



Safety Data Sheet

Issuing Date
21-March-12

Revision Date
27-September-12

Revision Number
2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Sodium Silicate Solution
Product Type	Available SiO ₂ :Na ₂ O ratio: 2.5:1 and 3.3:1
Synonyms	Water glass solution
Manufactured by	National Titanium Dioxide Company, Ltd. P.O. Box 13586 Jeddah 21414, Kingdom of Saudi Arabia Telephone: +966(0)2-652-9966 Fax: +966(0)2-652-9933
Other Information	E-mail contact: cldemille@cristal.com
Emergency Telephone Number	SGS +966-3-362-21-93 (Al-Jubail)

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO EYES AND RESPIRATORY TRACT.

Appearance
Clear to slightly cloudy

Physical State
Viscous liquid

Odor
Odorless

Potential Health Effects

Acute Toxicity

Skin	Contact causes severe skin irritation and possible burns.
Inhalation	Irritating to mucous membranes.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Eyes	Severely irritating to eyes.

Chronic Toxicity

Chronic effects Acute effects dominate.

Aggravated Medical Conditions Persons with pre-existing skin, eye or respiratory disorders may be more susceptible to the effects of exposure.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight %
Sodium silicate	1344-09-8	100

4. FIRST AID MEASURES

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 plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention.
Inhalation	Remove from exposure, restore and/or support breathing as needed. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting. Immediately rinse mouth out with water and give large quantities (3 – 4 glasses) of water to drink. If vomiting occurs, give fluids again. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.
Flash Point	None.
Instructions to Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Hazardous Combustion Products	None.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.
Methods for Containment	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Contain the discharged material. Do not allow product to enter public drainage systems or open water courses.
Methods for Cleaning Up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep container tightly closed in a dry and well-ventilated place. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures	Showers. Eyewash stations. Ventilation systems.
Personal Protective Equipment	
Eye/Face Protection	Wear safety glasses. Wear chemical resistant goggles and face shield when splashing is possible.
Skin and Body Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, MSHA/NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to slightly cloudy	Odor	Odorless
Physical State	Viscous liquid	pH	11 - 12.5
Flash Point	None	Autoignition Temperature	Not applicable
Boiling Point/Range	> 100 °C	Melting Point/Range	Not applicable
Explosion Limits	Not applicable	Flammability Limits in Air	Not flammable
Specific Gravity	1.3 - 1.5	Water Solubility	Miscible with water
Solubility	Soluble	Evaporation Rate	No information available
Vapor Pressure	18 mm Hg @ 20°C	Vapor Density	Not applicable
Density	1480 Kg/m ³	VOC Content(%)	Not applicable

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	Organic material. Contact with metals (aluminum, zinc, tin) may release hydrogen gas. Acids.
Conditions to avoid	Incompatibles.
Hazardous decomposition products	No information available.
Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium silicate	1153 mg/kg (Rat)	4640 mg/kg (Rabbit)	

Chronic effects Acute effects dominate.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects Refer to table below.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Sodium silicate		LC50 301 - 478 mg/L Lepomis macrochirus 96 h LC50= 3185 mg/L Brachydanio rerio 96 h		EC50 = 216 mg/L 96 h

Persistence and degradability Persistent.

Bioaccumulation/Accumulation Does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Liquid and/or solid residues from neutralization may be disposed of in a permitted waste management facility. All disposals of this material must be done in accordance with local, state and federal regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.

Contaminated packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
RID	Not regulated
ADR	Not regulated

15. REGULATORY INFORMATION

International Inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
European Union (EINECS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Korea (KECL)	Complies
Philippines (PICCS)	Complies
Australia (AICS)	Complies
New Zealand (NZIoC)	Complies

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactivity Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Other International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials

16. OTHER INFORMATION**Revision Date** 27-September-12**Reason for revision** Company Logo.**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS