



# MATERIAL SAFETY DATA SHEET

## Product Name: Ram Bromine

4949 Greenhouse Road Houston, TX 77084-2205 281/856-7600 - 800/456-3459 - Fax 281/856-7015

### I - PRODUCT IDENTIFICATION

Product: Brominating Tablets  
Chemical Family: Halogenated hydantoin  
Formula: C<sub>5</sub>H<sub>6</sub>Br<sub>1</sub>Cl<sub>1</sub>N<sub>2</sub>O<sub>2</sub>  
CAS Number: 16079-88-2  
EPA Reg. Number: 69681-16  
Synonyms:

**24 HR EMERGENCY TELEPHONE NUMBER**  
INFOTRAC (Transportation): (800)535-5053

### II – COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical or Common Name</u>	<u>CAS#:</u>	<u>Weight</u>
1-bromo-3-chloro-5, 5-dimethylhydantoin	16079-88-2	96
	<u>EXPOSURE LIMITS</u>	
	<u>OSHA PEL(ppm)</u>	<u>ACGIH TLV(ppm)</u>
	N/E	N/E

N/E: Not established

### III – HAZARDS IDENTIFICATION

Immediate Concerns: DANGER: Highly corrosive: Causes skin and eye damage. May be fatal if swallowed. Do not get into eyes, on skin or on clothing. Wear goggles or safety glasses and rubber gloves when handling this product. Irritating to nose and throat. Avoid breathing dust and fumes. Remove contaminated clothing and wash before reuse.

Primary Route(s) of Entry:

- Ingestion: (X)
- Inhalation: (X)
- Skin Contact: (X)
- Eye Contact: (X)

Primary Health Hazards (Acute and Chronic): There are no known chronic hazards.

Signs & Symptoms of Exposure:

Ingestion: May be fatal if swallowed.

Inhalation: Irritating to nose and throat. Avoid breathing dust or fumes.

Skin Contact: DANGER: Highly Corrosive. Causes skin damage. Do not get on skin.

Eye Contact: DANGER: Highly Corrosive. Causes eye damage. Do not get in eyes.

Medical Conditions Aggravated By Exposure: Existing dermatitis may be aggravated by exposure.

#### **IV – FIRST AID MEASURES**

Emergency and First Aid Procedures:

Ingestion: If swallowed: Drink large amounts of water. Do not induce vomiting. Avoid alcohol. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, have trained person administer oxygen. If not breathing, give artificial respiration. Call a physician immediately.

Skin Contact: If contact with skin: Brush off excess chemical and flush skin with cold water for at least 15 minutes. If irritation persists, get medical attention.

Eye Contact: If contact with eyes occurs: Immediately flush with cold water for at least 15 minutes. Then get immediate medical attention.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

#### **V – FIRE FIGHTING MEASURES**

##### **FIRE AND EXPLOSION HAZARD DATA**

Flash Point: (Method Used)

Flammable Limits:

LEL:

UEL:

Extinguishing Media: In case of fire or smoke, call the fire department. Do not attempt to extinguish the fire without a self-contained breathing apparatus (SCBA). Do not let the fire burn. Flood with copious amounts of water. Do not use ABC or other dry chemical extinguishers since there is the potential for a violent reaction.

Special Fire-fighting Procedures: Fires fueled by other materials may release hydrogen bromide, bromine, hydrogen chloride or chlorine. Wear self-contained breathing apparatus. Ammonium phosphate (ABC) fire extinguishers should not be used.

Unusual Fire and Explosion Hazards: A dust explosion severity determination was performed using the Hartmann Dust Explosibility Bomb designed at the US Bureau of Mines. The product was determined not to be ignitable.

General Hazard: In large fires fueled by other materials, this product may smolder for prolonged periods emitting a dense black smoke.

Any spilled material should be considered contaminated. Neutralize to a non-oxidizing material for safe disposal. Material, which appears undamaged except for being damp on the outside, should be opened and inspected immediately. If the material is damp, it should be neutralized to a non-oxidizing material for safe disposal.

## **VI – ACCIDENTAL RELEASE MEASURES**

Steps To Be Taken In Case Material Is Spilled Or Released: Using appropriate protective clothing and safety equipment, contain spilled material. Do not add water to spilled material. Using clean dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry container for disposal. Do not use floor-sweeping compounds to clean up spills. Do not close containers containing wet or damp material. They should be left open to disperse any hazardous gases that may form. Do not transport wet or damp material. Keep product out of sewers, watersheds and water systems. Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Dispose of according to local, state and federal regulations.

## **VII – HANDLING AND STORAGE**

Precautions to Be Taken in Handling and Storage:

Handling: Strong oxidizing agent: Do not mix with other chemicals. Mix only with water. Never add water to product. Always add product to large quantities of water. Use clean dry utensils. Do not add the product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well-ventilated area. Flood area with large volume of water.

Storage: Keep this product in original closed container when not in use. Store in a cool, dry, well-ventilated area away from heat or open flame. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment. Do not store above 125° F (52°C)

Other Precautions: Do not reuse empty container. Rinse thoroughly before discarding in trash.

## **VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION**

Respiratory Protection: A respiratory protection program that meets OSHA 1910.1314 and ANSI Z88.2 requirements must be followed whenever workplace condition warrant a respirator's use.

Ventilation:

Local Exhaust: General room ventilation plus local exhaust should be used to minimize exposure to dust/vapors.

Mechanical Exhaust:

Other Protective Clothing or Equipment:

Eyes and Face: Wear goggles or safety glasses with side shields when handling this product.

Skin: Wear rubber gloves when handling this product. Avoid contact with skin.

Work/ Hygienic Practices: Remove and wash contaminated clothing before reuse.

Other Use Precautions: Facilities storing or utilizing this material should be equipped with an eyewash and safety shower.

## **IX - PHYSICAL/CHEMICAL CHARACTERISTICS**

Boiling Point: Not determined

Vapor Pressure (mm Hg): Not applicable

Vapor Density (Air=1): Not applicable

Solubility in Water: 0.15g/100g water

Appearance and odor: White tablets with faint halogen odor.

Specific Gravity (H<sub>2</sub>O=1):

Percent volatile by volume:

Melting Point: With Decomposition

Evaporation Rate:

Physical State: Solid

pH: 4.5 (0.1% solution in DI water)

Density: 60.1 lb/ft<sup>3</sup>

## **X – STABILITY AND REACTIVITY**

Stability:

Unstable                       Stable – under normal conditions

Conditions to Avoid: High temperature. Poor ventilation. Contamination.

Moisture/high humidity.

Hazardous Decomposition or By-Products: Hydrogen bromide, bromine, hydrogen chloride, chlorine.

Hazardous Polymerization:

May Occur    Will Not Occur – under normal conditions.

Conditions to Avoid:

Incompatible Materials: Avoid contact with water on concentrated material in the container. Avoid contact with easily oxidizable material; ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; floor sweeping compounds; calcium hypochlorite; other swimming pool/spa chemicals in their concentrated form; alkalis. Avoid contact with all other chemicals.

## **XI- TOXICOLOGICAL INFORMATION**

Acute Toxicity:

Eyes: Toxicological studies indicate this product to be corrosive to eyes.

Dermal LD<sub>50</sub>: The dermal LD<sub>50</sub> is greater than 2.0 g/kg (rabbit). The primary skin

irritation index is 6.1 and the product is considered corrosive to skin.

Oral LD<sub>50</sub>: 578 mg/kg (rat).

Target Organ Toxicity:

Reproductive and Development Toxicity:

Carcinogenicity: Not listed

OSHA: ( )

NTP: ( )

IARC: ( )

Mutagenicity:

## **XII- ECOLOGICAL INFORMATION**

Ecotoxicological Information: This product is toxic to fish and organisms. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or their waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewer treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

## **XIII - DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your state Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment. Do not put product, spilled product, or filled or partially filled container into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire.

## **XIV - TRANSPORTATION DATA**

U.S. Department of Transportation - 49 CFR

Proper Shipping Name: Oxidizing Solid, N.O.S. (bromo-chloro-dimethylhydantoin)

Hazard Class/Division Number: 5.1

ID Number: UN1479

Packing Group: II

Label Required: Oxidizer (5.1)

Placard Required:

Marine Pollutant:

Emergency Telephone Number:

Poison Control Center (Medical) 877-800-5553

International Maritime Organization - IMDG

Proper Shipping Name:  
Hazard Class/Division Number:  
ID Number:  
Packing Group:  
Label Required:  
Placard Required:  
Marine Pollutant:  
Emergency Telephone Number:

**XV - REGULATORY INFORMATION**

UNITED STATES

SARA TITLE III: 313: This product or its components are not listed.

CERCLA REGULATORY: This product or its components are not listed.

TSCA REGULATORY: This product or its components are not subject or export notification.

TSCA Status: This product or its components are listed on the TSCA inventory.

OSHA HAZARD COMM RULE: Product is hazardous by definition of the Hazardous Communication Standard.

CLEAN WATER ACT: not listed.

FIFRA: This product is a registered pesticide.

SDWA: not listed.

CLEAN AIR ACT: 40 CFR Part 68 – not listed.

STATE REGULATIONS: Proposition 65 statement:

This product or its components are not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

**XVI - ADDITIONAL INFORMATION**

This MSDS replaces the 3/21/2000 version. Any changes in information are as follows:  
In Section I - 24 hr emergency telephone number

**ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.**

Due to the changing nature of regulatory requirements, the REGULATORY INFORMATION listed in Section XV of this document should NOT be considered all-inclusive or authoritative. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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