



610, rue Adanac, Quebec (Quebec) G1C 7B7

SAFETY DATA SHEET

Poison control center (Quebec)
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1. IDENTIFICATION

Product identifier

Product Name SODIUM SILICATE (SOLUTION) Na_2SiO_3

Other means of identification

Product Code SS-0104

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Adhesive, binder, pulp & paper, water treatment, catalysts & gels.

Restricted Uses No information available

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Emergency telephone number

24 Hour emergency phone number (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Label elements



Signal Word: Warning

Hazard statements

Causes serious eye irritation
Causes skin irritation

Prevention

Do not get in eyes, on skin, or on clothing
Wear protective gloves/eye protection/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical Name	CAS No	Weight-% (W/W)	Synonyms
Water	7732-18-5	60 - 70%	Water
Sodium silicate	1344-09-8	30 - 40%	Sodium silicate

4. FIRST AID MEASURES

Description of first aid measures

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

Ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed:

Causes digestive tract irritation. Mists may cause irritation of upper respiratory tract. May cause irritation to mouth, esophagus and stomach. Causes eye irritation Causes moderate skin irritation.

Indication of any immediate medical attention and special treatment needed:

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing media appropriate for surrounding fire.

Specific hazards arising from the substance or mixture

None expected.

Hazardous combustion products

Hydrogen.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Consult local authorities.

Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Spilled material may cause floors and contact surfaces to become slippery. Isolate hazard area and restrict access. Absorb with an inert dry material and place in an appropriate waste disposal container. Avoid direct contact with material.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid breathing vapor. Promptly clean residue from closures with cloth dampened with water. Avoid contact with eyes, skin and clothing.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Separate from acids, reactive metals and ammonium salts. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers. Store between 0°C and 95 °C. Bulk loading temperature 45 - 95 °C. Store in clean stainless steel or plastic containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	Alberta OEL	British Columbia OEL	Ontario	Quebec OEL	Exposure Limit - ACGIH	Immediately Dangerous to Life or Health - IDLH
Water 7732-18-5	Not available	Not available	Not available	Not available	Not available	Not available
Sodium silicate 1344-09-8	Not available	Not available	Not available	Not available	Not available	Not available

Consult local authorities for recommended exposure limits

Appropriate engineering controls

Engineering controls

Local ventilation recommended where mechanical ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit.

Individual protection measures, such as personal protective equipment

Eye/face protection

Monogoggles.

Hand protection

Impervious gloves. Plastic. Rubber gloves.

Skin and body protection

Apron, coveralls and/or other resistant protective clothing.

Respiratory protection

For dusty or misty conditions, wear NIOSH-approved dust or mist respirator.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	Colorless
Odor	Odorless
Odor threshold	No information available

PROPERTIES

Values

Remarks • Method

pH	11-12	
Melting point / freezing point	No data available	None known
Initial boiling point/boiling range	100 °C / 212 °F	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	

Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Specific Gravity	1.41	
Water solubility	Soluble in water	
Solubility in other solvents	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available.	
Oxidizing properties	No information available.	
Molecular weight	No information available	
VOC Percentage Volatility	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. STABILITY AND REACTIVITY

Reactivity/Chemical Stability

Stable

Possibility of hazardous reactions

Dries to form glass film which can easily cut skin.

Hazardous polymerization

Will not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Gels and generates heat when mixed with acid. May react with ammonium salt solutions resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with aluminum, tin, lead, and zinc.

Hazardous decomposition products

Hydrogen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Mists may cause irritation of upper respiratory tract.

Eye contact

Causes serious eye irritation.

Skin contact

Causes skin irritation.

Ingestion

Causes digestive tract irritation. May cause irritation to mouth, esophagus and stomach.

Information on toxicological effects

Symptoms

Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans. When tested for primary eye irritation potential according to OECD Guidelines, Section 405, this material produced corneal, iridal and conjunctival irritation. Some eye irritation was still present 14 days after treatment, although the average primary irritation score had declined from 19.7 after 1 day to 4.0 after 14 days.

When tested for primary skin irritation potential, this material produced irritation with a primary irritation index of 3 to abraded skin and 0 to intact skin. Human experience confirms that irritation occurs when this material gets on clothes at the collar, cuffs or other areas where abrasion may occur.

The acute oral toxicity of this product has not been tested. When sodium silicates were tested on a 100% solids basis, their single dose acute oral LD50 in rats ranged from 1500 mg/kg to 3200 mg/kg. The acute oral lethality resulted from nonspecific causes. This product contains approximately 37.5% sodium silicate.

Subchronic Data: In a study of rats fed sodium silicate in drinking water for three months, at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to sodium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed sodium silicate in their diet at 2.4g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed sodium silicate in their drinking water at 600 and 1200 ppm.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 5,227.00 mg/kg

Unknown acute toxicity No information available

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	Not available	Not available
Sodium silicate 1344-09-8	= 1960 mg/kg (Rat)	> 4640 mg/kg (Rabbit)	Not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Water 7732-18-5	Not available	Not available	Not available	Not available
Sodium silicate 1344-09-8	Not available	Not available	Not available	Not available

Reproductive toxicity

No information available.

Specific target organ systemic toxicity - single exposure

No information available.

Specific target organ systemic toxicity - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Fish Species Data	Toxicity to microorganisms	Crustacea
Water 7732-18-5	Not available	Not available	Not available	Not available
Sodium silicate 1344-09-8	Not available	301 - 478 mg/L LC50 (Lepomis macrochirus) 96 h 3185 mg/L LC50 (Brachydanio rerio) 96 h semi-static	Not available	EC50: =216mg/L (96h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation No information available.

Chemical Name	Partition coefficient
Water 7732-18-5	Not available
Sodium silicate 1344-09-8	Not available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Do not reuse empty containers.

14. TRANSPORT INFORMATION

TDG (Canada):

UN Number	Not applicable
Shipping name	Not regulated
Class	Not applicable
Packing Group	Not applicable
Marine pollutant	Not available.

DOT (U.S.)

UN Number	Not applicable
Shipping name	Not regulated
Class	Not applicable
Packing Group	Not applicable
Marine pollutant	Not available

15. REGULATORY INFORMATION

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

NSF International

**Additional information**

Maximum use for potable water 265 mg/L. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified.

U.S. Regulatory Rules

Chemical Name	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water - 7732-18-5	Not Listed	Not Listed	Not Listed
Sodium silicate - 1344-09-8	Not Listed	Not Listed	Not Listed

International Inventories**TSCA**

All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

DSL/NDSL

All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. OTHER INFORMATION

NFPA:	Health hazards 1	Flammability 0	Instability 0	Physical and chemical properties -
HMIS:	Health hazards 1	Flammability 0	Physical hazards 0	Personal protection
				X

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Disclaimer:**NOTICE TO READER:**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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End of Safety Data Sheet