AQUABOND
Chemistry for Tomorrow

SAFETY DATA SHEET

Section 01 - Identification

Product Identifier	Sodium metasilicate pentahydrate
Other Means of Identification	Silicic acid sodium salt pentahydrate, disodium oxosilanediolate pentahydrate, disodium dioxidosilane pentahydrate, disodium oxosilanebis(olate) pentahydrate
Product Use and Restrictions on Use	Detergent builder, concrete treatment, water treatment
Distributor	Aqua Bond Inc. PO Box 63635, Woodside Square Toronto, ON, M1V 5J8 (416) 754-7211
24-Hour Emergency Phone	CANUTEC (613) 996-6666

Section 02 - Hazard Identification

GHS-Classification

Skin Corrosion/Irritation	Category 1B
STOT-Single Exposure	Category 3

Physical Hazards

Corrosive to Metals	Category 1

Danger

Hazards Statements

H290 – May be corrosive to metals.
H314 – Causes severe skin burns and eye damage.
H335 – May cause respiratory irritation

Pictograms



Precautionary Statements

P234 – Keep only in original container.
P260 – Do not breathe dust
P264 – Wash hands thoroughly after handling.
P271 – Use only outdoors or in a well-ventilated area
P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P301 +P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 – Immediately call a POISON CENTER or doctor/physician.
P363 – Wash contaminated clothing before reuse.
P390 – Absorb spillage to prevent material damage.
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed
P405 – Store locked up.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Sodium Metasilicate	6834-92-0	50-60%	
Water	7732-18-5	40-50%	

Section 04 - First Aid Measures

Inhalation Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact / Absorption Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.

Ingestion Do not induce vomiting if swallowed. Give large quantities of water if conscious. Seek medical attention immediately.

Additional Information Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media Use appropriate media for surrounding fire (water, chemical foam, dry chemical, or carbon dioxide).

Unsuitable Extinguishing Media Not Available

Specific Hazards Arising From the Chemical Silicic acid will form if product comes in contact with water at high temperatures.

Special Protective Equipment and Precautions for Fire-Fighters Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Further Information Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.
Environmental Precautions	Prevent entry into sewers, basements or confined areas; dike if needed.
Methods and Materials for Containment and Cleaning Up	Avoid producing air-born dust. Sweep or vacuum material into a sealed, labeled, chemically impervious container. Wash down area with excess of water.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Keep in tightly closed containers. Store in a cool, dry, ventilated area away from heat, moisture and incompatibles.
Incompatibilities	Can generate flammable hydrogen gas when in contact with aluminum, zinc or tin. May corrode aluminum, zinc, and tin. Sodium metasilicate can be precipitated by acids alkaline earth, and heavy metal ions.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Sodium metasilicate	Not Available		

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	A half-face dust/mist respirator should be worn where dust or mist is present. Wear a full-face positive-pressure, air supplied respirator in emergency situations or where exposure levels are unknown.

Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid granules or powder
Colour	White
Odour	Odourless
Odour Threshold	Not Available

Property

pH	12.7 (1% solution
Melting Point/Freezing Point	1089°C
Initial Boiling Point and Boiling Range	>1200°C
Flash Point	Not Applicable
Evaporation Rate	Not Available
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20°C)	Not Available
Vapour Density (Air=1)	Not Available
Relative Density	Not Available
Solubility(ies)	Completely soluble in water. Decomposed by ethanol.
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive Properties	Not Available
Specific Gravity (Water=1)	2.61
% Volatiles by Volume	Not Available
Formula	$Na_2SiO_3*5(H_2O)$

Molecular Weight	122.062 g/mol

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Polymerization will not occur.
Conditions to Avoid	Not Available
Incompatible Materials	Can generate flammable hydrogen gas when in contact with aluminum, zinc or tin. May corrode aluminum, zinc, and tin. Sodium metasilicate can be precipitated by acids alkaline earth, and heavy metal ions.
Hazardous Decomposition Products	Silicic acid will form if product comes in contact with water at high temperatures.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Sodium Metasilicate	1280 mg/kg (rat)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium Metasilicate	Not listed as carcinogenic (IARC and ACGIH).

Skin Corrosion/Irritation	May cause redness, blistering and severe burns.
Ingestion	Corrosive product. Will cause diarrhea, abdominal cramps, mouth and tongue pain, sore throat, nausea, stomach ache. May lead to death if ingested.
Inhalation	May irritate nose, throat, and lungs and may cause respiratory tract irritation.
Serious Eye Damage/Irritation	Causes redness, pain, tissue burns and impaired vision.
Respiratory or Skin Sensitization	No sensitizing effects known.
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT-Single Exposure	May irritate nose, throat, and lungs and may cause respiratory tract irritation.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	May cause pulmonary edema.
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Sodium Metasilicate	Not Available	Not Available	Not Available

Biodegradability	Final product of degradation is silica sand
Bioaccumulation	Low potential for bioaccumulation
Mobility	Highly mobile in soils.
Other Adverse Effects	Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	UN3253
UN Proper Shipping Name	DISODIUM TRIOXOSILICATE
Transport Hazard Class(es)	8
Packaging Group	III
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

Additional Information

Packing Group	Limited Quantity Index
II	1 L
III	5 L

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date	2023 September 21

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.