



# Material Safety Data Sheet

Issue Date: 06-MAY-2011  
Supersedes: 02-JUN-2008

DIANODIC DN2471

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## 1 Identification

**Identification of substance or preparation**  
DIANODIC DN2471

**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: 06-MAY-2011

## 2 Hazard(s) identification

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**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 is not applicable  
Odor: Mild; Appearance: Amber To Brown, 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 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:**

No evidence of potential chronic effects.

**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. 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%)
7778-53-2	PHOSPHORIC ACID, TRIPOTASSIUM SALT Severe irritant (eyes); irritant (skin)	15-40
7320-34-5	TETRAPOTASSIUM PYROPHOSPHATE Corrosive to aluminum; severe eye irritant; skin irritant	5-10
1310-58-3	POTASSIUM HYDROXIDE Corrosive; toxic (by ingestion)	1-5

**NON-HAZARDOUS INGREDIENTS:**

CAS#	CHEMICAL NAME
7732-18-5	WATER
78266-09-8	2-PROPENOIC ACID POLYMER WITH 2-HYDROXY-3-(2-PROPENYLOXY)-1-PROPANE SULFONIC ACID, SODIUM SALT

### 4 First-aid measures

**SKIN CONTACT:**

Wash thoroughly with soap and water. Remove contaminated clothing. 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:**

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 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. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store away from acids. Do not store in aluminum containers.

## 8 Exposure controls / personal protection

**EXPOSURE LIMITS**

**CHEMICAL NAME**

PHOSPHORIC ACID, TRIPOTASSIUM SALT

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

TETRAPOTASSIUM PYROPHOSPHATE

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

POTASSIUM HYDROXIDE

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

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:**

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)	1.328	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	7	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-14		
Viscosity (cps 70F, 21C)	11	% Solubility (water)	100.0

Odor	Mild
Appearance	Amber To Brown
Physical State	Liquid
Flash Point	P-M(CC) > 200F > 93C
pH As Is (approx.)	13.9
Evaporation Rate (Ether=1)	< 1.00
Percent VOC:	1.0

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. Contact with water reactive compounds may cause fire or explosion.

**INCOMPATIBILITIES:**

May react with acids or strong oxidizers.

**DECOMPOSITION PRODUCTS:**

elemental oxides

## 11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg  
NOTE - Estimated value  
Dermal LD50 RABBIT: >2,000 mg/kg  
NOTE - Estimated value

## 12 Ecological information

### AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Acute Toxicity (Estimated)  
LC50= 1080; No Effect Level= 580 mg/L  
Fathead Minnow 96 Hour Acute Toxicity (Estimated)  
LC50= 520; No Effect Level= 190 mg/L

### BIODEGRADATION

BOD-28 (mg/g): 20  
BOD-5 (mg/g): 11  
COD (mg/g): 148  
TOC (mg/g): 56

## 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: Not Applicable  
DOT: Not Regulated

DOT EMERGENCY RESPONSE GUIDE #: Not applicable

Note: Some containers may be DOT exempt, please check BOL for exact container classification

IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(POTASSIUM HYDROXIDE SOLUTION)  
8, UN 3266, PG III

IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(POTASSIUM 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):

5,079 gallons due to POTASSIUM HYDROXIDE;

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

Registration number: Not Registered

**SARA SECTION 312 HAZARD CLASS:**

Immediate(acute)

**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:	09-AUG-2000		** NEW **
	27-JAN-2003	2, 4, 8, 15, 16	09-AUG-2000
	02-JUN-2008		27-JAN-2003
	06-MAY-2011	7, 10	02-JUN-2008