

MATERIAL SAFETY DATA SHEET

Section 1. Chemical Product and Company Identification

Product Name: ChemTreat C2188
Product Use: Cooling Water Microbiocide
Supplier's Name: ChemTreat, Inc.
Emergency Telephone Number: (800) 424-9300 (Toll Free)
(703) 527-3887
Address (Corporate Headquarters): 5640 COX ROAD
Glen Allen, VA 23060
Telephone Number for Information: (800) 648-4579
Date of MSDS: February 22, 2012

Section 2. Hazard(s) Identification



Signal Word: DANGER!

Hazard Statement(s): Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful in contact with skin.
Harmful if inhaled.
Harmful if swallowed.
Toxic to aquatic life.
May intensify fire; oxidizer.

Precautionary Statement(s): Wear protective gloves/clothing and eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area.

Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
1-Bromo-3-chloro-5,5-dimethylhydantoin	126-06-7	54.2
1,3-Dichloro,-5,5-dimethylhydantoin	118-52-5	28.9
1,3-Dichloro-5-ethyl-5-methylhydantoin	89415-87-2	15.9
Sodium chloride	7647-14-5	1.0

Section 4. First Aid Measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
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.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Notes to Physician:	Probable mucosal damage may contraindicate the use of gastric lavage.
Additional First Aid Remarks:	Have the product container, label or MSDS with you when calling a poison control center or doctor, or when going for treatment.

Section 5. Fire Fighting Measures

Flammability of the Product:	Product is an oxidizer. Oxidizers may increase the intensity of a fire.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire. Do not use ammonium phosphate dry chemical.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
Environmental Precautions:	This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public 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.

Methods for Cleaning up: Carefully shovel or sweep up spilled material and place in suitable container.
Avoid generating dust.

Other Statements: None.

Section 7. Handling and Storage

Handling: Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.

Storage: Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.
Store in dry place.
Protect from heat and sources of ignition.

Section 8. Exposure Controls/Personal Protection

Exposure Limits

Component	Source	Exposure Limits
1-Bromo-3-chloro-5,5-dimethylhydantoin		N/E
1,3-Dichloro,-5,5-dimethylhydantoin	ACGIH TLV	0.4 mg/m ³ STEL
	OSHA PEL	0.2 mg/m ³ TWA
1,3-Dichloro-5-ethyl-5-methylhydantoin		N/E
Sodium chloride		N/E

Carcinogenicity Category

Component	Source	Code	Brief Description
1-Bromo-3-chloro-5,5-dimethylhydantoin			N/E
1,3-Dichloro,-5,5-dimethylhydantoin			N/E
1,3-Dichloro-5-ethyl-5-methylhydantoin			N/E
Sodium chloride			N/E

Engineering Controls: Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.

Personal Protection

- Eyes:** Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.
- Skin:** Maintain quick-drench facilities in work area.
Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.
- Respiratory:** If dust is present during handling, wear a dust mask.

Section 9. Physical and Chemical Properties

Physical State and Appearance:	Tableted Solid, White, Opaque
Specific Gravity:	N/A
pH:	6.8 @ 20°C, 0.1%
Freezing Point:	N/A
Flash Point:	>200°F
Odor:	Strong
Melting Point:	N/A
Boiling Point:	N/D
Solubility in Water:	N/D
Evaporation Rate:	N/D
Vapor Density:	N/D
Molecular Weight:	N/D
Viscosity:	N/A
Flammable Limits:	N/A
Autoignition Temperature:	N/A
Density:	0.00 lb/ga
Vapor Pressure:	N/D
% VOC	N/D

Section 10. Stability and Reactivity

- Chemical Stability:** Stable at normal temperatures and pressures.
- Incompatibility with Various Substances:** Reducing agents, Strong bases, Ammonia
- Hazardous Decomposition Products:** Hydrogen bromide, Bromine, Hydrogen chloride, Chlorine
- Possibility of Hazardous Reactions:** None known.

Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
1-Bromo-3-chloro-5,5-dimethylhydantoin	Dermal	LD50	>2000 mg/kg	Rat
1,3-Dichloro-,5,5-dimethylhydantoin	Oral	LD50	766 – 800 mg/kg	Rat
ChemTreat C2188	Oral	LD50	468 mg/kg	Rat

Comments: None.

Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Rainbow Trout	96h	LC50	0.5 mg/l
Daphnia magna	48h	LC50	0.4 mg/l
Sheepshead Minnow	96h	LC50	1.4 mg/l
Mysid Shrimp	96h	LC50	0.93 mg/l
Bluegill Sunfish	96h	LC50	1.2 mg/l

Comments: None.

Section 13. Disposal Considerations

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by procedures approved by state and local authorities. EPA ignitibility characteristic hazardous waste D001 when disposed of in the original product form.

Section 14. Transport Information

DOT

Proper Shipping Name: OXIDIZING SOLID, CORROSIVE, N.O.S.
Technical Name: (BROMOCHLORO-5,5-DIMETHYLIMIDAZOLIDINE-2,4-DIONE)
Hazard Class: Oxidizer
Corrosive
UN/NA#: UN3085
Packing Group: PGIII

Section 15. Regulatory Information

Inventory Status

United States (TSCA): All ingredients listed.
 Canada (DSL/NDSL): All ingredients listed.

Federal Regulations

SARA Title III Rules

Sections 311/312 Hazard Classes

Fire Hazard: No
 Reactive Hazard: No
 Release of Pressure: No
 Acute Health Hazard: Yes
 Chronic Health Hazard: No

Other Sections

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
1-Bromo-3-chloro-5,5-dimethylhydantoin	N/A	N/A	N/A
1,3-Dichloro,-5,5-dimethylhydantoin	N/A	N/A	N/A
1,3-Dichloro-5-ethyl-5-methylhydantoin	N/A	N/A	N/A
Sodium chloride	N/A	N/A	N/A

Comments: None.

State Regulations

California Proposition 65: None known.

Special Regulations

Component	States
1-Bromo-3-chloro-5,5-dimethylhydantoin	None
1,3-Dichloro,-5,5-dimethylhydantoin	MA, MN, PA, WA
1,3-Dichloro-5-ethyl-5-methylhydantoin	None
Sodium chloride	None

International Regulations

Canada

WHMIS Classification: N/A

Controlled Product Regulations (CPR): N/A

Section 16. Other Information

HMIS Hazard Rating

Health: 3
Flammability: 1
Physical Hazard: 1
PPE: X

Notes: The PPE rating depends on circumstances of use. See Section 8 for recommended PPE.
 The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha-numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end-user must determine if the code is appropriate for their use.

NSF: N/A

FDA/USDA/GRAS: N/A

KOSHER: This product is certified by the Orthodox Union as kosher pareve. Only when prepared by the following ChemTreat facilities: Ashland, VA; Eldridge, IA; Nederland, TX; Vernon, CA.

FIFRA: This product is an EPA registered biocide. 6836-115-15300

Other: None

Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept



PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

Prepared by: Regulatory Affairs Department

Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.