


MSDS	Sodium Silicate Glass/Solution	 <b>Adwan Chemical Industries Co. Ltd.</b>
Issuing Date		

# Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>PRODUCT NAME</b>	Sodium Silicate Lumps Available SiO <sub>2</sub> :Na <sub>2</sub> O ratio: 2.1:1 and 3.3:1
<b>CHEMICAL NAME</b>	Sodium Silicate
<b>SYNONYMS</b>	Water Glass, Silicic Acid, Sodium Salt
<b>MANUFACTURED BY</b>	Adwan Chemical Industries Co. Ltd. Riyadh 2nd Industrial City – Al Kharj Road PO Box 355128 Riyadh 11383 Kingdom of Saudi Arabia
<b>PHONE</b>	+966-11-265-0041
<b>FAX</b>	+966-11-265-0023

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

<b>Appearance</b>	Glass Lumps
<b>Physical State</b>	Solid
<b>Odor</b>	Odorless

WARNING! SHARP EDGES WILL CUT SKIN. EYE CONTACT WITH DUST WILL CAUSE IRRITATION, LARGE DUST PARTICLES MAY SCRAPE EYE SURFACE.

### POTENTIAL HEALTH EFFECTS

#### ACUTE TOXICITY


<b>Skin</b>	Causes severe skin irritation on continued contact
<b>Inhalation</b>	Spray mist irritating to respiratory system.
<b>Ingestion</b>	May cause irritation to mouth, esophagus, and stomach
<b>Eyes</b>	Severely irritating to eyes.

#### CHRONIC TOXICITY

<b>Chronic Ingestion</b>	May cause Kidney lesions at high doses..
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#### AGGRAVATED MEDICAL CONDITIONS

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

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### 3. COMPOSITION / INFORMATION INGREDIENTS

<b>Chemical Name</b>	Sodium silicate
<b>Cas-No.</b>	1344-09-8
<b>Weight</b>	%100

### 4. FIRST AID MEASURES

#### EYE CONTACT

Rinse out thoroughly with plenty of water for at least 10 minutes, with the eyelids wide open. Consult a physician.

#### SKIN CONTACT

Wash off immediately with plenty of water for at least 10 minutes and remove all the 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 water again. Call 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

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## 6. ACCIDENTAL RELEASE MEASURES

### ENVIRONMENTAL PROTECTION

Do not allow to enter sewerage system

### PERSONAL PRECAUTIONS

Ventilate area of leak or spill. Wear appropriate personal protective equipment as Chemical goggles, protective clothing, gloves, boots . See 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.

### ADDITIONAL NOTES

Neutralize with dilute Hydrochloric acid

## 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. At +5°C to +30°C.

## 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.

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#### **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**

<b>APPEARANCE</b>	Glass Lumps
<b>ODOR</b>	Odorless
<b>PHYSICAL STATE</b>	Solid
<b>PH AT 20 °C</b>	11 - 12.5
<b>FLASH POINT</b>	None
<b>AUTOIGNITION TEMPERATURE</b>	Not applicable
<b>BOILING POINT/RANGE</b>	NA
<b>MELTING POINT/RANGE</b>	About 700 Degree C
<b>FLAMMABILITY LIMITS IN AIR</b>	Not flammable
<b>EXPLOSION LIMITS</b>	Not applicable
<b>SPECIFIC GRAVITY</b>	About 2.3
<b>WATER SOLUBILITY</b>	Miscible with water
<b>SOLUBILITY IN WATER 20 °C</b>	Slight in Cold water
<b>VAPOR PRESSURE</b>	Not Applicable
<b>DENSITY AT 20 °C</b>	2.61 g/cm <sup>3</sup>
<b>EVAPORATION RATE</b>	No information available
<b>VAPOR DENSITY</b>	Not applicable
<b>VOC CONTENT(%)</b>	Not applicable

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## 10. STABILITY AND REACTIVITY

### STABILITY

Stable under recommended storage conditions.

### INCOMPATIBLE PRODUCTS

Alkaline Material, avoid contact with acidic materials.

Contact with metals (aluminum, zinc, tin) may release hydrogen gas. Acids.

### CONDITIONS TO AVOID

Incompatibles, Strong Heating

### SUBSTANCES TO BE AVOIDED

Fluorine

### 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

<b>CHEMICAL NAME</b>	Sodium silicate
<b>LD50 ORAL</b>	1153 mg/kg (Rat)
<b>LD50 DERMAL</b>	4640 mg/kg (Rabbit)
<b>LC50 INHALATION</b>	

**CHRONIC EFFECTS** Acute effects dominate.

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## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY EFFECTS

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

Not subject to transport regulations

MSDS	<b>Sodium Silicate Glass/Solution</b>	 <b>Adwan Chemical Industries Co. Ltd.</b>
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## 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

MSDS	<b>Sodium Silicate Glass/Solution</b>	 <b>Adwan Chemical Industries Co. Ltd.</b>
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**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



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<b>PRODUCT NAME</b>	Sodium Silicate Solution Available SiO <sub>2</sub> :Na <sub>2</sub> O ratio: 2.1:1 and 3.3:1
<b>CHEMICAL NAME</b>	Sodium Silicate
<b>SYNONYMS</b>	Water Glass
<b>MANUFACTURED BY</b>	Adwan Chemical Industries Co. Ltd. Riyadh 2nd Industrial City – Al Kharj Road PO Box 355128 Riyadh 11383 Kingdom of Saudi Arabia
<b>PHONE</b>	+966-11-265-0041
<b>FAX</b>	+966-11-265-0023

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

<b>Appearance</b>	Clear Solution
<b>Physical State</b>	Viscous Liquid
<b>Odor</b>	Odorless

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

### POTENTIAL HEALTH EFFECTS

#### ACUTE TOXICITY


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

#### CHRONIC TOXICITY

<b>Chronic Effects</b>	Acute effects dominate
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#### AGGRAVATED MEDICAL CONDITIONS

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

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### 3. COMPOSITION / INFORMATION INGREDIENTS

<b>Chemical Name</b>	Sodium silicate
<b>Cas-No.</b>	1344-09-8
<b>Weight</b>	%100

### 4. FIRST AID MEASURES

#### EYE CONTACT

Rinse out thoroughly with plenty of water for at least 10 minutes, with the eyelids wide open. Consult a physician.

#### SKIN CONTACT

Wash off immediately with plenty of water for at least 10 minutes and remove all the 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 water again. Call 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

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## 6. ACCIDENTAL RELEASE MEASURES

### ENVIRONMENTAL PROTECTION

Do not allow to enter sewerage system

### 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.

### ADDITIONAL NOTES

Neutralize with dilute Hydrochloric acid

## 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. At +5°C to +30°C.

## 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.

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#### **HYGIENE MEASURES**

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE</b>	Clear Solution
<b>ODOR</b>	Odorless
<b>PHYSICAL STATE</b>	Viscous Liquid
<b>PH AT 20 °C</b>	11 - 12.5
<b>FLASH POINT</b>	None
<b>AUTOIGNITION TEMPERATURE</b>	Not applicable
<b>BOILING POINT/RANGE</b>	>100 Celcius
<b>MELTING POINT/RANGE</b>	Not applicable
<b>FLAMMABILITY LIMITS IN AIR</b>	Not flammable
<b>EXPLOSION LIMITS</b>	Not applicable
<b>SPECIFIC GRAVITY</b>	1.3 – 1.6
<b>WATER SOLUBILITY</b>	Miscible with water
<b>SOLUBILITY IN WATER 20 °C</b>	Soluble
<b>VAPOR PRESSURE</b>	18 mm Hg @ 20C
<b>DENSITY AT 20 °C</b>	2.61 g/cm <sup>3</sup>
<b>EVAPORATION RATE</b>	No information available
<b>VAPOR DENSITY</b>	Not applicable
<b>VISCOSITY DYNAMIC (20C)</b>	130mPa*m3
<b>VOC CONTENT(%)</b>	Not applicable

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## 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, Strong Heating

### SUBSTANCES TO BE AVOIDED

Fluorine

### 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

<b>CHEMICAL NAME</b>	Sodium silicate
<b>LD50 ORAL</b>	1153 mg/kg (Rat)
<b>LD50 DERMAL</b>	4640 mg/kg (Rabbit)
<b>LC50 INHALATION</b>	

**CHRONIC EFFECTS** Acute effects dominate.

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<b>Toxicity to Fish</b>	LC50 301 - 478 mg/L Lepomis macrochirus 96 h LC50= 3185 mg/L Brachydanio rerio 96 h
<b>Microtox</b>	
<b>Daphnia Magna (Water Flea)</b>	EC50 = 216 mg/L 96 h

**PERSISTENCE AND DEGRADABILITY** Persistent.

**BIOACCUMULATION/ACCUMULATION** Does not bioaccumulate.

## 13. DISPOSAL CONSIDERATIONS

### Waste Disposal Methods


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#### 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

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#### U.S. State Right-to-Know Regulations

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#### WHMIS Hazard Class

D2B Toxic materials