

# SAFETY DATA SHEET

## BOVIBROM®

Preparation Date : 15-Aug-2013

Revision Date: 12-Dec-2016

Revision Number: 3

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

**Product Identifier** Product Name BOVIBROM®

**Other means of identification**

CAS-No 77-48-5  
Formula C5H6Br2N2O2

**Recommended use of the chemical and restrictions on use**

General function Beef carcass antimicrobial.  
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 Albemarle Corporation  
451 Florida Street  
Baton Rouge, LA 70801

Albemarle Chemical Canada  
1600, 421-7th Avenue, SW  
Calgary, Alberta  
Canada T2P 4K9

For Non-Emergency 800-535-3030

'Competent Body for SDS' HSE@Albemarle.com

**Emergency telephone number**

Emergency Telephone Numbers In case of emergency, call Albemarle emergency response at +1 225 344 7147

### 2. HAZARDS IDENTIFICATION

**Classification**

Acute Toxicity - Oral	Category 4
Skin Corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1
Oxidizing solids	Category 2
Corrosive to metals	Category 1

**Label elements**

Danger

Emergency Overview

**Hazard Statements**

Harmful if swallowed  
 Causes severe skin burns and eye damage  
 Very toxic to aquatic life with long lasting effects  
 May intensify fire; oxidizer  
 May be corrosive to metals



**Physical state** Solid

**Color** White/Off-white

**Odor** Halogen

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid release to the environment  
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
 Keep/Store away from clothing/combustible materials Take any precaution to avoid mixing with combustibles - .?

**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 person to fresh air and keep comfortable for breathing Immediately call a POISON CENTER or doctor/physician  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth Do not induce vomiting  
 In case of fire: Use CO2, dry chemical, or foam for extinction Collect spillage

**Storage**

Store locked up

**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 %
1,3-Dibromo-5,5-dimethyl hydantoin	77-48-5	100

#### 4. FIRST AID MEASURES

##### First aid measures

<b>Eye contact</b>	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.
<b>Skin contact</b>	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.
<b>Inhalation</b>	If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	If swallowed, call a physician or Poison Control Centre 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.

##### 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** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing media

**Suitable extinguishing media** Carbon dioxide, dry chemicals, foam, water spray (mist).

**Unsuitable Extinguishing Media** No information available.

##### Specific Hazards Arising from the Chemical

**Combustion/explosion hazards** High temperatures may liberate toxic or corrosive gases.

**Hazardous Combustion** Oxides of carbon. Bromine. **Products**

##### Explosion Data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

##### Protective Equipment and Precautions for Firefighters

Toxic fumes may be present; use of respirator suggested.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes and clothing. Avoid dust formation. Ensure adequate ventilation.

##### Environmental Precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

##### 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** Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Avoid dust formation.

### Conditions for safe storage, including any incompatibilities

#### Storage

Store in well-ventilated, cool (<120F), dry area, away from heat or flame. Store in containers made of HDPE, LDPE, or PP. Do not store in metal or fiberboard containers. Close container when not in use.

### 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
1,3-Dibromo-5,5-dimethyl hydantoin	77-48-5	-	-	-

Component	CAS-No	Alberta	British Columbia	Ontario	Quebec
1,3-Dibromo-5,5-dimethyl hydantoin	77-48-5	-	-	-	-

### Appropriate engineering controls

#### Engineering Controls

Use only in well-ventilated areas.

### Individual protection measures, such as personal protective equipment

#### Eye/face Protection

Chemical goggles. Face-shield.

#### Skin Protection

Protective Clothing / Tyvek or Equivalent Protective Apron.

#### Hand protection

Any intact rubber glove resistant to chemical permeation.

#### Respiratory protection

If dusty or irritating conditions exist, use a NIOSH approved Particulate Filtering Facepiece Respirator with an N95 rating or higher.

#### 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	Solid
Color	White/Off-white
Odor	Halogen
Odor Threshold	No information available
Molecular Weight	286
pH	6.0 - 6.5 (1% slurry in pH 7 water)
Melting point/freezing point	>190 °C (Decomposes)
Boiling Point/Range	
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>	No information available
<b>Vapor Density</b>	No data available
<b>Density</b>	
<b>Solubility(ies)</b>	
<b>Water Solubility</b>	~0.1%
<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>	No information available
<b>Dynamic viscosity</b>	No information available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	Oxidizer

## 10. STABILITY AND REACTIVITY

<b>Reactivity Hazard</b>	No data available.
<b>Stability</b>	No information available
<b>Hazardous Reactions</b>	No hazardous reaction expected under normal handling.
<b>Hazardous Polymerization</b>	None under normal processing.
<b>Conditions to Avoid</b>	Avoid extremely high heat and flame.
<b>Materials to avoid</b>	This product is a strong oxidizing and brominating agent. Avoid contact with reducing agents, acids, ammonia-containing products, organic materials (such as aldehydes and alcohols) and other oxidizing agents (such as calcium hypochlorite). Avoid contact with common metals such as aluminum, iron, copper, brass and steel. Contact with incompatible materials can promote the exothermic decomposition of the product.
<b>Hazardous decomposition products</b>	Carbon oxides. Bromine.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Yes.
<b>Eye contact</b>	Yes. Possible risk of irreversible effects.
<b>Skin contact</b>	Yes. Harmful if absorbed through skin.
<b>Ingestion</b>	Yes. Harmful if swallowed.

### Potential Health Effects Acute Effects

<b>Skin Corrosion/irritation</b>	Corrosive to skin. Causes burns.
<b>Serious eye damage/eye irritation</b>	Risk of serious damage to eyes.
<b>Respiratory irritation :</b>	Harmful by inhalation <b>Sensitization</b> Not expected to be a sensitizer.
<b>STOT - single exposure</b>	No information available.



**Waste treatment methods**

**Waste Disposal Method** Dispose in a safe manner in accordance with local/national regulations.  
**Contaminated Packaging** Do not reuse container.

**14. TRANSPORT INFORMATION**

**DOT**

**Proper Shipping Name** Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin )  
**Hazard Class** 5.1  
**Subsidiary Class** 8  
**UN No.** 3085  
**Packing Group** II  
**Marine Pollutant:** Y.  
**Description** UN 3085 Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin ), 5.1, II

**TDG**

This material is considered as Dangerous Goods per regulations of Transport Canada. The use of the above US DOT information from US 49 CDR regulations is allowed for shipments that originate in the United States.

**IMDG/IMO**

**IMO Class** 5.1  
**Packing Group** II  
**UN-No** 3085  
**IMO Labelling and Marking** 5.1 + 8 + Marine Pollutant Marking  
**Proper Shipping Name** Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin )  
**EmS** F-A, S-Q  
**Marpol - Annex II** Not applicable  
**Marpol - Annex III** Marine pollutant  
**Transport Description** UN 3085 Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin ), 5.1, II, Marine pollutant

**IATA/ICAO**

**IATA/ICAO Class** 5.1  
**Packing Group** II  
**UN-No** 3085  
**IATA/ICAO Labelling/Marking** 5.1 + 8 + 'Environmentally hazardous substance' mark  
**Passenger Aircraft** Maximum net quantity per package: 5 kg  
**Cargo aircraft only** Maximum net quantity per package: 25 kg  
**Proper shipping name** Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin )  
**Transport Description** UN 3085 Oxidizing solid, corrosive, n.o.s. ( 1,3-Dibromo-5,5-dimethyl hydantoin ), 5.1, II, Environmentally hazardous substance

<b>15. REGULATORY INFORMATION</b>											
International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
BOVIBROM®	X	X	-	X	X	X	X	X	X	X	X

(X) Complies (-) Does not Comply

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**

Yes

**Reportable and Threshold Planning Quantities**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**State Right-to-Know**

**16. OTHER INFORMATION**

<b>NFPA</b>	Health 3	Flammability 1	Instability 1	Physical Hazards -
<b>HMS</b>	Health 3	Flammability 1	Physical Hazards 1	

**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

**Preparation Date :** 15-Aug-2013

**Revision Date:** 12-Dec-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**