

# 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 <sup>3</sup> | TWA: 2 mg/m <sup>3</sup><br>(vacated) Ceiling: 2 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>Ceiling: 2 mg/m <sup>3</sup> |

**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**

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

## 10. STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>Reactivity Hazard</b>                | No data available.  |
| <b>Stability</b>                        | Stable.   |
| <b>Hazardous Reactions</b>              | No hazardous reaction expected under normal handling.   |
| <b>Hazardous Polymerization</b>         | None under normal processing.   |
| <b>Conditions to Avoid</b>              | Protect from light. Extremes of temperature and direct sunlight. Keep away from heat. Freezing.   |
| <b>Materials to avoid</b>               | 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. |
| <b>Hazardous decomposition products</b> | None known based on information supplied.   |

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

|                     |                                    |
|---------------------|------------------------------------|
| <b>Inhalation</b>   | Not an expected route of exposure. |
| <b>Eye contact</b>  | Causes burns.                      |
| <b>Skin Contact</b> | Causes burns.                      |
| <b>Ingestion</b>    | Harmful if swallowed.              |

### Potential Health Effects

#### Acute Effects

|  |                           |
|--|---------------------------|
| <b>Skin Corrosion/irritation</b>         | Causes burns.             |
| <b>Serious eye damage/eye irritation</b> | Causes eye burns.         |
| <b>Respiratory irritation :</b>          | Not irritating.           |
| <b>Sensitization</b>                     | Not sensitizing.          |
| <b>STOT - single exposure</b>            | 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<br>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**

|             |          |                |                    |                    |
|-------------|----------|----------------|--------------------|--------------------|
| <b>NFPA</b> | Health 3 | Flammability 0 | Instability 0      | Physical Hazards - |
| <b>HMIS</b> | Health 3 | Flammability 0 | Physical Hazards 0 |                    |

**Prepared By** Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

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

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**Revision Date:** 22-Feb-2016

**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**