



Material Safety Data Sheet

Issue Date: 28-JUL-2011
Supersedes: 24-MAY-2011

CORRSHIELD MD4103

1 Identification

Identification of substance or preparation
CORRSHIELD MD4103

Product Application Area
Water-based corrosion inhibitor/deposit control agent.

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: 28-JUL-2011

2 Hazard(s) identification

EMERGENCY OVERVIEW

CAUTION

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

DOT hazard: Corrosive to aluminum
Odor: Slight; Appearance: Yellow, 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 slight irritation to the skin.

ACUTE EYE EFFECTS:

May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:

Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:

May cause slight gastrointestinal irritation.

TARGET ORGANS:

Prolonged or repeated exposures may cause toxicity to the lung.

MEDICAL CONDITIONS AGGRAVATED:

Not known.

SYMPTOMS OF EXPOSURE:

May cause redness or itching of skin.

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%)
7631-95-0	SODIUM MOLYBDATE (MOLYBDIC ACID, DISODIUM SALT) Potential irritant (respiratory); potential lung toxicity	15-40
1310-73-2	SODIUM HYDROXIDE Corrosive; toxic (by ingestion)	1-5
64665-57-2	BENZOTRIAZOLE, METHYL, SODIUM SALT (SODIUM TOLYLTRIAZOLE), (TTA) Corrosive (eyes and skin); toxic (by ingestion)	1-5

4 First-aid measures

SKIN CONTACT:

Wash thoroughly with soap and water. 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, nitrogen and sulfur

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. Do not freeze. If frozen, thaw and mix completely prior to use.

8 Exposure controls / personal protection

EXPOSURE LIMITS**CHEMICAL NAME**

SODIUM MOLYBDATE (MOLYBDIC ACID, DISODIUM SALT)

PEL (OSHA): 5 MG/M3 (AS Mo)

TLV (ACGIH): 0.5 MG/M3 (AS Mo) RESPIRABLE FRACTION

SODIUM HYDROXIDE

PEL (OSHA): 2 MG/M3

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

BENZOTRIAZOLE, METHYL, SODIUM SALT (SODIUM TOLYLTRIAZOLE), (TTA)

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 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)	1.290	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	18	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-8		
Viscosity (cps 70F, 21C)	12	% Solubility (water)	100.0
Odor		Slight	
Appearance		Yellow	
Physical State		Liquid	
Flash Point	P-M(CC)	> 200F	> 93C
pH As Is (approx.)		13.4	
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 strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon, nitrogen and sulfur

11 Toxicological information

Oral LD50 RAT:	>5000 mg/kg
NOTE - Calculated value according to GHS additivity formula	
Dermal LD50 RABBIT:	>5000 mg/kg
NOTE - Calculated value according to GHS additivity formula	

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay (pH adjusted)

0% Mortality= 5000 mg/L

Fathead Minnow 96 Hour Static Acute Bioassay (pH adjusted)

LC50= 3320; No Effect Level= 2110 mg/L
Menidia beryllina (Silversides) 96 Hour Static Acute Bioassay
(pH adjusted)
LC50= 4410; No Effect Level= 1562 mg/L
Mysid Shrimp 48 Hour Static Acute Bioassay (pH adjusted)
LC50= 6810; No Effect Level= 1562 mg/L
Rainbow Trout 96 Hour Static Renewal Bioassay (pH adjusted)
LC50= 1710; No Effect Level= 625 mg/L

BIODEGRADATION

BOD-28 (mg/g): 2
BOD-5 (mg/g): 0
COD (mg/g): 31
TOC (mg/g): 11

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):

7,766 gallons due to SODIUM HYDROXIDE;

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

Registration number: 144574

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	1	Slight Hazard
Fire	0	Minimal 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
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MSDS status:	29-JAN-1997		** NEW **
	12-MAY-1997	15	29-JAN-1997
	12-NOV-1998	15	12-MAY-1997
	13-JAN-2000	12	12-NOV-1998
	02-JUN-2000	12	13-JAN-2000
	16-JAN-2002	3, 4, 16	02-JUN-2000
	03-JUL-2002	12	16-JAN-2002
	26-MAY-2006	8	03-JUL-2002
	31-JAN-2007	2, 8	26-MAY-2006
	01-FEB-2007	2, 8	31-JAN-2007
	21-OCT-2008	14	01-FEB-2007
	23-JUN-2009	4, 8, 10	21-OCT-2008
	24-MAY-2011	15	23-JUN-2009
	28-JUL-2011	15	24-MAY-2011