

SAFETY DATA SHEET

STABROM® Plus Biocide

Preparation Date : 24-Apr-2015

Revision Date: 22-Feb-2016

Revision Number: 2.01

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier**Product Name** STABROM® Plus Biocide**Other means of identification****Chemical Family** Stabilized bromine biocide, aqueous solution
CAS-No Mixture**Recommended use of the chemical and restrictions on use****General function** Water treatment chemical.
Uses advised against No information available**Details of the supplier of the safety data sheet****Company** Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801**For Non-Emergency** 800-535-3030**'Competent Body for SDS'** HSE@Albemarle.com**Emergency telephone number****Emergency Telephone Numbers** +1-225-344-7147

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 1
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 2
Corrosive to Metals	Category 1

Label elements**Emergency Overview****Danger****Hazard Statements**Harmful if inhaled
Causes severe skin burns and eye damage
Toxic to aquatic life
May be corrosive to metals



Physical state Liquid
Color Yellow Orange.
Odor Mild.

Prevention

Use only outdoors or in a well-ventilated area
 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
 Avoid release to the environment
 Keep only in original container

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
 Immediately call a POISON CENTER or doctor/physician
 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 Call a POISON CENTER or doctor/physician if you feel unwell
 IF INHALED: Remove person to fresh air and keep comfortable for breathing Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 Absorb spillage to prevent material damage

Storage

Store locked up
 Store in corrosive resistant aluminum container with a resistant inner liner

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Stabilized Bromine Chloride	Proprietary.	18-22
Sodium hydroxide	1310-73-2	<15

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact

If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move to fresh air.

Ingestion If swallowed, Call a physician or Poison Control Center immediately. Have person sip a glass of water if able to swallow. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Probable mucosal damage may contraindicate the use of gastric lavage.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Not required.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards No information available.

Hazardous Combustion Products Bromine. Chlorine.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental Precautions

Environmental precautions Contain any spill with dikes or absorbents to prevent migration and entry into sewers or streams. Large spills should be collected mechanically (remove by pumping) for disposal. May require excavation of contaminated soil. Take up small spills by first diluting with water and then using a dehalogenating agent such as sodium thiosulfate solution.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, universal binder, sawdust)

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage Avoid freezing, excessive heat or exposure to light, especially direct sunlight. If heating is necessary to prevent freezing, care must be taken to prevent overheating. Precautions should be taken to ensure that the average product temperature is maintained below 43 °C. Temperature monitoring is recommended. At elevated temperatures, self-heating can lead to vigorous gas generation and over-pressurization of storage containers if appropriate controls are not in place. Avoid exposure of this product to incompatible materials/chemicals (see Stability and Reactivity section). Use of incompatible materials can promote the exothermic decomposition of the product. In extreme cases, this could result in vigorous gas formation and over-pressurization of the storage container. STORAGE CONTAINER: Vented and opaque containers: As the product ages, activity is gradually lost and pressure can build-up in the headspace (nitrogen); therefore, the product should be stored in vented containers. Product should also be stored in opaque containers to prevent exposure to light. To maximize product shelf life, store the product in an opaque container, in a cool, dry, well-ventilated area.

Incompatible Materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Component	CAS-No	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
Stabilized Bromine Chloride	-	-	-	-
Sodium hydroxide	1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

Other information Wear suitable protective clothing.

Appropriate engineering controls

Engineering Controls Use only in well-ventilated areas.

Individual protection measures, such as personal protective equipment

Eye/face Protection Chemical goggles or face shield with safety glasses.

Skin Protection Wear protective gloves/clothing.

Hand protection Gloves resistant to chemical permeation.

Respiratory protection None under normal conditions.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Color Yellow Orange.
Odor Mild.
Odor Threshold No information available
Molecular Weight No information available
pH 12.4 - 14.0 (min.)
Melting point/freezing point ~ 2 °C / 36 °F
Boiling Point/Range ~ 106 °C / 223 °F
Flash Point Not applicable.
Evaporation Rate No information available
Flammability (solid, gas) No information available
Flammability Limit in Air

Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	~15 mm Hg (23°C)
Vapor Density	No data available
Density	1.35 - 1.45 (25°C)
Solubility(ies)	
Water Solubility	Miscible.
Solubility in other solvents	No information available
Partition coefficient :	
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	~4 cSt (25°C)
Dynamic viscosity	~5.5 cSt (25°C)
Explosive Properties	No information available
Oxidizing Properties	None

10. STABILITY AND REACTIVITY

Reactivity Hazard	No data available.
Stability	Stable.
Hazardous Reactions	No hazardous reaction expected under normal handling.
Hazardous Polymerization	None under normal processing.
Conditions to Avoid	Protect from light. Extremes of temperature and direct sunlight. Keep away from heat. Freezing.
Materials to avoid	This product is strongly basic and an oxidizing agent. Avoid contact with alcohols, aldehydes, strong reducing agents, strong oxidizers, acids, ammonia-containing products, and common metals such as steel, aluminum, iron and copper. Use of incompatible materials can promote the exothermic decomposition of the product.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Eye contact	Causes burns.
Skin Contact	Causes burns.
Ingestion	Harmful if swallowed.
<u>Potential Health Effects</u>	
<u>Acute Effects</u>	
Skin Corrosion/irritation	Causes burns.
Serious eye damage/eye irritation	Causes eye burns.
Respiratory irritation :	Not irritating.
Sensitization	Not sensitizing.
STOT - single exposure	No information available.

Chronic Effects
Mutagenic Effects

No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Carcinogens
Stabilized Bromine Chloride	-	-	-	-	-
Sodium hydroxide	1310-73-2	-	-	-	-

Reproductive Effects

None known.

STOT - repeated exposure

No information available.

Chronic Effects

None known.

Aspiration hazard

No information available.

Numerical measures of toxicity

Product Information

No information available

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

ATEmix (oral)

43590 mg/kg

ATEmix (dermal)

25654 mg/kg

ATEmix (inhalation-dust/mist)

3.8 mg/L

LD50 Oral:

Rat Oral LD50: 2491 mg/kg

LD50 Dermal:

Rat Dermal LD50: > 2000 mg/kg

Inhalation LC50

Rat Inhalation LC50: > 20.37 (rat)

Component Information

No information available

Component	Rat Oral LD50:	Rabbit Dermal LD50:	Rat Dermal LD50 :	Rat Inhalation LC50:
Sodium hydroxide 1310-73-2	-	1350 mg/kg		-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects Toxic to aquatic life

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
Sodium hydroxide (CAS #: 1310-73-2)	-	189 mg/L	-

Persistence/Degradability

No information available.

Bioaccumulation/ Accumulation

No information available.

Mobility in Environmental Media

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Do not reuse container.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (HALOGENATED COMPLEX, SODIUM HYDROXIDE)
Hazard Class 8
UN No. 3266
Packing Group III
Description UN 3266 Corrosive liquid, Basic, Inorganic, N.O.S. (Halogenated complex, Sodium hydroxide), 8, III

IMDG/IMO

IMO Class 8
Packing Group III
UN-No 3266
IMO Labelling and Marking 8
Proper Shipping Name Corrosive liquid, Basic, Inorganic, N.O.S. (Halogenated complex, Sodium hydroxide)
EmS F-A, S-B
Marpol - Annex II Not determined
Marpol - Annex III Unregulated
Transport Description UN 3266 Corrosive liquid, Basic, Inorganic, N.O.S. (Halogenated complex, Sodium hydroxide), 8, III

IATA/ICAO

IATA/ICAO Class 8
Packing Group III
UN-No 3266
IATA/ICAO Labelling/Marking 8
Passenger Aircraft Forbidden (Product is shipped in containers with vented caps)
Cargo aircraft only Forbidden (Product is shipped in containers with vented caps)
Proper shipping name Corrosive liquid, Basic, Inorganic, N.O.S. (Halogenated complex, Sodium hydroxide)
Transport Description UN 3266 Corrosive liquid, Basic, Inorganic, N.O.S. (Halogenated complex, Sodium hydroxide), 8, III

15. REGULATORY INFORMATION

International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
STABROM® Plus Biocide	-	-	-	X	-	-	X	X	X	X	-

THIS MATERIAL IS EXEMPT FROM THE TOXIC SUBSTANCES CONTROL ACT (15 USC 2601-2629)

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 Hazardous Categorization

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

Reportable and Threshold Planning Quantities

The following components have RQs and/or TPQs under SARA and/or CERCLA

Component	CERCLA RQ, lbs	SARA 302 RQ, lbs	SARA 302 TPQ, lbs
Sodium hydroxide (CAS #: 1310-73-2)	1000 lb	-	-

State Right-to-Know

This product contains the following chemicals regulated in the states listed below.

Component	California Prop. 65	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide (CAS #: 1310-73-2)	-	X	X	X

16. OTHER INFORMATION

NFPA	Health 3	Flammability 0	Instability 0	Physical Hazards -
HMIS	Health 3	Flammability 0	Physical Hazards 0	

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
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 451 FLORIDA ST.
 BATON ROUGE, LA. 70801
 (800) 535-3030

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Disclaimer:

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

End of Safety Data Sheet