GE
Water & Process Technologies

# Material Safety Data Sheet

Issue Date: 03-APR-2012
Supercedes: 01-MAY-2009

FLOGARD MS6210

## 1 Identification

**Identification of substance or preparation**
FLOGARD MS6210

**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-APR-2012

## 2 Hazard(s) identification

**********
**EMERGENCY OVERVIEW**

**DANGER**

Severe irritant to the skin. Corrosive to the eyes. Mists/aerosols cause irritation to the upper respiratory tract.

DOT hazard: Corrosive to aluminum, RQ
Odor: None; Appearance: Colorless, 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; Severe irritant to the skin.

**ACUTE EYE EFFECTS:**
Corrosive to the eyes.

**ACUTE RESPIRATORY EFFECTS:**
Primary route of exposure;Mists/aerosols cause irritation to the upper respiratory tract.

**INGESTION EFFECTS:**
May cause severe gastrointestinal irritation.

**TARGET ORGANS:**
Prolonged or repeated exposures may cause primary irritant dermatitis. Product or product component may cause reproductive toxicity at maternal toxic levels (based on animal testing.

**MEDICAL CONDITIONS AGGRAVATED:**
Not known.

**SYMPTOMS OF EXPOSURE:**
Inhalation may cause irritation of mucous membranes and respiratory tract. Skin contact causes severe irritation or burns.

# 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%) |
|---|---|---|
| 13598-37-3 | PHOSPHORIC ACID, ZINC SALT (2:1)<br>Irritant | 10-20 |
| 7664-38-2 | PHOSPHORIC ACID<br>Corrosive | 10-20 |
| 7733-02-0 | ZINC SULFATE<br>Severe irritant; potential reproductive toxin | 7-13 |

# 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:**
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 phosphorus and sulfur
**FLASH POINT:**
> 200F > 93C P-M(CC)
**MISCELLANEOUS:**
Corrosive to aluminum, RQ
UN 3264;Emergency Response Guide #154

# 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:**
Acidic. Corrosive(Eyes). Do not mix with alkaline material.
**STORAGE:**
Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Atmospheric exposure should be minimized. Avoid high temperature storage.

# 8 Exposure controls / personal protection

**EXPOSURE LIMITS**

**CHEMICAL NAME**

PHOSPHORIC ACID, ZINC SALT (2:1)
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

PHOSPHORIC ACID
PEL (OSHA): 1 MG/M3
TLV (ACGIH): TWA = 1 MG/M3; STEL = 3 MG/M3
MISC: NIOSH REL = 1 MG/M3; NIOSH STEL = 3 MG/M3; NIOSH IDLH = 1000 MG/M3

ZINC SULFATE
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 HEPA cartridges.

**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) | 1.351 | Vapor Pressure (mmHG) | ~ 17.0 |
| Freeze Point (F) | ~ ~ 5 | Vapor Density (air=1) | < 1.00 |
| Freeze Point (C) | ~ -15 | | |
| Viscosity(cps 70F,21C) | 18 | % Solubility (water) | 100.0 |

| | | |
|---|---|---|
| Odor | | None |
| Appearance | | Colorless |
| Physical State | | Liquid |
| Flash Point | P-M(CC) | > 200F > 93C |
| pH As Is (approx.) | | < 1.0 |
| 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.

**INCOMPATIBILITIES:**
May react with strong oxidizers.

**DECOMPOSITION PRODUCTS:**
oxides of phosphorus and sulfur

# 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 Static Acute Bioassay
LC50= 3.8; No Effect Level= 3.2 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 16; No Effect Level= 6.3 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay
LC50= 21.3; No Effect Level= 15.5 mg/L

**BIODEGRADATION**

Product contains only inorganics that are not subject to typical biological degradation. Assimilation by microbes may occur in waste treatment or the environment.

# 13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH); D006=Cadmium.

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, RQ
DOT: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID SOLUTION)
8, UN3264, PG III, (ZINC SULFATE) RQ
DOT EMERGENCY RESPONSE GUIDE #: 154
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID SOLUTION)
8, UN3264, PG III
IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID SOLUTION)
8, UN3264, 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):**
3,747 gallons due to PHOSPHORIC ACID;966 gallons due to ZINC SULFATE;
**NSF Registered and/or meets USDA (according to 1998 Guidelines):**
Registration number: Not Registered
**SARA SECTION 312 HAZARD CLASS:**

Immediate(acute);Delayed(Chronic)

**SARA SECTION 302 CHEMICALS:**

No regulated constituent present at OSHA thresholds

**SARA SECTION 313 CHEMICALS:**

| CAS# | CHEMICAL NAME | RANGE |
|---|---|---|
| 13598-37-3 | PHOSPHORIC ACID, ZINC SALT (2:1) | 11.0-15.0% |
| 7733-02-0 | ZINC SULFATE | 6.0-10.0% |

**CALIFORNIA REGULATORY INFORMATION**

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):**

This product contains one or more ingredients at trace levels known to the state of California to cause cancer and reproductive toxicity.

**MICHIGAN REGULATORY INFORMATION**

| CAS# | CHEMICAL NAME |
|---|---|
| 7733-02-0 | ZINC SULFATE |

# 16 Other information

| **HMIS vII** | | **CODE TRANSLATION** |
|---|---|---|
| Health | 3 | Serious Hazard |
| Fire | 0 | Minimal Hazard |
| Reactivity | 0 | Minimal Hazard |
| Special | CORR | DOT corrosive |
| (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: | 30-JAN-1997 | | ** NEW ** |
| | 30-JUN-1998 | | 30-JAN-1997 |
| | 14-JUL-2000 | 15 | 30-JUN-1998 |
| | 04-JAN-2002 | 3,4,7 | 14-JUL-2000 |
| | 29-MAY-2002 | 12 | 04-JAN-2002 |
| | 01-APR-2004 | 15 | 29-MAY-2002 |
| | 24-JAN-2006 | 3,5,14 | 01-APR-2004 |
| | 30-NOV-2006 | 3,5,14 | 24-JAN-2006 |
| | 01-MAY-2009 | 3,4,5,8,10 | 30-NOV-2006 |
| | 03-APR-2012 | 16 | 01-MAY-2009 |