GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 23-SEP-2011
Supercedes: 07-JUN-2011

BIOMATE MBC2881

1 Identification

Identification of substance or preparation
BIOMATE MBC2881

Product Application Area
Biocide

Company/Undertaking Identification
GE Betz, Inc.
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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: 23-SEP-2011

2 Hazard(s) identification

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EMERGENCY OVERVIEW

DANGER

May cause moderate irritation to the skin. Potential skin sensitizer. Corrosive to the eyes. Mists/aerosols cause irritation to the upper respiratory tract.

DOT hazard: Corrosive to aluminum
Odor: Slight; Appearance: Colorless To Brown, Liquid

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; May cause moderate irritation to the skin. Potential skin sensitizer.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols cause irritation to the upper respiratory tract.

INGESTION EFFECTS:
May cause gastrointestinal irritation. Very large doses may cause diarrhea, depression, colic and death. May also cause severe allergic reactions in sensitive individuals.

TARGET ORGANS:
Repeated skin contact may cause sensitization.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Causes redness or itching of skin, possibly leading to burns (dependent on the length of exposure).

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. This product is subject to the Pennsylvania and New Jersey Worker and Community Right to Know Law.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
10222-01-2	DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE) Corrosive (eyes); highly toxic(by inhalation); toxic(by ingestion); potential sensitizer	15-40
7647-15-6	SODIUM BROMIDE Irritant	3-7
3252-43-5	DIBROMOACETONITRILE Irritant (skin); IARC=2B	1-5

NON-HAZARDOUS INGREDIENTS:

CAS#	CHEMICAL NAME
7732-18-5	WATER
25322-68-3	POLYETHYLENE GLYCOL

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:
URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. 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:
For eye injury, consult with an ophthalmologist promptly.

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 nitrogen, hydrogen bromide

FLASH POINT:
> 212F > 100C SETA(CC)

MISCELLANEOUS:
Corrosive to aluminum
UN 3265;Emergency Response Guide #153

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. Flush area with water. Spread sand/grit. Neutralize with soda ash.

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:
Acidic. Corrosive(Eyes). Do not mix with alkaline material.

STORAGE:
Keep containers closed when not in use. Avoid excessive heat and contamination. Store only in vented containers. Shelf life 270 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

DBNPA (2,2-DIBROMO-3-NITRILOPROPIONAMIDE)
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.
MISC: Note- manufacturer's recommended exposure limit: 2 mg/m3(ceiling)-for powder.

SODIUM BROMIDE
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

DIBROMOACETONITRILE
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 organic vapor/acid gas cartridges and dust/mist prefilters.

SKIN PROTECTION:
butyl gloves-- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.269	Vapor Pressure (mmHG)	< 0.1
Freeze Point (F)	~ ~ 0	Vapor Density (air=1)	> 1.00
Freeze Point (C)	~ -18		
Viscosity(cps 70F,21C)	64	% Solubility (water)	100.0

Odor		Slight
Appearance		Colorless To Brown
Physical State		Liquid
Flash Point	SETA(CC)	> 212F > 100C
pH As Is (approx.)		1.9
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:
Contact with strong bases may cause a violent reaction releasing heat and hydrogen bromide.

INCOMPATIBILITIES:
Above 120 deg. C bromine, cyanogen bromide and dibromoacetonitrile are formed. May react with bases or strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon and nitrogen, hydrogen bromide

11 Toxicological information

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Oral LD50 RAT:                        510 mg/kg
Dermal LD50 RABBIT:                   >2,000 mg/kg
Inhalation LC50 RAT:                  1.325 mg/L/4hr
Skin Irritation Score RABBIT:         NOT CORR
      NOTE - Not DOT corrosive
Skin Sensitization G.PIG:             POSITIVE
      NOTE - 7/10 Positive from 5% aqueous DBNPA (active)
Skin Sensitization HUMAN:             NEGATIVE
      NOTE - 0/26 Positive from 1,250 ppm aqueous DBNPA (active)
Ames Assay :                          NEGATIVE
Non-Ames Mutagenicity :               NEGATIVE
      NOTE - CHO/HGPRT;Micronucleus Test;Rat Hepatocyte Unscheduled DNA
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12 Ecological information

AQUATIC TOXICOLOGY

Bluegill Sunfish 96 Hour Static Acute Bioassay
LC50= 6.5 mg/L
Daphnia magna 21 Day Flow-Thru Life-Cycle Chronic Bioassay
Reproduction EC50= .65; Reproduction NOEL= .35 mg/L
Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 3.3; No Effect Level= 2.15 mg/L
Fathead Minnow 96 Hour Static Renewal Bioassay
LC50= 8.7; No Effect Level= 3.1 mg/L
Marine Copepod (Acartia tonsa) 48 Hour Static Acute Bioassay
LC50= 1.78 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay
LC50= 2.3; No Effect Level= 1.8 mg/L
Sheepshead Minnow 96 Hour Static Acute Bioassay
LC50= 7 mg/L

BIODEGRADATION

BOD-28 (mg/g): 0
BOD-5 (mg/g): 0
COD (mg/g): 1090
TOC (mg/g): 300

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH).

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: Corrosive to aluminum
DOT: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,2,
DIBROMO-3-NITRILOPROPIONAMIDE)
8, UN 3265, PG III
DOT EMERGENCY RESPONSE GUIDE #: 153
Note: Some containers may be DOT exempt, please check BOL for
exact container classification
IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,2,
DIBROMO-3-NITRILOPROPIONAMIDE)
8, UN 3265, PG III
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(2,2
DIBROMO-3-NITRILOPROPIONAMIDE)
8, UN 3265 PG III

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:
3876- 95
FOOD AND DRUG ADMINISTRATION:
The ingredients in this product are approved by FDA under 21 CFR 176.170, 176.300 and 173.320.
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered
This product contains ingredients that have been determined as safe for use in systems for cooking or cooling containers of meat and/or poultry and in systems with no food contact. (G5, G7)
SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)
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

HMIS vII		**CODE TRANSLATION**
Health	3	Serious Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	ACID	pH below 2.1
(1) Protective Equipment	B	Goggles,Gloves

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

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	06-DEC-2000		** NEW **
	31-MAY-2001	15	06-DEC-2000
	09-AUG-2001	15	31-MAY-2001
	28-JUN-2002	14	09-AUG-2001
	26-JUL-2007	;EDIT:REISSUE	28-JUN-2002
	22-JAN-2008	4,5,7,10	26-JUL-2007
	13-MAY-2008	3,5,14	22-JAN-2008
	07-OCT-2010	9	13-MAY-2008
	07-JUN-2011	3,8	07-OCT-2010
	23-SEP-2011	14	07-JUN-2011