



# Material Safety Data Sheet

Issue Date: 07-JUN-2011  
Supersedes: 19-OCT-2009

## SPECTRUS OX103

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### 1 Identification

**Identification of substance or preparation**  
SPECTRUS OX103

**Product Application Area**  
Biocide

**Company/Undertaking Identification**  
GE Betz, Inc.  
4636 Somerton Road  
Trevose, PA 19053  
T 215 355-3300, F 215 953 5524

**Emergency Telephone**  
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300    Prepared on: 07-JUN-2011

### 2 Hazard(s) identification

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**EMERGENCY OVERVIEW**

**DANGER**

Moderately irritating. May be corrosive in contact with moist skin.  
Severe irritant to the eyes. Dusts cause irritation to the upper respiratory tract.

DOT hazard: Oxidizer  
Odor: Halogen; Appearance: White, Tablets

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type). Proper fire-extinguishing media: Flood with water. Use of CO2 or foam may not be effective.

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**POTENTIAL HEALTH EFFECTS**

**ACUTE SKIN EFFECTS:**

Primary route of exposure; Moderately irritating. May be corrosive in contact with moist skin.

**ACUTE EYE EFFECTS:**

Severe irritant to the eyes.

**ACUTE RESPIRATORY EFFECTS:**

Dusts cause irritation to the upper respiratory tract.

**INGESTION EFFECTS:**

May cause severe irritation or burning of the gastrointestinal tract.

**TARGET ORGANS:**

Repeated skin contact may cause sensitization.

**MEDICAL CONDITIONS AGGRAVATED:**

Pre-existing skin disorders.

**SYMPTOMS OF EXPOSURE:**

May cause redness or itching of skin, irritation, and/or tearing of eyes (direct contact).

### 3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

**HAZARDOUS INGREDIENTS:**

Cas#	Chemical Name	Range (w/w%)
32718-18-6	BROMO-CHLORO, 5,5-DIMETHYL HYDANTOIN Oxidizer; irritant (eyes and skin)	60-100

### 4 First-aid measures

**SKIN CONTACT:**

Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

**EYE CONTACT:**

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

**INHALATION:**

Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

**INGESTION:**

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

**NOTES TO PHYSICIANS:**

Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

### 5 Fire-fighting measures

**FIRE FIGHTING INSTRUCTIONS:**

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

**EXTINGUISHING MEDIA:**

Flood with water. Use of CO2 or foam may not be effective.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

oxides of carbon and hydrogen bromide

**FLASH POINT:**

> 200F > 93C P-M(CC)

**MISCELLANEOUS:**

Oxidizer

UN 1479;Emergency Response Guide #140

## 6 Accidental release measures

**PROTECTION AND SPILL CONTAINMENT:**

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Product releases chlorine when wet. Spill residue may be neutralized with 3% hydrogen peroxide solution.

**DISPOSAL INSTRUCTIONS:**

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement, a permitted waste treatment facility or discharged under a permit. Product as is - Dispose of in approved pesticide facility or according to label instructions.

## 7 Handling and storage

**HANDLING:**

Oxidizer. Avoid all contact with reducing agents, oils, greases, organics and acids.

**STORAGE:**

Keep containers closed when not in use. Keep dry. Do not store at high temperature or near oxidizables or combustibles. Shelf life 270 days.

## 8 Exposure controls / personal protection

**EXPOSURE LIMITS****CHEMICAL NAME**

BROMO-CHLORO, 5,5-DIMETHYL HYDANTOIN

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

**ENGINEERING CONTROLS:**

Adequate ventilation to maintain air contaminants below exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT:**

Use protective equipment in accordance with 29CFR 1910 Subpart I

**RESPIRATORY PROTECTION:**

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED

WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.  
If air-purifying respirator use is appropriate, use a respirator with acid gas cartridges and any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

**SKIN PROTECTION:**

gauntlet-type butyl or rubber gloves, chemical resistant apron-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

airtight chemical goggles

## 9 Physical and chemical properties

Density	60.000 lb/cu.ft	Vapor Pressure (mmHG)	< 1.0
Freeze Point (F)	NA	Vapor Density (air=1)	< 1.00
Freeze Point (C)	NA		
Viscosity(cps 70F,21C)	NA	% Solubility (water)	0.2
Odor		Halogen	
Appearance		White	
Physical State		Tablets	
Flash Point	P-M(CC)	> 200F > 93C	
pH 5% Disp. (approx.)		4.7	
Evaporation Rate (Ether=1)		< 1.00	
Percent VOC:		0.0	

**NA = not applicable      ND = not determined**

## 10 Stability and reactivity

**CHEMICAL STABILITY:**

Stable under normal storage conditions.

**POSSIBILITY OF HAZARDOUS REACTIONS:**

No known hazardous reactions.

**INCOMPATIBILITIES:**

Slowly releases halogen gases when contaminated with moisture. May react with alkalis, acids, organics or reducing agents.

**DECOMPOSITION PRODUCTS:**

oxides of carbon and hydrogen bromide

## 11 Toxicological information

Oral LD50 RAT: 578 mg/kg  
NOTE - 600 mg/kg per alt. source; dehalogenated byproduct Rat Oral LD50: >4,000 mg/kg

Teratology RAT:  
NOTE - Dehalogenated byproduct study had terata (secondary) at maternal toxic doses

Reproductive Toxicity RAT: 4,500 mg/kg/day  
NOTE - Dehalogenated byproduct study had no adverse reproductive toxicity

Dermal LD50 RABBIT: >2,000 mg/kg  
NOTE - Alternate source concurs

Inhalation LC50 RAT: 1.88 mg/L/4hr  
NOTE - >3.2 mg/L/4hr at 100 ppm (no deaths) per alternate source

Skin Irritation Score RABBIT: 6.1  
NOTE - 6.98 per alternate source; reversible; dehalogenated  
byproduct score: 0.8  
Eye Irritation Score RABBIT: 103  
NOTE - 14 Day-irreversible-max.at day 3; dehalogenated byproduct  
score: 12.8-reversible  
90 Day Feed Study RAT:  
NOTE - Dehalogenated byproduct 90-day oral LD50: >2,000 mg/kg/day  
Skin Sensitization G.PIG: POSITIVE  
NOTE - Buehler Test; dehalogenated byproduct was negative in  
Buehler Test  
Ames Assay BACTERIA: NEGATIVE  
NOTE - +/- Metabolic activation; dehalogenated byproduct: negative  
Non-Ames Mutagenicity YEAST: NEGATIVE  
NOTE - Dehalogenated byproduct negative for: Mouse Lymphoma, SCE,  
Cell transformation

## 12 Ecological information

### AQUATIC TOXICOLOGY

American Oyster 96 Hour Static Acute Bioassay  
LC50 Greater Than= 640; No Effect Level= 12 mg/L  
Daphnia magna 21 Day Chronic Bioassay  
Reproduction NOEL= .06 mg/L  
Daphnia magna 48 Hour Static Acute Bioassay  
LC50= .49; No Effect Level= .32 mg/L  
Fathead Minnow 96 Hour Static Acute Bioassay  
LC50= 2.43; No Effect Level= 1.83 mg/L  
Grass Shrimp (Palaemonetes pugio) 96 Hour Static Acute Bioassay  
LC50= 14; No Effect Level= 6.5 mg/L  
Rainbow Trout 96 Hour Static Acute Bioassay  
LC50= .94; No Effect Level= .54 mg/L  
Sheepshead Minnow 96 Hour Static Acute Bioassay  
LC50= 21.6; No Effect Level= 12.1 mg/L

### BIODEGRADATION

BOD-28 (mg/g): 11  
BOD-5 (mg/g): 6  
COD (mg/g): 920  
TOC (mg/g): 250

## 13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :  
D001=Ignitable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

## 14 Transport information

Transportation Hazard: Oxidizer  
DOT: OXIDIZING SOLID, N.O.S.(BROMO-CHLORO-DIMETHYL-HYDANTOIN)  
5.1, UN 1479, PG II  
DOT EMERGENCY RESPONSE GUIDE #: 140  
Note: Some containers may be DOT exempt, please check BOL for  
exact container classification  
IATA: FORBIDDEN BY AIR  
IMDG: OXIDIZING SOLID, N.O.S.(Bromo-3-Chloro-5, 5-Dimethylhydantoin)  
5.1, UN 1479, PG II, MARINE POLLUTANT

## 15 Regulatory information

### **TSCA:**

This is an EPA registered biocide and is exempt from TSCA inventory requirements.

### **CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):**

No regulated constituent present at OSHA thresholds

### **FIFRA REGISTRATION NUMBER:**

83451-4-3876

### **FOOD AND DRUG ADMINISTRATION:**

The ingredients in this product are approved by FDA under 21 CFR 176.300.

### **NSF Registered and/or meets USDA (according to 1998 Guidelines):**

Registration number: 140722

Category Code(s):

- G5 Cooling and retort water treatment products - all food processing areas
- G7 Boiler treatment products - all food processing areas/nonfood contact

### **SARA SECTION 312 HAZARD CLASS:**

Immediate(acute);Delayed(Chronic);Fire;Reactive

### **SARA SECTION 302 CHEMICALS:**

No regulated constituent present at OSHA thresholds

### **SARA SECTION 313 CHEMICALS:**

No regulated constituent present at OSHA thresholds

### **CALIFORNIA REGULATORY INFORMATION**

#### **CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):**

No regulated constituents present

### **MICHIGAN REGULATORY INFORMATION**

No regulated constituent present at OSHA thresholds

## 16 Other information

<b>HMIS vII</b>		<b>CODE TRANSLATION</b>
Health	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	1	Slight Hazard
Special	OXY	DOT or NFPA Oxidizer
(1) Protective Equipment	C	Goggles,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

**CHANGE LOG**

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
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MSDS status:	06-OCT-1997		** NEW **
	09-SEP-1998	15	06-OCT-1997
	14-SEP-1999	;EDIT:9	09-SEP-1998
	21-APR-2000	4	14-SEP-1999
	22-SEP-2000	8	21-APR-2000
	06-DEC-2000	12	22-SEP-2000
	03-JAN-2001	15	06-DEC-2000
	22-MAR-2001	15	03-JAN-2001
	18-FEB-2002	3,4	22-MAR-2001
	19-FEB-2002	3,4	18-FEB-2002
	20-FEB-2002	3,4	19-FEB-2002
	02-SEP-2005	16	20-FEB-2002
	08-FEB-2008	7	02-SEP-2005
	17-JUN-2009	10,15	08-FEB-2008
	19-OCT-2009	15	17-JUN-2009
	07-JUN-2011	3,8	19-OCT-2009