SODIUM SILICATE – LIQUID (ALKALINE)

MATERIAL SAFETY DATA SHEET (MSDS)

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Company Identification:	**AFRICAN FERTILIZER & CHEMICALS NIGERIA LIMITED** Plot No.: 4, 5, 6 – Zone 3, OPIC Industrial Estate, Agbara Ogun State, Nigeria. Tel No.: +234 8154398830 Email: n.chaudhary@africanindustries.com / stratcomm@africanindustries.com
Product Identifier:	Sodium Silicate – Liquid (Alkaline)
Trade Name & Synonyms:	Sodium Silicate Liquid Alkaline, Sodium Silicate Liquid, Waterglass, Soluble Glass
Product Use:	Soap / Detergents, Cosmetics, Adhesive, Foundries, Ceramic, Construction, Packaging Industries, Mining, General, Cleaning Industries, Paint

1. HAZARDS IDENTIFICATION

Emergency Overview:

Color:	Colorless to Slight Grey Liquid
Physical State:	Colorless to Slight Grey Odorless to Slight Odor
Appearance:	
Odor:	Corrosive. Causes serious eye damage. Causes skin irritation. Harmful if swallowed.
Major Health Hazards:	Upon drying forms thin glass that can cut skin. Spilled material may cause a slipping hazard.
Physical Hazards:	
Precautionary Statements:	Wear protective gloves, protective clothing, eye, and face protection. Wash thoroughly after handling. Do not breathe mist, vapors, or spray. Do not eat, drink, or smoke when using this product.
Additional Hazard Information:	Toxicity may be delayed, and may not be readily visible. Significant exposures must be referred for medical attention immediately. There is no specific antidote.
Health Hazard Statement(s):	Causes serious eye damage; Causes skin irritation; Harmful if swallowed.
Precautionary Statement(s) – Prevention:	Wear eye protection/face protection; Wear protective gloves; Wash thoroughly after handling; Do not eat, drink or smoke when using this product

Precautionary Statement(s) – Response:

If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing
Immediately call a doctor/physician

If on Skin: Wash with plenty of water

If Skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before Reuse

If Swallowed: Call a doctor/physician if you feel unwell
Rinse mouth

Specific treatment (see First Aid information on product label and/or Section 4 of the MSDS)

Precautionary Statement(s) – Storage: There are no Precautionary-Storage phrases assigned

Precautionary Statement(s) – Disposal: Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

Hazards Not Otherwise Classified (HNOC): None identified

1. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	PERCENT (%)	CAC NUMBER
WATER	45% - 85%	7732-18-5
SODIUM SILICATE	15% - 55%	1344-09-8

1. FIRST AID MEASURES

Inhalation: If inhalation of this material occurs and adverse effects result, move person to fresh air and keepcomfortable for breathing. Seek medical attention if you feel unwell.

Skin Contact: If on skin, wash with plenty of water. If skin irritation occurs, get medical advice/attention.
Wash with lots of water. Take off contaminated clothing and wash before reuse.

Eye Contact: If in eyes, immediately rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: If swallowed, rinse mouth. Contact a Poison Center, or a doctor/physician, or get medical attention if you feel unwell.

Most Important Symptoms / Effects (Acute and Delayed): Solutions of sodium silicate are alkaline. Exposure to alkaline solutions

may result in irritation to any contacted tissue, including possible burns, depending on the concentration, duration, and nature of the exposure. This material is not a crystalline silica, and it does not cause pulmonary silicosis.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Protection of First - Aiders: Avoid contact with skin and eyes. Use personal protective equipment. Refer to Section 8 for specific personal protective equipment recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

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1. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard.

Extinguishing Media: Use media appropriate for surrounding fire.

Fire Fighting: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (Air): Not flammable

Upper Flammability Level (Air): Not flammable

Flash Point: Not flammable

Auto-Ignition Temperature: Not applicable

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1. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not get in eyes, on skin or on clothing. Avoid breathing mist, vapor, or spray. Dries to form glass film which can easily cut skin. Spilled material may cause a slipping hazard. Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the MSDS.

Methods and Materials for Containment and Cleaning Up: Flush spill area with water, if appropriate. Liquid material may be removed with a vacuum truck. Shovel dried residue into suitable container. Recycle or dispose according to regulations. See Section 13, Disposal considerations, for additional information.

Environmental Precautions: This material is alkaline and may raise the pH of surface waters with low buffering capacity. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

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1. HANDLING AND STORAGE

Precautions for Safe Handling: Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Avoid breathing vapor, mist, or spray. Product shipped/handled hot can cause thermal burns. Use care when handling hot material. Do not eat, drink or smoke in areas where this material is used. Use appropriate personal protective equipment (PPE). See Section 8, Exposure Control / Personal Protection Equipment, for additional information.

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances (see below or Section 10 of the MSDS).

Incompatibilities/ Materials to Avoid: Can generate heat when mixed with acids, Avoid prolonged contact with alkali sensitive metals such as: aluminum, brass, bronze, copper, lead, tin, zinc because flammable hydrogen gas can be generated.

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1. EXPOSURE CONTROL / PERSONAL PROTECTION EQUIPMENT (PPE)

Regulatory Exposure Limit(s): None. This product does not contain any components that have Regulatory occupational exposure limits (OEL's) established.

PPE - Eye Protection: Wear safety glasses with side-shields. If eye contact is likely, wear chemical resistant safety goggles. Wear chemical safety goggles with a face-shield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

PPE - Skin and Body Protection: Wear protective clothing to minimize skin contact. When skin contact is likely, wear similar protective suit. Wear appropriate heat resistant clothing when potential exists for contact with hot materials.

PPE - Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove. Use gloves that are cut resistant if handling dry glass material.

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1. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Colorless to Slight Grey
Color:	Colorless to Slight Grey
Odor:	Odorless to slight odor
Odor Threshold [ppm]:	No data available.
Molecular Formula:	xSiO2/Na2O (x = 1.63 to 3.00 by weight)
Decomposition Temperature:	No data available
Boiling Point/Range:	214-216 °F (101-102 °C)
Freezing Point/Range:	30 °F (-1 °C)

Melting Point/Range:	Not applicable to liquids
Vapor Pressure:	No data available
Vapor Density (Air=1):	No data available
Relative Density /Specific Gravity (Water = 1):	1.55 - 1.57
Density:	9.8 - 13.1 lbs/gal
Water Solubility:	100%
pH:	11.4 - 12.9
Volatility:	>46%
Evaporation Rate (Ether=1):	No data available
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (Solid, Gas):	Not applicable
Lower Flammability Level (Air):	Not flammable
Upper Flammability Level (Air):	Not flammable
Auto-ignition Temperature:	Not applicable
Viscosity:	25 - 2500 cP

1. STABILITY AND REACTIVITY:

Reactivity:	Not reactive under normal temperatures and pressures.
Chemical Stability:	Stable at normal temperatures and pressures.
Possibility of Hazardous Reactions:	Contact with acids will cause gelling and evolution of heat. Prolonged contact with incompatible metals may produce flammable hydrogen gas.
Conditions to Avoid:	Prolonged storage above 140 °F (60 °C).
Incompatibilities / Materials to Avoid:	Can generate heat when mixed with acids. Avoid prolonged contact with alkali sensitive metals such as: aluminum, brass, bronze, copper, lead, tin, zinc because flammable hydrogen gas can be generated.
Hazardous Decomposition Products:	None known
Hazardous Polymerization:	Will not occur.

1. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

Eye contact:	Causes serious eye damage. May cause severe irritation, pain and corneal burns (possibly leading to blindness). The full extent of the injury may not be immediately apparent.
Skin contact:	Causes skin irritation. Contact with skin may result in redness, itching, irritation, burning sensation, swelling.
Inhalation:	Inhalation of mist, vapor, or spray may cause irritation of the respiratory tract, possibly with coughing, choking, and pain either immediately or within 72 hours.
Ingestion:	Harmful if swallowed. May cause immediate pain and severe burns of the upper and lower gastrointestinal tract with vomiting, nausea, and diarrhea.
Chronic Effects:	Repeated or prolonged skin contact may result in dermatitis.
Signs And Symptoms of Exposure:	Solutions of sodium silicate are alkaline. Exposure to alkaline solutions may result in irritation to any contacted tissue, including possible burns, depending on the concentration, duration, and nature of the exposure. This material is not a crystalline silica, and it does not cause pulmonary silicosis.
Interaction with Other Chemicals Which Enhance Toxicity:	None known

1. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Aquatic Toxicity: This material has exhibited moderate toxicity to aquatic organisms.

FATE AND TRANSPORT:

Biodegradation:	This material is inorganic and not subject to biodegradation.
Persistence:	This material is believed to persist in the environment.
Bioconcentration:	This material is not expected to bioconcentrate in organisms.
Additional Ecological Information:	This material has exhibited slight toxicity to terrestrial organisms.

1. DISPOSAL CONSIDERATIONS

Waste from material:	Reuse or recycle if possible. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.
Container Management:	Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container reinstate must be disposed of in compliance with applicable regulations.

1. TRANSPORT INFORMATION

DOT

UN-No:	NA
Proper Shipping Name:	NA
Hazard Class:	NA
Packing Group:	NA

TDG

UN-No:	NA
Proper Shipping Name:	NA
Hazard Class:	NA
Packing Group:	NA

IATA

UN-No:	NA
Proper Shipping Name:	NA
Hazard Class:	NA
Packing Group:	NA

IMDG/IMO

UN-No:	NA
Proper Shipping Name:	NA
Hazard Class:	NA
Packing Group:	NA

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1. REGULATORY INFORMATION

OSHA Regulatory Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not Regulated.

SARA EHS Chemical (40 CFR 355.30): Not Regulated

EPCRA SECTION 313 (40 CFR 372.65): Not Regulated

OSHA Process Safety (PSM) (29 CFR 1910.119): Not regulated

FDA: Sodium Silicates have Generally Recognized as Safe (GRAS) status under specific FDA regulations. Refer to 21 Code of Federal Regulations (CFR) 173, 175, 176, 177, 182, and 184, which is accessible on the FDA's website. This product is not produced under all current Good Manufacturing Practices (cGMP) requirements as defined by the Food and Drug Administration (FDA).

NATIONAL INVENTORY STATUS

A. INVENTORY STATUS – Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

1. OTHER INFORMATION

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the African Fertilizer & Chemicals's Classification committee using available literature references.

The MSDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Users and Handlers of This Product Should Make Their Own Investigations to Determine the Suitability of The Information Provided Herein for Their Own Purposes.

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