



**GE Betz**

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Material Safety Data Sheet

Issue Date: 06-MAY-2004

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

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## 1 PRODUCT IDENTIFICATION

PRODUCT NAME:

**INHIBITOR AZ8104**

PRODUCT APPLICATION AREA:

**WATER-BASED CORROSION INHIBITOR.**

## 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   |
|--------------|---|
| 202420-04-0  | CHLOROTOLYLTRIAZOLE SODIUM SALT<br>Potential irritant   |
| NOT ASSIGNED | DICHLOROTOLYLTRIAZOLE<br>Potential irritant; NOTE: This is an impurity and is exempt under TSCA PMN requirements. |
| 64665-57-2   | BENZOTRIAZOLE,METHYL,SODIUM SALT (SODIUM TOLYLTRIAZOLE),(TTA)<br>Corrosive (eyes and skin); toxic (by ingestion)  |
| 1310-73-2    | SODIUM HYDROXIDE (CAUSTIC SODA)<br>Corrosive; toxic (by ingestion)  |

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

### WARNING

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

DOT hazard is not applicable

Emergency Response Guide is not applicable

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

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## 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.

## 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 3-4 glasses 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:**

Thermal decomposition (destructive fires) yields elemental oxides.

**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 & 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.

## 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 (CAUSTIC SODA)

PEL (OSHA): 2 MG/M3

TLV (ACGIH): 2 MG/M3 (CEILING)

**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 dust/mist filters.

**SKIN PROTECTION:**

neoprene gloves-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

splash proof chemical goggles

## 9 PHYSICAL & CHEMICAL PROPERTIES

|                         |       |                       |        |
|-------------------------|-------|-----------------------|--------|
| Specific 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               |

NA = not applicable      ND = not determined

## 10 STABILITY & REACTIVITY

**STABILITY:**

Stable under normal storage conditions.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**INCOMPATIBILITIES:**

May react with strong oxidizers.

**DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**INTERNAL PUMPOUT/CLEANOUT CATEGORIES:**

"B"

## 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(Gammarus pseudolimnaeus) 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  
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  
No Data Available.

### 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

DOT HAZARD: Not Applicable  
UN / NA NUMBER: Not applicable  
DOT EMERGENCY RESPONSE GUIDE #: Not applicable

## 15 REGULATORY INFORMATION

### TSCA:

All components of this product are listed in the TSCA inventory.

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

No regulated constituent present at OSHA thresholds

### 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)

### 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 constituents present

### 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               | 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<br>DATE<br>----- | REVISIONS TO SECTION:<br>----- | SUPERCEDES<br>----- |
|----------------------------|--------------------------------|---------------------|
| 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 |