GE Betz

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Material Safety Data Sheet

Issue Date: 20-FEB-2002

EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940

1 PRODUCT IDENTIFICATION

PRODUCT NAME:

SPECTRUS OX103

PRODUCT APPLICATION AREA:

BIOCIDE

2 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
16079-88-2	1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN Oxidizer; irritant (eyes and skin)

No component is considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration at OSHA thresholds for carcinogens.

3 HAZARDS 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

Emergency Response Guide #140
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:
Not known.

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

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 3-4 glasses 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:

Thermal decomposition (destructive fires) yields elemental oxides.

FLASH POINT:

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

MISCELLANEOUS:

Oxidizer
UN1479;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 & 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.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

CHEMICAL NAME	EXPOSURE LIMITS
1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN	
PEL (OSHA):	NOT DETERMINED
TLV (ACGIH):	NOT DETERMINED

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 dust/mist prefilters.

SKIN PROTECTION:

gauntlet-type neoprene gloves, chemical resistant apron--

Wash off after each use. Replace as necessary.

EYE PROTECTION:

airtight chemical goggles

9 PHYSICAL & CHEMICAL PROPERTIES

Density	60.000 lb/cu.	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

NA = not applicable ND = not determined

10 STABILITY & REACTIVITY

STABILITY:

Stable under normal storage conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

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

DECOMPOSITION PRODUCTS:

Thermal decomposition (destructive fires) yields elemental oxides.

INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"B"

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

DOT HAZARD: Oxidizer
UN / NA NUMBER: UN1479
DOT EMERGENCY RESPONSE GUIDE #: 140

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:

5185-420-3876

FOOD AND DRUG ADMINISTRATION:

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

USDA FEDERALLY INSPECTED MEAT AND POULTRY PLANTS:

This product is composed of ingredients previously approved by USDA to meet G5 and G7 classification and may be used in water for cooking/cooling or in boiler or cooling systems with no food 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) CHEMICALS PRESENT:

No regulated constituent present at OSHA thresholds

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 OTHER INFORMATION

NFPA/HMIS		CODE TRANSLATION
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
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