

Sodium Silicate

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Sodium Silicate**

Other means of identification : Not available.

Recommended use of the chemical and restrictions on use

: Neutralizing agent; Industrial cleaner additive; Paper production; Water and waste water treatment.

Use pattern: Professional Use Only

Restriction on use: None known

Chemical family

: Sodium salts

Name, address, and telephone number
of the supplier:

Comet Chemical Company Ltd.

3463 Thomas Street

Innisfill, ON, Canada

L9S 3W4

Supplier's Telephone # : (705) 436-5580

24 Hr. Emergency Tel # : GFL Environmental - 1-888-772-2543

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear to slightly hazy liquid. Musty odour.

Most important hazards: Causes serious eye irritation. Causes skin irritation.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Skin Irritation - Category 2

Serious eye damage/eye irritation - Category 2A

Label elements

Hazard pictogram(s)



Signal Word

WARNING!

Hazard statement(s)

Causes skin irritation.

Causes serious eye irritation.

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Precautionary statement(s)

Wash thoroughly after handling.
Wear protective gloves/eye protection/face protection.
IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Other hazards

Other hazards which do not result in classification: Burning produces obnoxious and toxic fumes. May be corrosive to metals. Contact with most metals will generate flammable hydrogen gas. Chronic skin contact with low concentrations may cause dermatitis. May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Sodium silicate	Silicic acid, sodium salt	1344-09-8	37.50

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- | | |
|---------------------|--|
| <i>Ingestion</i> | : Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice. |
| <i>Inhalation</i> | : Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention/advice. |
| <i>Skin contact</i> | : Wear appropriate protective equipment. Remove/Take off immediately all contaminated clothing. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Obtain medical attention immediately. Wash contaminated clothing before reuse. Contaminated leather may require disposal. |
| <i>Eye contact</i> | : Wear appropriate protective equipment. Protect unharmed eye. If in contact with eyes, immediately flush eyes with running water for at least 20 minutes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done. Obtain medical attention immediately. |

Most important symptoms and effects, both acute and delayed

- : Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling.

Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

May cause respiratory irritation.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

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Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical. May react with water. Use water spray with caution.

Unsuitable extinguishing media

- : Use water spray with caution. Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

Hazardous combustion products

- : Hydrogen chloride

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Do not enter without wearing specialized protective equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. A full-body encapsulating chemical protective suit with positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

Special fire-fighting procedures

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Use water to cool fire-exposed containers. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

- : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Dike for water control. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Special spill response procedures

- : In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC).
US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

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- Conditions for safe storage** : Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Avoid breathing fumes or mists. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
- Incompatible materials** : Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store in corrosion-resistant containers. Avoid contact with aluminum.
- Incompatible materials** : Metals; fluorine

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u> <u>STEL</u>
Sodium silicate	N/Av	N/Av	N/Av N/Av

Exposure controls

Ventilation and engineering measures

- : Use only in well-ventilated areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection

- : Wear protective gloves. Advice should be sought from glove suppliers.

Eye / face protection

- : Wear eye/face protection. Safety glasses with side-shields or chemical splash goggles.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing fumes or mists. Do not ingest. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid
- Colour** : Clear to hazy amber.
- Odour** : Musty odour.
- Odour threshold** : Not applicable.
- pH** : 11.3
- Melting Point/Freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Not applicable.

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Flashpoint (Method) : Not applicable.
Evaporation rate (BuAe = 1) : N/Av
Flammability : Not applicable.
Lower explosion or flammability limit (% by vol.) : Not applicable.
Upper explosion or flammability limit (% by vol.) : Not applicable.
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapour pressure : Not available.
Relative vapour density : Not available.
Relative density / Specific gravity : 1.394
Solubility in water : Very soluble Soluble.
Other solubility(ies) : Not available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : N/Av
Auto-ignition temperature : N/Av
Decomposition temperature : Not available.
Viscosity : Not available.
Particle characteristics : Not applicable
Volatiles (% by weight) : Not available.
Volatile organic Compounds (VOC's) : N/Av
Absolute pressure of container : N/Av
Flame projection length : N/Av
Other physical/chemical comments : None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. May be corrosive to metals. Contact with most metals will generate flammable hydrogen gas.
Chemical stability : Material is stable under normal conditions.
Possibility of hazardous reactions : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Keep away from incompatibles. Keep container tightly closed when not in use. Avoid contact with water. Do not allow evaporation to dryness.
Incompatible materials : Strong oxidizing agents; Strong acids; Strong alkalis
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES

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Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory irritation.

Sign and symptoms ingestion

: May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Sign and symptoms skin

: Causes skin irritation. Symptoms may include redness, edema, drying defatting and cracking of the skin.

Sign and symptoms eyes

: Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: Target Organs: Eyes, skin, respiratory system and digestive system.

The substance or mixture is not classified as specific target organ toxicant, single exposure.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials

: Not available.

Toxicological data

: There is no data available for this product.

<u>Chemical name</u>	LC₅₀(4hr) <u>inh, rat</u>	LD₅₀	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Sodium silicate	> 2.06 mg/L (aerosol) (No mortality)	1960 mg/kg	> 4640 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Do not allow this material to drain into sewers/water supplies. See data for individual ingredient ecotoxicity data.

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Ecotoxicity data:

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium silicate	1344-09-8	1108 mg/L (Zebra fish)	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium silicate	1344-09-8	1700 mg/L (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium silicate	1344-09-8	> 345.4 mg/L/72hr (Green algae)	N/Av	None.

Persistence and degradability

: No data is available on the product itself.

Bioaccumulation potential

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Sodium silicate (CAS 1344-09-8)	N/Av	N/Av

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. For disposal of unused or waste material, check with local, state and federal environmental agencies.





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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : None reported by the manufacturer.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	de Minimis Concentration
Sodium silicate	1344-09-8	Yes	None.	None.	Toxic Chemical No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Serious eye damage/irritation ;Skin irritation.

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sodium silicate	1344-09-8	No	N/Ap	No	No	No	No	No	No

Canadian Information:

All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Sodium silicate	1344-09-8	215-687-4	Present	Present	(1)-508	KE-31002	Present	HSR003640

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CSA: Canadian Standards Association
 COC: Cleveland Open Cup
 DOT: Department of Transportation
 EPA: Environmental Protection Agency
 IARC: International Agency for Research on Cancer
 LC: Lethal Concentration
 LD: Lethal Dose
 N/Ap: Not Applicable
 N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 SARA: Superfund Amendments and Reauthorization Act
 STEL: Short Term Exposure Limit
 TLV: Threshold Limit Values
 TWA: Time Weighted Average

References

: 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
 2. ECHA - European Chemical Agency
 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases
 4. Safety Data Sheets from manufacturer
 5. US EPA Title III List of Lists
 6. California Proposition 65 List
 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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Revision Information : 5. FIRE-FIGHTING MEASURES 9. PHYSICAL AND CHEMICAL PROPERTIES 15. REGULATORY INFORMATION
Other special considerations for handling
: Provide adequate information, instruction and training for operators.

<u>Prepared for:</u> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com	 COMET COMET CHEMICAL COMPANY LTD.
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