

STABROM® 909 Biocide

Material Safety Data Sheet

Revision Date: 28-Apr-2011
Supersedes 25-Aug-2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name STABROM® 909 Biocide
Chemical Name Proprietary.
Chemical Family Stabilized bromine biocide, aqueous solution
CAS-No Mixture
General function Water treatment chemical

Company Albemarle Corporation
 451 Florida Street
 Baton Rouge, LA 70801

Emergency Telephone Numbers +1-225-344-7147
For Non-Emergency 800-535-3030

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

2. HAZARDS IDENTIFICATION

Emergency Overview

Corrosive - causes irreversible eye damage
 Causes skin burns
 Harmful if swallowed
 Harmful in contact with skin
 Can decompose exothermically at elevated temperatures (see Handling and Storage Section for details)

Potential Health Effects

Eyes Possible risks of irreversible effects.
Skin Causes burns. Harmful in contact with skin.
Inhalation In the event of fire and/or explosion do not breathe fumes. Not expected to be acutely toxic.
Ingestion Harmful if swallowed.

See Section 11 for additional Toxicological information.

Occupational Exposure Limit See Section 8

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No | Weight % |
|---------------------|-----------|----------|
| Halogenated complex | | 18 |
| Sodium hydroxide | 1310-73-2 | <10 |

4. FIRST AID MEASURES

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|---------------------------|---|
| Ad Lib | If medical advice is needed: Have product container or label at hand. |
| 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. |
| Notes to Physician | Probable mucosal damage may contraindicate the use of gastric lavage. |

5. FIRE-FIGHTING MEASURES

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| Combustion/explosion hazards | Not available |
| Suitable extinguishing media | Not required. |
| Hazardous Combustion Products | Bromine. Chlorine |
| Protective Equipment and Precautions for Firefighters | In the event of fire and/or explosion do not breathe fumes. |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions | Ensure adequate ventilation. |
| 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 for Cleaning up | Soak up with inert absorbent material (e.g. sand, silica gel, universal binder, sawdust) |

7. HANDLING AND STORAGE

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| Handling | Avoid contact with skin, eyes and clothing. |
| 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 110F. 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. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Component | CAS-No | Weight % | ACGIH TLV (TWA) | ACGIH (STEL or Ceiling) | OSHA PEL (TWA) | OSHA (STEL or Ceiling) |
|------------------|-----------|----------|-----------------|---------------------------------|--------------------|------------------------------|
| Sodium hydroxide | 1310-73-2 | <10 | | 2mg/m ³ (Ceiling) | 2mg/m ³ | 2mg/m ³ (Ceiling) |

Engineering Controls Use only in well-ventilated areas.

Personal Protective Equipment:

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|----------------------------|--|
| Eye/face Protection | Chemical goggles or face shield with safety glasses. |
| Skin Protection | Wear protective gloves/clothing. |
| Hand protection | Gloves resistant to chemical permeation. |
| Other information | Wear suitable protective clothing. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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|------------------------------------|----------------------|
| Flash point | Not applicable. |
| Flammable limits (LEL, UEL) | No data available |
| Form | Liquid |
| Vapor pressure | ~19 mmHg(25°C) |
| Color | Yellow to orange. |
| Density | 1.29-1.37 g/ml(25°C) |
| Odor | Mild. Sweet. |
| Vapor density | No data available |
| pH | 12.4(min.) |
| Water Solubility | Miscible. |
| Boiling Point | ~106°C |
| Melting/freezing point | ~0 °C / 32°F |
| Viscosity, dynamic | ~2.7cPs(25°C) |
| Viscosity, kinematic | ~2cSt(25°C) |
| Oxidizing Properties | Oxidizer |

10. STABILITY AND REACTIVITY

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| Stability | Stable. |
| 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 under normal use. |
| Hazardous Polymerization | None under normal processing. |

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| 11. TOXICOLOGICAL INFORMATION |
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Routes of exposure No information available

Health and hazardous information

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|------------------------------------|---|
| Acute toxicity | Not expected to be acutely toxic. |
| Skin contact | Causes burns. It is not consider to be a contact dermal sensitizer. |
| Eye contact | Possible risks of irreversible effects. |
| Inhalation | Not expected to be a primary route of exposure. |
| Skin sensitization | It is not consider to be a contact dermal sensitizer. |
| Carcinogenic effects | No information available |
| Mutagenic Effects | No information available |
| Reproductive Effects | No information available |
| Target Organ Effects | No information available |
| Chronic Effects | None known |
| Aspiration Hazard Statement | No information available |

Signs and Symptoms of Overexposure No information available

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|------------------------|-------------|
| LD50 Oral: | 2491 mg/kg |
| LD50 Dermal: | >2000 mg/kg |
| Inhalation LC50 | > 20.37mg/l |

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| 12. ECOLOGICAL INFORMATION |
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Ecotoxicity 3.8 mg whole material/L; LC-50/96-hour; Bluegill Sunfish *Lepomis Macrochirus*
4.8 mg whole material/L; EC50/48-hour; Wat flea *Daphania Magna*
2.6 mg whole material/L; IC50/96-hour; Unicellular Green Alga, *Selenastrum capricornutum*

Ecotoxicity effects No information available.

Persistence/Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility in Environmental Media No information available

Other adverse effects No information available

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| 13. DISPOSAL CONSIDERATIONS |
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Waste Disposal Method Dispose in a safe manner in accordance with local/national regulations.

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
Cargo aircraft only Forbidden
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 | ENECS | ELINCS | ENCS | KECL | PICCS | CHINA | NZIoC |
|---------------------------|------|-----|------|------|-------|--------|------|------|-------|-------|-------|
| STABROM® 909 Biocide | - | - | - | X | - | - | - | X | X | X | X |

(X) Complies (-) Does not Comply

TSCA Statement

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

Chronic Health Hazard No
Acute Health Hazard Yes
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 | CAS-No | Weight % | SARA 302 RQ, lbs | CERCLA RQ, lbs | SARA 302 TPQ, lbs |
|------------------|-----------|----------|------------------|----------------|-------------------|
| Sodium hydroxide | 1310-73-2 | <10 | | 1000 | |

State Regulations

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

| Component | CAS-No | California Prop. 65 | Massachusetts | New Jersey | Pennsylvania |
|------------------|-----------|---------------------|---------------|------------|--------------|
| Sodium hydroxide | 1310-73-2 | | Listed. | Listed. | Listed. |

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazards

E Corrosive material

D2B Toxic materials

16. OTHER INFORMATION**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

Revision Date:

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Revision Number:

5

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.