inventory Status: Reported/Included. DSL/NDSL Inventory Status: Reported/Included.

SECTION 16: OTHER INFORMATION

This SDS was last reviewed:	05/2026
The following sections contain revisions or new statements:	1

LEGEND

Acronyms	Acute Toxicity Estimate : Acute Toxicity Estimate CAS : Chemical Abstracts Service LTEL : Long term exposure limit STEL : Short term exposure limit STOT : Specific Target Organ Toxicity
Key literature references and sources for data used to compile the SDS	Hazardous Products Regulations
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