Global Chemie ASCC Limited.
www.gcascc.com
CHEMCALL: 0-2324-6888

Safety Data Sheet

1. IDENTIFICATION

Product Name:	**Sodium silicate liquid**
Other Names:	Sodium silicate solution (SL), silicic acid sodium salt, water glass.
Recommended Use:	Binding agent, machine corrosion inhibitor, pH controller, water hardness remover, adhesives, cement, cleaning compound, deflocculants, coagulant aids, flame retardant or fire preventing agent, and viscosity control agent.
Supplier:	Global Chemie ASCC Limited
Street Address:	88/123 Moo 2 Bangpoo Industrial Estate (North), Phraek Sa Mai, Mueang Samutprakan, Samutprakan 10280
Telephone:	+66 2324 6888
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Emergency phone:	+66 2324 6888 ext.320

2. HAZARDS IDENTIFICATION

Hazardous Nature

This product is not classified as hazardous under GHS criteria.

Hazardous Classification

Eye irritation in category 2B

Hazardous Statement

No data available.

GHS Pictograms

Hazard Statements

H303: May be harmful if swallowed.

H320: Eye irritation.

Precautionary Statements

P262: Do not get in eyes, on skin, or on clothing.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response Statements

If ingestion

No data available.

If on skin

P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

If inhaled

No data available.

If in eye

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Statements

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

Disposal Statements

P501: Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied.

Signal Word: Warning

3. COMPOSITION: Information on Ingredients

Chemical Ingredient	CAS No.	UN No.	Proportion (%w/w)
Sodium Silicate	1344-09-8	-	19-44
Total water	7732-18-5	-	56-81

Molecular Formular: $Na_2O{\cdot}nSiO_2$ (molar ratio, n = 2.8 - 3.4)

Molecular weight: No data available.

4. FIRST AID MEASURES

For advice, contact Ramathibodi Poison Center (Phone: 1367) or a doctor.

Ingestion

Do not induce vomiting; Do not eat milk and castor oil, transport to nearest medical facility for additional treatment.

Seek medical advice immediately.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact

Remove the dust and contaminated clothing. Wash off with soap and plenty of water.

Inhalation

Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

First Aid facilities

No data available.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing media: No data available.

Unsuitable: Extinguishing media: No data available.

Special hazards arising from the substances or mixture: No data available.

Hazardous combustion products: No data available.

Advice for firefighters: No data available.

6. ACCIDENTAL RELEASE MEASURES.

Emergency Procedures

No data available.

Methods and materials for containment

Protective Measures

Use suitable personal protective equipment; Protective clothing, Eye/Face protection.

Clean-Up Methods

- Small spillage : Mop up and neutralize liquid, then discharge to sewer in accordance with federal, state and local regulations or permits.
- large spillage : Caution–spillages may be slippery. Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.

7. HANDLING AND STORAGE

Precautions for safe handling

Keep container tightly closed when not in use. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Remove contaminated clothing and wash thoroughly after handling.

Conditions for safe storage

Keep storage container tightly closed at temperature 0 - 90 ºC. Loading temperature 45 - 90 ºC.

8. EXPOSURE CONTROLS: PERSONAL PROTECTION

Occupational Exposure limit values

No data available.

Exposure controls Use protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the workplace.

Engineering controls

Prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Personal Protective Equipment

Respiratory Protection: Wear appropriate respirator when ventilation is inadequate.

Eye Protection: Chemical splash goggles (chemical monologues).

Skin/ Body Protection: Use protective clothing which is chemical resistant to this material.

Hand Protection: Use gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of Measurement	Typical Value
Appearance	-	Clear / hazy liquid – Slightly grey
Odour	-	Odorless / Musty
pH	-	10-13
Boiling point	°C	>100
Melting point	°C	No data available
Flash point	°C	No data available
Flammability	-	No data available
Autoignition Temperature	°C	No data available
Decomposition Temperature	°C	No data available
Lower/Upper Flammability Limits	%V	No data available
Density @ 20°C	Kg/L	1.1 – 1.5
Specific Gravity @ 20°C	-	No data available

Property	Unit of Measurement	Typical Value
Viscosity @ 20°C	cSt	No data available
Vapor pressure @ 20°C	kPa	No data available
Vapor density	kPa (Air = 1)	No data available
Evaporation Rate	(n-Butyl acetate = 1)	No data available
Water Solubility	-	soluble
Solubility in other solvents Partition coefficient	(n-octanol/water)	No data available
Coefficient of Thermal Expansion	per Deg C	No data available
Particle characteristic	-	No data available
Color	-	Slightly gray

The values listed are indicative of this product's physical and chemical properties. For a full product specification, please consult the Product Data Sheet.

10. STABILITY AND REACTIVITY

Chemical stability

Normally stable.

Reactivity

No data available.

Possibility of hazardous reactions.

When react with hydrofluoric acid, SiF_4 gas will appear and take in consideration that SiF_4 gas is toxic and corrosive.

Conditions to avoid

No data available.

Incompatible materials

Aqueous solutions will react with aluminum, zinc, tin and their substances alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids, especially hydrofluoric acid. Can react with sugar residues to form carbon monoxide.

Hazardous decomposition products

No data available.

Polymerization

Polymerization will be occurred when react with silica at high temperature above 1200 °C, or in hydrothermal process with high self-generated pressure.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion: Oral LD50 (rat) 8650 mg/kg (tested at 35%).
Inhalation: No data available.
Skin contact: No irritating, PII 0.33 (tested with 38.3%).
Eye contact: Risk of irritating to eyes.

Germ cell mutagenicity: No data available.

Carcinogenicity: No structural alerts. IARC, NTP, OSHA, ACGIH do not list this product as known or suspected carcinogen.

Mutagenicity: No evidence of genotoxicity. In vitro/in vivo negative.

Reproductive toxicity: In vitro genotoxicity tests with bacteria were all negative.

STOT–single exposure: Not classified.

STOT–repeated exposure: Not classified. NOAEL oral (rat) 159 mg/kg.

Aspiration hazard: Not classified.

12. ECOLOGICAL INFORMATION

Ecological toxicity

Fish: (Brachydanio rerio) LC50 (96 hour) 1108 mg/L.

Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 active mg/L.

Aquatic plants: (algae Scenedesmus subspicatus) EC50 (72 hour) 207 mg active matter/L.

Micro-organisms: (Pseudomonas putida) 3454 mg active matter/L.

Mobility: No data available.

Persistence/ degradability: Inorganic. Soluble silicates, upon dilution, rapidly depolymerize into molecular species indistinguishable from natural dissolved silica.

Bioaccumulation: Inorganic. The substance has no potential for bioaccumulation.

Results of PBT and vPvB: Not classified as PBT or vPvB.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Material Disposal

Dispose of this material and its container to hazardous or special waste collection point. Discharge of this product to sewage treatment works is dependent on local regulations with regard to pH controls.

Container Disposal

No data available.

Local Legislation

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied.

14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN. Number	Not Regulated	UN. Number	Not Regulated	UN. Number	Not Regulated
Class/Item	Not Regulated	Class/Item	Not Regulated	Class/Item	Not Regulated
Hazard Symbol	Not Regulated	Hazard Symbol	Not Regulated	Hazard Symbol	Not Regulated
Proper Shipping Name	Not Regulated	Proper Shipping Name	Not Regulated	Proper Shipping Name	Not Regulated
Packing Group	Not Regulated	Packing Group	Not Regulated	Packing Group	Not Regulated
		Marine Pollutant	Not Regulated		

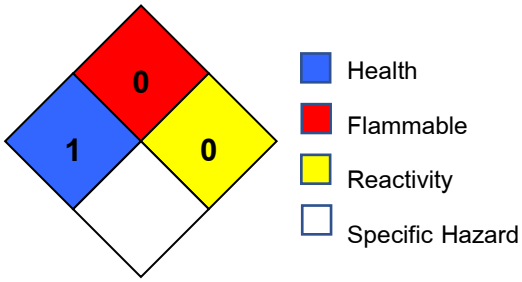
15. REGULATORY INFORMATION

International Chemical Inventory

Other regulation: EC or EINECS: This product is on the European Inventory of Existing commercial Chemical Substance.
EC number: 215-687-4.
Other classification: This product is not classified according to the EU regulations.

16. OTHER INFORMATION

National Fire Protection Association (USA) :



SDS Distribution : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty of guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Prepared By : Quality Control Department / Global Chemie ASCC Limited

Abbreviations:

No data available.

References:

- Supplier Material Safety Data Sheets
  - ChemIDplus - 1344-09-8 - Sodium silicate.
  - Cuthbert and Carr 1985; Karlsson and Loden 1984.
  - National Technical Information Service. Vol. OTS0571941.
  - Soluble Silicates - Human and Environmental Risk Assessment.

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. No warranty and guarantee are expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product for further information, please contact Global Chemie ASCC Limited.