GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 03-MAY-2010
Supercedes: 16-JUN-2009

INHIBITOR AZ8104

1 Identification

Identification of substance or preparation
INHIBITOR AZ8104

Product Application Area
Water-based corrosion inhibitor.

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: 03-MAY-2010

2 Hazard(s) identification

****
EMERGENCY OVERVIEW

WARNING

May cause moderate irritation to the skin. Severe irritant to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard: Corrosive to aluminum
Odor: Slight; Appearance: Yellow To Amber, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water
****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause moderate irritation to the skin.

ACUTE EYE EFFECTS:
Severe irritant to the eyes.

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

INGESTION EFFECTS:
May cause gastrointestinal irritation with possible nausea, vomiting, abdominal discomfort and diarrhea.

TARGET ORGANS:
Prolonged or repeated exposures may cause primary irritant dermatitis.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Causes irritation of the skin, eyes, and/or respiratory system.

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%)
202420-04-0	CHLOROTOLYLTRIAZOLE SODIUM SALT Potential irritant	10-20
NOT ASSIGNED	DICHLOROTOLYLTRIAZOLE Potential irritant	3-7
64665-57-2	BENZOTRIAZOLE,METHYL,SODIUM SALT (SODIUM TOLYLTRIAZOLE),(TTA) Corrosive (eyes and skin); toxic (by ingestion)	1-5
1310-73-2	SODIUM HYDROXIDE Corrosive; toxic (by ingestion)	1-5

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:
If nasal, throat or lung irritation develops - remove to fresh air and get 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:

No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

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

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

FLASH POINT:

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

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. Wet area may be slippery. Spread sand/grit.

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 - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Alkaline. Do not mix with acidic material.

STORAGE:

Keep containers closed when not in use. Store in cool ventilated location. Store away from oxidizers. Store away from acids.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

CHLOROTOLYLTRIAZOLE SODIUM SALT
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

DICHLOROTOLYLTRIAZOLE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

BENZOTRIAZOLE,METHYL,SODIUM SALT (SODIUM TOLYLTRIAZOLE),(TTA)
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

SODIUM HYDROXIDE

PEL (OSHA): 2 MG/M3
TLV (ACGIH): TWA (Ceiling) = 2 MG/M3

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 any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:
rubber, butyl, viton or neoprene gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.132	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	12	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-11		
Viscosity(cps 70F,21C)	13	% Solubility (water)	100.0

Odor		Slight
Appearance		Yellow To Amber
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		12.7
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:
Contact with strong acids may cause a violent reaction releasing heat.

INCOMPATIBILITIES:
May react with acids or strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon and nitrogen, hydrogen chloride

11 Toxicological information

Oral LD50 RAT: 2,550 mg/kg
NOTE - Value is for tested material 1.6 times more concentrated
28 Day Oral RAT:
NOTE - NOEL: 1,000 mg/kg/day
Dermal LD50 RAT: >8,000 mg/kg
NOTE - Value is for tested material 1.6 times more concentrated
Skin Irritation Score RABBIT: CORROSIVE
NOTE - Value is for tested material 1.6 times more concentrated
Eye Irritation Score RABBIT: CORROSIVE
NOTE - Value is for tested material 1.6 times more concentrated
Skin Sensitization G.PIG: NEGATIVE
NOTE - Magnusson & Kligman method
Ames Assay BACTERIA: NEGATIVE
Non-Ames Mutagenicity : WEAK POSIT.
NOTE - In Vitro chromosome aberration test in human lymphocytes
Non-Ames Mutagenicity : NEGATIVE
NOTE - In Vivo Mouse Micronucleus Test

12 Ecological information

AQUATIC TOXICOLOGY

Annelida(Lumbriculus variegatus) 96 Hour Static Acute Bioassay
LC50= 138; No Effect Level= 62.5 mg/L
Benthic Crustacean(Gammerus pseutolimnaeus) 96 Hour Static Acute Bioassay
LC50= 42.1; No Effect Level= 25 mg/L
Bluegill Sunfish 96 Hour Static Acute Bioassay
LC50= 36.6; No Effect Level= 25 mg/L
Ceriodaphnia 48 Hour Static Renewal Bioassay
LC50= 124; No Effect Level= 75 mg/L
Ceriodaphnia 7 Day Chronic Bioassay
Reproduction NOEL= 20; Reproduction LOEC= 40 mg/L
Daphnia magna 21 Day Chronic Bioassay (pH adjusted)
Reproduction EC50= 50; Reproduction NOEL= 27 mg/L
Daphnia magna 48 Hour Static Acute Bioassay (pH adjusted)
EC50= 210; EC0= 155 mg/L
Daphnia magna 48 Hour Static Renewal Bioassay (pH adjusted)
LC50= 217; No Effect Level= 148 mg/L
Fathead Minnow 28 Day Chronic Flow-Thru Bioassay (pH adjusted)
Survival NOEL= 4.2; Survival LOEL= 8.3 mg/L
Fathead Minnow 96 Hour Static Acute Bioassay (pH adjusted)
LC50= 135; No Effect Level= 15 mg/L
Fathead Minnow 96 Hour Static Renewal Bioassay (pH adjusted)
LC50= 50.7; No Effect Level= 21.8 mg/L
Freshwater Snail(Physa sp.) 96 Hour Static Acute Bioassay
LC50= 47.4; No Effect Level= 25 mg/L
Menidia beryllina (Silversides) 96 Hour Static Acute Bioassay
LC50= 41; No Effect Level= 25 mg/L
Midge larvae (Chironomus tentans) 96 Hour Static Acute Bioassay
LC50= 95.8; No Effect Level= 62.5 mg/L
Mysid Shrimp 48 Hour Static Acute Bioassay (pH adjusted)
LC50= 53; No Effect Level= 25 mg/L
Rainbow Trout 96 Hour Static Renewal Bioassay
LC50= 15.4; No Effect Level= 6.3 mg/L
Sheepshead Minnow 96 Hour Static Acute Bioassay (pH adjusted)
LC50= 132; No Effect Level= 100 mg/L

BIODEGRADATION

BOD-28 (mg/g): 15
BOD-5 (mg/g): 15
COD (mg/g): 300
TOC (mg/g): 100

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, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III
DOT EMERGENCY RESPONSE GUIDE #: 154
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III
IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: 141530
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)
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	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	ALK	pH above 12.0
(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:	10-MAY-1996		** NEW **
	16-AUG-1996	12	10-MAY-1996
	25-NOV-1996	2,8	16-AUG-1996
	03-DEC-1996	2,8	25-NOV-1996
	09-OCT-1997	8	03-DEC-1996
	05-NOV-1997		09-OCT-1997
	01-DEC-1997	15	05-NOV-1997
	02-APR-1998	12	01-DEC-1997
	07-AUG-1998	11	02-APR-1998
	17-AUG-1998	2,8	07-AUG-1998
	02-SEP-1998	12	17-AUG-1998
	05-OCT-1998	15	02-SEP-1998
	20-NOV-1998	2	05-OCT-1998
	03-DEC-1998	3,5,7,8,10,14,16	20-NOV-1998
	01-APR-1999	12	03-DEC-1998
	26-MAY-1999	2,8	01-APR-1999
	23-AUG-1999	12	26-MAY-1999
	25-AUG-1999	12	23-AUG-1999
	28-DEC-1999	15	25-AUG-1999
	18-JAN-2002	4	28-DEC-1999
	12-MAY-2003	2	18-JAN-2002
	06-MAY-2004	12	12-MAY-2003
	26-MAY-2006	8	06-MAY-2004
	12-FEB-2007	2,5,8,10	26-MAY-2006
	16-MAY-2007	8	12-FEB-2007
	03-DEC-2008	14	16-MAY-2007
	01-APR-2009	12	03-DEC-2008
	16-JUN-2009	4,10,15	01-APR-2009
	03-MAY-2010	8	16-JUN-2009