



MSDS Number: 00255

Effective Date: 03/31/2005

Product Name: Agribrom®, Agribrom® Granules, Agribrom® Tablets

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SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Agribrom®, Agribrom® Granules, Agribrom® Tablets
Manufacturer: Great Lakes Chemical Corporation
Address: P.O. Box 2200 City: West Lafayette
State: Indiana Zip: 47996-2200
Emergency Telephone Number: 1-800-949-5167
Information Telephone Number: 1-765-497-6100 Fax: 1-765-497-6123
Chemtrec Phone: 1-800-424-9300; Internationally call 703-527-3887
Effective Date: 03/31/2005 Supercede Date: 12/15/2004
MSDS Prepared By: Regulatory Affairs Department/Great Lakes Chemical Corporation
Synonyms: 1-Bromo-3-chloro-5,5-dimethyl-2,4-imadazolidinedione
Product Use: EPA registered pesticide
Chemical Name: 1-Bromo-3-chloro-5,5-dimethylhydantoin
Chemical Family: Halogenated heterocyclic

Additional Information

No information available

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Table with 4 columns: INGREDIENT NAME, CAS No., %, EXPOSURE LIMITS. Rows include 1-Bromo-3-chloro-5,5-dimethylhydantoin (96.0%) and Inerts (4.0%).

*Indented chemicals are components of previous ingredient.

Additional Information

Additional exposure limits:
5 mg/m3 Respirable Dust Level (OSHA)
3 mg/m3 Respirable Dust Level (ACGIH)
Maintain at low levels to avoid dust irritation.
PNOR = Particulates Not Otherwise Regulated
PNOS = Particulates Not Otherwise Specified

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview:
White granules or tablets
Faint halogen odor
May be harmful if swallowed.
May be harmful if inhaled.
Corrosive to eyes.

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SECTION III - HAZARDS IDENTIFICATION

Relevant Routes of Exposure:	Corrosive to skin. Contact can result in chemical burns.		
Signs and Symptoms of Overexposure:	Oxidizer Inhalation and ingestion. Contact may cause reddening, general irritation, a burning sensation or irreversible damage to the skin and eyes. Inhalation of dust can cause nasal and throat irritation.		
Medical Conditions Generally Aggravated By Exposure:	None reported. Existing dermatitis may be aggravated by exposure.		
Potential Health Effects:	See Section XI for additional information.		
Eyes:	Corrosive to the eyes. May cause chemical burns.		
Skin:	Corrosive to skin. May cause chemical burns.		
Ingestion:	May be harmful if swallowed.		
Inhalation:	May be harmful if inhaled. Irritating to the nose, throat, mucous membranes and upper respiratory tract.		
Chronic Health Effects:	None known		
Carcinogenicity:			
NTP:	No	ACGIH:	No
IARC:	No	OTHER:	No
OSHA:	No		

Additional Information

No information available

SECTION IV - FIRST AID MEASURES

Eyes:	Irrigate eyes with large volumes of room temperature water for at least 15 minutes, then seek medical attention promptly.
Skin:	Remove contaminated clothing immediately. Brush off excess chemical and wash skin with large volumes of soap and water, flushing the skin with water for at least 15 minutes. If skin irritation develops, seek medical attention.
Ingestion:	Seek medical attention promptly. Do not induce vomiting. Do not drink alcohol. Drink at least 8 ounces of water (not to exceed 0.23 oz. per pound in a child.)
Inhalation:	Remove person to fresh air. Get medical attention.
Antidotes:	No information available
Notes to Physicians and/or Protection for First-Aiders:	Probable mucosal damage may contraindicate the use of gastric lavage.

Additional Information

No information available

SECTION V - FIRE FIGHTING MEASURES

Flammable Limits in Air (% by Volume):	Not available
Flash Point:	Not applicable
Autoignition Temperature:	Not available
Extinguishing Media:	Water Ammonium phosphate fire extinguishers should not be used.
Fire Fighting Instructions:	Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact in fire situations.
Unusual Fire and Explosion Hazards:	In large fires fueled by other materials, the product may smolder for prolonged periods emitting a dense black smoke. Under fire conditions, toxic and irritating fumes may be emitted.

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SECTION V - FIRE FIGHTING MEASURES

Flammability Classification: A dust explosion severity determination was performed using the Hartman Dust Explosibility Bomb designed at the U.S. Bureau of mines. The product was determined not be ignitable.
Non-flammable solid

Known or Anticipated Hazardous Products of Combustion: Hydrogen bromide and/or bromine
Hydrogen chloride and/or chlorine
Oxides of nitrogen
Carbon monoxide and carbon dioxide

Additional Information

No information available

SECTION VI - ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Wearing appropriate personal protective equipment, carefully sweep up material and place in suitable labeled containers for disposal.

Personal Precautions: See Section VIII.

Environmental Precautions: Avoid releasing to the environment.

Additional Information

No information available

SECTION VII - HANDLING AND STORAGE

Handling: Use appropriate personal protection equipment.
Avoid eye, skin and clothing contact.
Avoid breathing dust.
Avoid repeated and prolonged contact.
Avoid creating a dusting situation.
Strong oxidizing agent. Mix only with water. Use clean, dry utensils and equipment. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire and explosion. Contamination with moisture, organic matter or other chemicals may start a chemical reaction with generation of heat, hazardous gases and 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. If necessary, flood with large volumes of water.

Storage: Keep product dry in tightly closed container when not in use. Store in a cool, dry, well-ventilated area away for heat, open flames, organic chemicals and sunlight.

Other Precautions: Do not contaminate water, food or feed by storage or disposal.

Additional Information

No information available

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Adequate general ventilation is recommended when handling to control airborne levels.

Ventilation Requirements: Use local exhaust to minimize dusting.
Use mechanical ventilation for general area control.

Personal Protective Equipment:

Eye/Face Protection: Chemical safety goggles

Skin Protection: Rubber or plastic gloves
Coveralls over long-sleeved shirt and long pants
Chemical-resistant footwear plus socks

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SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Chemical resistant headgear for overhead exposure
Chemical resistant apron when cleaning equipment, mixing or loading
Wear a NIOSH/MSHA approved dust respirator if dusting occurs, or there is potential for airborne exposures to exceed established threshold values.

Mixer and loaders must wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

Consult the OSHA respiratory protection information located at 29CFR 1910.134 and the American National Standard Institute's Practices of Respiratory Protection Z88.2.

Other Protective Clothing or Equipment:

No information available

Exposure Guidelines:

See Section II.

Work Hygienic Practices:

Wash thoroughly after handling.

Wash contaminated clothing before reuse.

Additional Information

No information available

SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	White granules or tablets	Percent Volatile:	Not available
Boiling Point:	Not available	pH Value:	Not available
Bulk Density:	64.5 lb/cu. ft.	pH Concentration:	Not available
Color:	White	Physical State:	Solid
Decomposition Temperature:	Not available	Reactivity in Water:	Not water reactive
Evaporation Rate:	Not available	Saturated Vapor Concentration:	Not available
Freezing Point:	Not available	Softening Point:	Not available
Heat Value:	Not available	Solubility in Water:	0.15 g/100 mL
Melting Point:	~320 degrees F	Specific Gravity or Density (Water=1):	0.9
Molecular/Chemical Formula:	C5H6BrClN2O2	Vapor Density:	Not available
Molecular Weight:	241.47	Vapor Pressure:	Not available
Octanol/Water Partition Coefficient:	0.35	Viscosity:	Not available
Odor:	Faint halogen	Volatile Organic Compounds:	Not available
Odor Threshold:	Not available	Water/Oil Distribution Coefficient:	Not available
Particle Size:	Not available	Weight Per Gallon:	Not available

Additional Information

No information available

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions of handling and use.

Conditions to Avoid: Contamination with moisture, organic matter or other chemicals may start a chemical reaction with generation of heat, hazardous gases and possible fire and explosion.

Incompatibility With Other Materials: Organic chemicals
Readily oxidizable materials
Reducing agents

Hazardous Decomposition Products: Thermal decomposition may produce the following:
Hydrogen bromide and/or bromine

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SECTION X - STABILITY AND REACTIVITY

Hazardous Polymerization: Hydrogen chloride and/or chlorine
Oxides of nitrogen
Carbon monoxide and carbon dioxide
Will not occur
Conditions to Avoid: None

Additional Information

No information available

SECTION XI - TOXICOLOGICAL INFORMATION

VALUE (LD50 OR LC50)	ANIMAL	ROUTES	COMPONENTS
>2.0 g/kg	Rabbit	Acute Dermal	1-Bromo-3-chloro-5,5-dimethylhydantoin
578 mg/kg	Rat	Acute Oral	1-Bromo-3-chloro-5,5-dimethylhydantoin

Toxicological Information:

This material is harmful by ingestion and inhalation.

The primary skin irritation index has been determined to be 6.1 and the product is considered corrosive to the skin. This material is corrosive to the eyes and can cause irreversible eye damage on contact. Contact with dilute solution (0.1% or less) is non-irritating to the eyes and skin.

No deaths were observed in a 4-hour acute inhalation study with rats exposed to 3.2 mg/L of a 100 ppm aqueous solution of the product.

This material was not found to be mutagenic in in vitro microbial assays employing Salmonella and Saccharomyces indicator organisms in the absence and presence of liver microsomal enzyme preparations from Arochlor (S9) induced rats.

Other acute and chronic health hazards, as well as target organs, are unknown.

As with all dusts, inhalation of air concentration levels above the PNOR may cause irritation and adverse lung effects.

Additional Information

No information available

SECTION XII - ECOLOGICAL INFORMATION

Ecological Information:

This product is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other 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 sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

The following ecological information is offered:

LC50 in Water flea (48H) = 0.48 mg/L

LC50 in Rainbow trout (96H) = 0.87 mg/L

LC50 in Fathead minnow (96H) = 2.25 mg/L

LC50 in Grass shrimp (96H) = 13.0 mg/L

LC50 in Sheepshead minnow (96H) = 20.0 mg/L

LC50 in American oyster (96H) >640 mg/L

Additional Information

No information available

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SECTION XIII - DISPOSAL CONSIDERATIONS

Disposal Considerations: Dispose of waste at an approved chemical disposal facility in compliance with all current Local, State/Province, Federal/Canadian laws and regulations.
Open dumping is prohibited.

Additional Information

For empty containers: Do not reuse empty container. Triple rinse the container (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate. Burn only if allowed by state or local authorities. If burned, stay out of smoke.

SECTION XIV - TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name:	Oxidizing solid, n.o.s. (1-Bromo-3-chloro-5,5-dimethylhydantoin)	ID Number:	UN1479
Hazard Class:	5.1	Labels:	5.1
Packing Group:	II	Packaging Exceptions:	152
Special Provisions:	IB8, IP2, IP4	Bulk Packaging:	240
Non-Bulk Packaging:	212	Air Cargo Limit:	25 kg
Passenger Air/Rail Limit:	5 kg	Other Stowage:	56, 58, 69, 106, 138
Vessel Stowage:	B		
Reportable Quantity:	N/A		

AIR - ICAO OR IATA

Proper Shipping Name:	Oxidizing solid, n.o.s. (1-Bromo-3-chloro-5,5-dimethylhydantoin)	ID Number:	UN1479
Hazard Class:	5.1	Packing Group:	II
Subsidiary Risk:	N/A	Packing Instructions:	508; LQ Y508
Hazard Labels:	Oxidizer	Packing Instruction - Cargo:	511
Air Passenger Limit Per Package:	5kg;LQ 2.5kg	Special Provisions Code:	N/A
Air Cargo Limit Per Package:	25 kg		

WATER - IMDG

Proper Shipping Name:	Oxidizing solid, n.o.s. (1-Bromo-3-chloro-5,5-dimethylhydantoin)	ID Number:	UN1479
Hazard Class:	5.1	Subsidiary Risk:	N/A
Packing Group:	II		
Medical First Aid Guide Code:	NA		

Additional Information

EmS No. F-A, S-Q

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations:

These products are offered as EPA registered pesticides.

State Regulations:

None known

International Regulations:

This material (or each component) is listed on the following inventories:

Canada - DSL

EU - EINECS

Australia - AICS

Korea - ECL

Philippines - PICCS

Canadian WHMIS Hazard Class and Division = Not controlled

SARA Hazards:

Acute:	Yes	Chronic:	No
Reactive:	No	Fire:	Yes
Pressure:	No		

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SECTION XV - REGULATORY INFORMATION

Additional Information

The above regulatory information represents only selected regulations and is not meant to be a complete list.

SECTION XVI - OTHER INFORMATION

NFPA Codes:

Health: 3

Reactivity: 2

Flammability: 1

Other: O

HMIS Codes:

Health: 3

Reactivity: 2

Flammability: 1

Protection: X

Label Statements:

Not available

Other Information:

Abbreviations:

(L) = Loose bulk density in g/ml

LOEC = Lowest observed effect concentration

MATC = Maximum acceptable toxicant concentration

NA = Not available

N/A = Not applicable

NL = Not limited

NOAEL = No observable adverse effect level

NOEC = No observed effect concentration

NOEL = No observable effect level

NR = Not rated

(P) = Packed bulk density in g/ml

PNOR = Particulates Not Otherwise Regulated

PNOS = Particulates Not Otherwise Specified

REL = Recommended exposure limit

TS = Trade secret

Additional Information

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200 and the Canadian Hazardous Products Act and associated Controlled Products Regulations and shall not be used for any other purpose.

Revision Information:

Section XIV - Transportation Information