

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE

Product identifier

Product Name	Sodium Silicate Powder
Alternative names	Sodium silicate, powder, Granular
CAS No.	1344-09-8
EINECS No.	215-687-4

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.
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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification

H319 : Serious eye damage/irritation Category 2
H315 : Skin corrosion/irritation Category 2
H335 : STOT - single exposure Category 3

Label elements



Hazard statement(s)

H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

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P261: Avoid breathing dust.
 P262: Do not get in eyes, on skin, or on clothing.
 P264: Wash (hands and exposed skin) thoroughly after handling.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other hazards

Not Calcified as PBT substance

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	%W/W	CAS No.	Hazard symbol(s) and hazard statement(s)
Silicic acid, sodium salt	>99 Powder	1344-09-8	Eye Dam. 1 ; Skin Irrit. 2 ; STOT SE 3

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Eye Contact	Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
Skin Contact	Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.
Inhalation	Remove patient from exposure, keep warm and at rest. Obtain 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.

Most important symptoms and effects, both acute and delayed

Alkaline.
 Causes serious eye irritation
 Irritating to respiratory system and skin.
 The toxicity of sodium silicate is dependent on the silica to alkali ratio and on the pH.
 Obtain immediate medical attention.

Indication of any immediate medical attention and special treatment needed

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media	Compatible with all standard firefighting techniques.
Unsuitable extinguishing Media	None known.

Special hazards arising from the substance or mixture
Advice for fire-fighters

Not applicable. Inorganic powder or granules. Non-combustible.
None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Environmental precautions

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

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.

Methods and materials 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.

Reference to other sections

See Also Section 8.

SECTION 7: HANDLING AND STORAGE

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.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry.

Unsuitable containers: Aluminum

See Also Section 10.

Specific end use(s)

See also Annex to the extended Safety Data Sheet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

SUBSTANCE.	Occupational Exposure Limits
Silicic acid, sodium salt	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m ³ (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40).

Exposure controls

Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place.

Appropriate engineering controls

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.

Personal Protection

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 (EN 149).

Eye/face protection

Chemical goggles (EN 166).

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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).
The primary hazard of sodium silicate is the alkalinity. Avoid generation of dust. Avoid release to the environment.

Environmental Exposure Controls

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Powder. White.
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Alkaline.
Freezing Point (°C)	Not applicable.
Melting Point (°C)	> 1000
Boiling Point (°C)	Not applicable.
Flash Point (°C) [Closed cup]	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Explosive Limit Ranges	Not applicable.
Vapour Pressure (mm Hg)	Not applicable.
Vapour Density (Air=1)	No data.
Density (g/ml)	No data.
Solubility (Water)	Soluble.
Solubility (Other)	No data.
Partition Coefficient	No data.
Auto Ignition Point (°C)	Not applicable.
Decomposition Temperature (°C)	Not applicable.
Viscosity (mPa. s)	Not applicable.
Explosive properties	Not applicable.
Oxidizing Properties	Not applicable.
Other information	No data.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	See Section: 10.3
Chemical stability	Stable.
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 aluminum, 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.
Conditions to avoid	See Section: 10.3
Incompatible materials	See Section: 10.3
Hazardous decomposition product(s)	Hydrogen

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) 3400 mg/kg bw
Inhalation	Dust is irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/m ³

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Skin Contact	Material will cause irritation. Dermal LD50 (rat) >5000 mg/kg bw
Eye Contact	Material will cause severe irritation. Risk of serious damage to eyes.
Skin corrosion/irritation	Irritating to skin.
Serious eye damage/irritation	Irritating to eyes.
Sensitization	Not sensitizing.
Mutagenicity	No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity	No structural alerts
Reproductive toxicity	No evidence of reproductive toxicity or developmental toxicity.
STOT - single exposure	Irritating to respiratory system.
STOT - repeated exposure	Prolonged or repeated inhalation of crystalline silica causes lung diseases including silicosis, emphysema, obstructive airway disease and lung cancer.
Aspiration hazard	Not classified

SECTION 12: ECOLOGICAL INFORMATION

Toxicity	Fish (Brachydanio rerio) LC50 (96 hour) 1108 mg/l Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 mg/l
Persistence and degradability	Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
Bioaccumulative potential	Inorganic. The substance has no potential for bioaccumulation.
Mobility in soil	Not applicable.
Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
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. Disposal should be in accordance with local, state or national legislation.
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SECTION 14: TRANSPORT INFORMATION

UN number	Not applicable
Proper Shipping Name	Not applicable.
Transport hazard class(es)	Not applicable.
Packing group	Not applicable.
Environmental hazards	Not classified as a Marine Pollutant.
Special precautions for user	No special packaging requirements. Unsuitable containers: Aluminum
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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SECTION 15: REGULATORY INFORMATION

15.1 Chemical Safety Assessment

15.2 Safety, health and environmental regulation/legislation specific for the substance or mixture

SECTION 16: OTHER INFORMATION

The Information on This Safety Data Sheet Is Believed to Be Accurate and It Is the Best Information Available.

No Liability Resulting from The Use or Handling of The Product to Which This Safety Data Sheet Relates. Users and Handlers of This Product Should Make Their Own Investigations to Determine the Suitability of The Information Provided Herein for Their Own Purposes.

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