Supercedes Date 04/24/2009 **Issuing Date** 12/14/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name AQUABROM PLUS
Recommended Use Water treatment chemical

Information on Manufacturer

CHEM-AQUA, INC
BOX 152170
IRVING, TEXAS 75015

Product Code 578C
Chemical Nature Aqueous solution

Emergency Telephone Number

CHEMTREC ® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER
Corrosive
Causes skin and eye burns
Harmful if inhaled and may cause delayed lung injury
Harmful or fatal if swallowed

Color Yellow **Physical State** Liquid **Odor** Mild Sweet

Potential Health Effects

Principle Route of Exposure Skin contact, Eye contact, Inhalation.
Primary Routes of Entry Skin Absorption
Acute Effects
Eyes Corrosive to the eyes and may cause severe damage including blindness.
Skin Causes skin burns. May be absorbed through the skin in harmful amounts.
Inhalation Harmful by inhalation. Causes burns.
Ingestion If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. May be fatal if swallowed.
Chronic Toxicity Harmful if inhaled and may cause delayed lung injury, Inhaled corrosive substances can lead to a toxic edema of the lungs.
Target Organ Effects Respiratory system, Eyes, Skin.
Aggravated Medical Conditions Skin disorders, Respiratory disorders.
Potential Environmental Effects See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Sodium n-chlorosulfamate	13637-90-6
Sodium n-bromosulfamate	1004542-84-0
Sodium hydroxide	1310-73-2

4. FIRST AID MEASURES

General Advice Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.
Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or poison control center immediately.
Skin Contact Remove immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Inhalation Move to fresh air. In case of shortness of breath, give oxygen. If breathing has stopped, apply artificial respiration. Get medical attention immediately.
Ingestion Call a physician or Poison Control Centre immediately. Drink 1 or 2 glasses of water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.
Notes to Physician The product causes burns of eyes, skin and mucous membranes. Control of circulatory system, shock therapy if needed.

5. FIRE-FIGHTING MEASURES

Flash Point Not combustible **Method** Not applicable
Autoignition Temperature No information available.
Flammability Limits in Air % Hydrogen, by reaction with metals. **Upper** 75 **Lower** 4
Suitable Extinguishing Media
Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
Specific Hazards Arising from the Chemical
Contact with metals liberates hydrogen gas. Material can create slippery conditions.
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	**Health** 3	**Flammability** 1	**Instability** 0
HMIS	**Health** 3	**Flammability** 1	**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.
Environmental Precautions Do not flush into surface water or sanitary sewer system.
Methods for Containment Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning Up Pick up and transfer to properly labeled containers.
Neutralizing Agent Acetic acid, diluted.

7. HANDLING AND STORAGE

Handling Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.
Storage Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Metal containers must be lined. Do not freeze.

Storage Temperature **Minimum** 45°F/7°C **Maximum** 90°F/32°C
Storage Conditions **Indoor** X **Outdoor** **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
Sodium n-chlorosulfamate	No data available	No data available	No data available
Sodium n-bromosulfamate	No data available	No data available	No data available
Sodium hydroxide	Ceiling: 2 mg/m^3	TWA: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3

Engineering Measures Use with local exhaust ventilation. Ensure adequate ventilation, especially in confined areas.
Personal Protective Equipment
Eye/Face Protection Tightly fitting safety goggles. Face-shield.
Skin Protection Wear suitable protective clothing, Impervious gloves.
Respiratory Protection In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
General Hygiene Considerations Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	**Viscosity**	Non viscous
Color	Yellow	**Odor**	Mild Sweet
Appearance	Transparent	**pH**	13.7
Specific Gravity	1.37	**Evaporation Rate**	<1 (Butyl acetate=1)
Percent Volatile (Volume)	84	**VOC Content (%)**	0
VOC Content (g/l)	0	**Vapor Pressure**	19 mmHg @ 70 °F
Vapor Density	<1 (Air = 1.0)	**Solubility**	Completely soluble
Boiling Point/Range	214°F/101°C		

10. STABILITY AND REACTIVITY

Chemical Stability Stable. Hazardous polymerization does not occur.
Conditions to Avoid Heat, flames, and sparks.
Incompatible Products Strong oxidizing agents, Reducing agents, Acids, Aldehydes, Heavy metal salts, Contact with metals liberates hydrogen gas.
Hazardous Decomposition Products Nitrogen oxides (NOx), Bromine, Chlorine, Hydrogen, by reaction with metals.
Possibility of Hazardous Reactions None under normal processing.

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information
Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Sodium n-chlorosulfamate	no data available	no data available	no data available	no data available	no data available
Sodium n-bromosulfamate	no data available	no data available	no data available	no data available	no data available
Sodium hydroxide	no data available	1350 mg/kg (Rabbit)	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Sodium n-chlorosulfamate	no data available	no data available	no data available	no data available	no data available
Sodium n-bromosulfamate	no data available	no data available	no data available	no data available	no data available
Sodium hydroxide	no data available	no data available	no data available	no data available	eyes, respiratory system, skin

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
Sodium n-chlorosulfamate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium n-bromosulfamate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium hydroxide	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Sodium n-chlorosulfamate	no data available	no data available	no data available	no data available	N/A
Sodium n-bromosulfamate	no data available	no data available	no data available	no data available	N/A
Sodium hydroxide	no data available	96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]	no data available	no data available	N/A

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.
Container Disposal Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.
Hazard Class 8
UN-No UN3266
Packing Group III
Description Corrosive liquid, basic, inorganic, n.o.s., (Hallogenated Complex Sodium hydroxide),8,UN3266,PG III

TDG

Proper shipping name Corrosive liquid, basic, inorganic, n.o.s.
Hazard Class 8
UN-No UN3266
Packing Group III
Description CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S., (Hallogenated Complex Sodium hydroxide),8,UN3266,PG III

ICAO

UN-No UN3266
Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.*
Hazard Class 8
Packing Group III
Shipping Description Corrosive liquid, basic, inorganic, n.o.s., (Hallogenated Complex Sodium hydroxide),8,UN3266,PG III

IATA

UN-No UN3266
Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.*
Hazard Class 8
Packing Group III
ERG Code 8L
Shipping Description UN3266,Corrosive liquid, basic, inorganic, n.o.s., (Hallogenated Complex Sodium hydroxide),8,PG III

IMDG/IMO

Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.
Hazard Class 8
UN-No UN3266
Packing Group III
EmS No. F-A, S-B
Shipping Description UN3266, Corrosive liquid, basic, inorganic, n.o.s., (Hallogenated Complex Sodium hydroxide),8,PG III

15. REGULATORY INFORMATION

Inventories
TSCA Complies
DSL Does not Comply

U.S. 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 and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium n-chlorosulfamate	Not applicable	Not applicable
Sodium n-bromosulfamate	Not applicable	Not applicable

Sodium hydroxide	1000 lb	Not applicable

Canada

This product may not be commercially placed on the market in Canada

WHMIS Hazard Class
Not applicable

16. OTHER INFORMATION

Prepared By	Dan Hollas
Supercedes Date	04/24/2009
Issuing Date	12/14/2009
Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

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