SAFETY DATA SHEET

Revision date 2021-Jan-06 **Revision number** 1.01

1. IDENTIFICATION

Product identifier

Product name Sodium Aluminate 38% Solution

Other means of identification

Product code 3213M
Synonyms Liquid sodium aluminate

Recommended use of the chemical and restrictions on use

Recommended use [RU] No information available
Uses advised against None known

Details of the supplier of the safety data sheet

Supplier G2O Technologies LLC
9213 Arch Street Pike
Little Rock, AR 72206
+1-800-453-2586
Hours: Monday-Friday 9:00-5:00 CST (Central Standard Time)

Contact Point sdsinfo@g2otech.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300
Outside USA - +1 (703) 527-3887 collect calls accepted

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

EMERGENCY OVERVIEW

Physical state	Color	Appearance	Odor
liquid	amber	clear to slightly hazy	no appreciable odor

GHS Label elements, including precautionary statements

DANGER

Hazard statements
Causes severe skin burns and eye damage

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage
Store locked up.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

Other information
• Not applicable

Unknown acute toxicity
• 32% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	weight-%	TRADE SECRET
Sodium aluminum oxide	1302-42-7	32%	--
Sodium Hydroxide	1310-73-2	8%	--
Water	7732-18-5	60%	--

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret. While some substances are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.1200(i), all known hazards are clearly communicated within this document.

*The exact percentage (concentration) of composition has been withheld as a trade secret

Alternate CAS Number(s)
An alternate CAS number for 1302-42-7 (Sodium aluminum oxide) is 11138-49-1 (Sodium Aluminate).

4. FIRST AID MEASURES

First Aid Measures

Eye contact
Remove contact lenses, if worn. Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure

flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek medical advice immediately.

Skin contact
Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion
Do not induce vomiting. Give large amounts of water followed by milk if available. If vomiting should occur spontaneously, keep airway clear. Seek medical advice immediately. Never give anything by mouth to an unconscious person.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

Acute effects
Inhalation of corrosive substances may cause irritation of the respiratory tract with coughing, choking, pain and possible burns of the mucus membrane. In some cases pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, frothy sputum cyanosis, and dizziness. Physical findings may include low blood pressure and high pulse. Severe cases may be fatal. Eye and skin contact may cause severe irritation, pain and burns. Ingestion may cause immediate pain and severe burns of the mucous membrane. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

Chronic effects
Depending on the concentration, repeated ingestion may cause effects as with acute exposure. Effects depend on concentration and duration of exposure. Repeated or prolonged skin contact may result in dermatitis or effects similar to acute exposure. Repeated exposure by inhalation may cause inflammatory ulcerative changes to the mouth and possibly bronchial and gastrointestinal disturbances. Repeated or prolonged eye contact may result in conjunctivitis or effects similar to acute exposure. .

Aggravated Medical Conditions
Existing skin, eye and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media
Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture

Special Hazard
May produce hazardous fumes or hazardous decomposition products.

Advice for firefighters

Firefighting measures
Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container;

cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing mist or spray.

Special protective equipment for firefighters
Full protective clothing and approved self-contained breathing apparatus required for firefighting personnel.

Explosion data

Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear suitable protective clothing and gloves.

Environmental precautions

Environmental precautions
Do not allow liquid to enter streams or waterways.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so. Build dikes as necessary to contain flow of large spills.

Methods for cleaning up
Clear spills immediately. For small spills, neutralize with weak acidic material such as vinegar, an inert material to absorb, or wash product to a chemical sewer. Place contaminated materials into containers and store in a safe place to await proper disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Keep container closed when not in use
Keep away from open flames, hot surfaces and sources of ignition
Avoid contact with eyes, skin and clothing
Wear chemical splash goggles, gloves, and protective clothing when handling.
Wash thoroughly after handling
Do not breathe mist or spray.
Use with adequate ventilation and employ respiratory protection where mist or spray may be generated.
Do not take internally
FOR INDUSTRIAL USE ONLY.

Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed when not in use.
Store in a cool, dry place away from direct heat.

Incompatible products
Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Component	weight-%	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium Hydroxide 1310-73-2	8%	2 mg/m³ Ceiling	2 mg/m³ TWA	10 mg/m³ IDLH

Appropriate engineering controls

Engineering controls
Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Individual protection measures, such as personal protective equipment

Eye/face Protection
Wear chemical splash goggles and face shield (when eye and face contact is possible due to splashing or spraying of material).

Hand Protection
Appropriate chemical resistant gloves should be worn

Skin and body protection
Standard work clothing and work shoes.

Respiratory protection
If exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.

Other personal protection data
Eyewash fountains and safety showers must be easily accessible.

Hygiene measures
Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid
Color	amber
Appearance	clear to slightly hazy
Odor	no appreciable odor
Odor threshold	No information available

Property	Values	Remarks / Method
pH	~ 14	No information available
Melting / freezing point	< -32.2 °C / < -26 °F	No information available
Boiling point / boiling range	116 °C / 241 °F	No information available
Flash point	Not applicable	No information available

Evaporation rate	No information available	No information available
Flammability (solid, gas)	Not applicable	No information available
Flammability Limit in Air		
Upper flammability limit	Not applicable	No information available
Lower flammability limit	Not applicable	No information available
Vapor pressure	No information available	No information available
Vapor density	No information available	No information available
Specific gravity	1.4 - 1.6	No information available
Solubility (water)	Complete	No information available
Solubility in other solvents	No information available	No information available
Partition coefficient: n-octanol/water	No information available	No information available
Autoignition temperature	Not applicable	No information available
Decomposition temperature	No information available	No information available
Kinematic viscosity	No information available	No information available
Dynamic viscosity	200 - 400 cps @ 25 °C	No information available

Other information

Density	11.6 - 13.3 lb/gal - @ 25 °C
Bulk Density	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
Volatile Organic Compound (VOC) content, wt.%	No information available
Percent Volatile, wt.%	No information available

10. STABILITY AND REACTIVITY

Reactivity

Reactivity
No data available.

Chemical stability

Chemical stability
Stable under normal conditions of handling, use and transportation.

Possibility of hazardous reactions

Possibility of hazardous reactions
None under normal processing.

Hazardous polymerization
Not anticipated under normal or recommended handling and storage conditions.

Conditions to avoid

Conditions to avoid
None known.

Incompatible materials

Materials to avoid
Strong acids.

Hazardous decomposition products

Hazardous decomposition products
Thermal decomposition may release toxic and/or hazardous gases.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Direct contact may cause severe irritation, pain and burns, possibly severe. May result in permanent blindness. The degree of injury depends on the concentration and duration of contact. The full extent of the injury may not be immediately apparent.

Skin contact
Corrosive to skin. Direct contact may cause severe irritation, pain and possibly burns.

Ingestion
Causes burns of the mouth, throat and stomach. Will cause burns of mucous membreanes of gastrointestinal tract, with nausea, vomiting and diarrhea.

Inhalation
Inhalation of mist or spray may irritate respiratory tract and may cause burns and difficulty breathing.

Acute toxicity - Product Information

Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	No information available

Acute toxicity - Component Information

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hydroxide 1310-73-2	8%	--	= 1350 mg/kg (Rabbit)	--

Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
Causes burns

Serious eye damage/eye irritation
Risk of serious damage to eyes

Sensitization
No information available

Germ cell mutagenicity
No information available

Carcinogenicity
This product does not contain any components in concentrations greater than or equal to 0.1% that are listed as known or suspected carcinogens by NTP, IARC, ACGIH, or OSHA.

Reproductive toxicity
No information available

Specific target organ toxicity - Single exposure
No information available.

Specific target organ toxicity - Repeated exposure
No information available

Aspiration hazard
No information available.

Numerical measures of toxicity - Product Information

• 32% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal) 11475 mg/kg

Other information
Conclusions are drawn from sources other than direct testing.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute aquatic toxicity - Product Information

Fish LC50 (96h, static, fresh water) = 11.1 mg/L (*Gambusia affinis* / Western Mosquitofish) [1]
NR-ZERO (9 days, static, fresh water) = 5.0 - 40.0 mg/L (*Oncorhynchus tshawytscha* / Chinook Salmon) [2]

Crustacea NR-ZERO (1 - 4 days, static, fresh water) = 5.0 - 40.0 mg/L (*Daphnia magna* / Water Flea) [2]

Algae/aquatic plants No information available

Acute aquatic toxicity - Component Information

Component	weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Sodium Hydroxide 1310-73-2	8%	--	LC50 (96 h static) = 45.4 mg/L (Oncorhynchus mykiss)	--

Persistence and degradability

Persistence and degradability
No information available

Bioaccumulative potential

Bioaccumulative potential
No information available

Mobility

Mobility
No information available

Results of PBT and vPvB assessment

PBT and vPvB assessment
No information available

Other adverse effects

Other information
LC50 = Lethal concentration to 50% of test organisms
NR-ZERO = 0% mortality or 100% survival of organisms

[1] Author(s): Wallen,I.E., W.C. Greer, and R. Lasater, Publication Year: 1957, Title: Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Source: Sewage Ind. Wastes29(6): 695-711
[2] Author(s): Peterson,S.A., W.D. Sanville, F.S. Stay, and C.F. Powers, Publication Year: 1974, Title: Nutrient Inactivation as a Lake Restoration Procedure. Laboratory Investigations, Source: EPA-660/3-74-032, U.S.EPA, Corvallis, OR:118 p.
See ECOTOX: Ecotoxicological Database at http://www.epa.gov/ecotox and search CAS# 1302-42-7 and CAS# 11138-49-1.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Dispose of in accordance with federal, state and local regulations.

Contaminated packaging
Since empty containers retain product residue, follow label warnings even after container is emptied.

RCRA

Is the unused product a RCRA hazardous waste if discarded? (Yes/No)	Yes
If yes, the EPA Hazardous Waste Code is:	D002 (corrosivity)

14. TRANSPORT INFORMATION

DOT Regulated

DOT UN/NA Number	UN1819
Proper shipping name	Sodium Aluminate Solution
Hazard class	8
Packing group	II
ERG Number	154

ICAO/IATA Regulated

UN number	UN1819
Proper shipping name	Sodium Aluminate Solution
Hazard class	8
Packing group	II
ERG Code	8L

IMDG Regulated

UN number	UN1819
Proper shipping name	Sodium Aluminate Solution

Hazard class	8
Packing group	II
EmS	F-A; S-B

15. REGULATORY INFORMATION

International Inventories

United States (TSCA)
All ingredients are on the inventory or exempt from listing

Australia (AICS)
All ingredients are on the inventory or exempt from listing

Canada (DSL)
All ingredients are on the inventory or exempt from listing

Canada (NDSL)
None of the ingredients are on the inventory.

China (IECSC)
All ingredients are on the inventory or exempt from listing

European Union (EINECS)
All ingredients are on the inventory or exempt from listing

European Union (ELINCS)
None of the ingredients are on the inventory.

Japan (ENCS)
All ingredients are on the inventory or exempt from listing

South Korea (KECL)
All ingredients are on the inventory or exempt from listing

Philippines (PICCS)
All ingredients are on the inventory or exempt from listing

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
AICS - Australian Inventory of Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - China Inventory of Existing Chemical Substances
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

U.S. Federal Regulations

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Component	CERCLA/SARA Hazardous Substance RQ	CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs	Calculated Product RQ
Sodium Hydroxide 1310-73-2	1000 lb final RQ; 454 kg final RQ	--	--

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21

and 40 CFR 122.42).

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Priority Pollutants	CWA - Toxic Pollutants
Sodium Hydroxide 1310-73-2	Present	1000 lb RQ	--	--

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.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Sodium Hydroxide 1310-73-2	
Massachusetts Right to Know Law	Present
Minnesota Hazardous Substance List	Present
New Jersey Right to Know List	sn 1706
Pennsylvania Right to Know List	Environmental hazard

16. OTHER INFORMATION

NFPA Rating	Health - 3	Flammability - 0	Instability - 0	Special Hazard -
HMIS Rating	Health - 3	Flammability - 0	Physical hazards - 0	Personal protection - B

Product code 3213M

Revision date 2021-Jan-06

Revision number 1.01

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet