1 Identification

Identification of substance or preparation
SPECTRUS NX1100

Product Application Area
Biocide

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


2 Hazard(s) identification

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

DANGER

Corrosive to skin. Skin sensitizer with delayed onset of symptoms.
Corrosive to the eyes. Mists/aerosols cause irritation to the upper respiratory tract.

DOT hazard: Corrosive to skin/steel
Odor: None; Appearance: Colorless To Yellow Green, 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; Corrosive to skin. Skin sensitizer with delayed onset of symptoms.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols cause irritation to the upper respiratory tract.
INGESTION EFFECTS:
May cause severe irritation or burning of the gastrointestinal tract.

TARGET ORGANS:
Prolonged or repeated exposures may cause tissue necrosis and/or skin sensitization.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Direct contact with skin will cause severe delayed skin reactions or burns if not washed off immediately- follow first aid instructions.

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:

<table>
<thead>
<tr>
<th>Cas#</th>
<th>Chemical Name</th>
<th>Range (w/w%)</th>
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</thead>
<tbody>
<tr>
<td>52-51-7</td>
<td>2-BROMO-2-NITROPROPANE-1,3-DIOL</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>Toxic (by ingestion); irritant (eyes); potential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sensitizer (skin)</td>
<td></td>
</tr>
<tr>
<td>10377-60-3</td>
<td>MAGNESIUM NITRATE</td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>Oxidizer; irritant (eyes and skin)</td>
<td></td>
</tr>
<tr>
<td>55965-84-9</td>
<td>5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE MIXTURE WITH</td>
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<td></td>
<td>2-METHYL-4-ISOTHIAZOLIN-3-ONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corrosive (eyes and skin); sensitizer</td>
<td></td>
</tr>
<tr>
<td>7786-30-3</td>
<td>MAGNESIUM CHLORIDE</td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>Potential irritant</td>
<td></td>
</tr>
</tbody>
</table>

4 First-aid measures

SKIN CONTACT:
URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

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:**
Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

### 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; hydrogen chloride; and hydrogen bromide

**FLASH POINT:**
> 200°F  > 93°C  P-M(CC)

**MISCELLANEOUS:**
Corrosive to skin/steel
UN 3265; Emergency Response Guide #153

### 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. Do not add decontaminant solution to waste drum containing biocide or adsorbent. Decontaminate floor residual with 10% metabisulfite solution. Use 10 volumes of solution to one volume of spill.

**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 – Dispose of in approved pesticide facility or according to label instructions.

### 7 Handling and storage

**HANDLING:**
Corrosive to skin. Corrosive to eyes.

**STORAGE:**
Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Shelf life 360 days. Do not store in steel or aluminum containers.

### 8 Exposure controls / personal protection

**EXPOSURE LIMITS**

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>PEL (OSHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-BROMO-2-NITROPROPAINE-1,3-DIOL</td>
<td>NOT DETERMINED</td>
</tr>
</tbody>
</table>
TLV (ACGIH): NOT DETERMINED

MAGNESIUM NITRATE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE MIXTURE WITH
2-METHYL-4-ISOTHIAZOLIN-3-ONE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

MAGNESIUM CHLORIDE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

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

SKIN PROTECTION:
gauntlet-type rubber, butyl or neoprene gloves, chemical resistant apron -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles, face shield

9 Physical and chemical properties

<table>
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<tr>
<th>Property</th>
<th>Value</th>
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<tr>
<td>Spec. Grav.(70F,21C)</td>
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<tr>
<td>Vapor Pressure (mmHG)</td>
<td>~ 18.0</td>
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<tr>
<td>Freeze Point (F)</td>
<td>24</td>
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<tr>
<td>Vapor Density (air=1)</td>
<td>&lt; 1.00</td>
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<tr>
<td>Freeze Point (C)</td>
<td>-4</td>
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<tr>
<td>% Solubility (water)</td>
<td>100.0</td>
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<tr>
<td>Viscosity(cps 70F,21C)</td>
<td>10</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless To Yellow Green</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Flash Point P-M(CC)</td>
<td>&gt; 200F &gt; 93C</td>
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<tr>
<td>pH As Is (approx.)</td>
<td>3.0</td>
</tr>
<tr>
<td>Evaporation Rate (Ether=1)</td>
<td>&lt; 1.00</td>
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<tr>
<td>Percent VOC:</td>
<td>0.0</td>
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</table>

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 reducing agents.

DECOMPOSITION PRODUCTS:  
oxides of carbon, nitrogen, and sulfur; hydrogen chloride; and hydrogen bromide

11 Toxicological information

Oral LD50 RAT: 1,030 mg/kg
Dermal LD50 RABBIT: >2,000 mg/kg
Skin Irritation Score RABBIT: CORROSIVE
Eye Irritation Score RABBIT: CORROSIVE
Skin Sensitization G.PIG: NEGATIVE

12 Ecological information

AQUATIC TOXICOLOGY
Ceriodaphnia 48 Hour Static Renewal Bioassay  
LC50= 4.7; No Effect Level= .63 mg/L
Daphnia magna 48 Hour Static Renewal Bioassay  
LC50= 5; No Effect Level= 2.5 mg/L
Fathead Minnow 96 Hour Static Renewal Bioassay  
LC50= 3.5; No Effect Level= 1.8 mg/L
Mysid Shrimp 48 Hour Static Renewal Bioassay  
LC50= 40.5; No Effect Level= 18 mg/L
Sheepshead Minnow 96 Hour Static Renewal Bioassay  
LC50= 26.7; No Effect Level= 15.5 mg/L

BIODEGRADATION
BOD-28 (mg/g): 4
BOD-5 (mg/g): 2
COD (mg/g): 78
TOC (mg/g): 29

13 Disposal considerations

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

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 skin/steel
DOT: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE) 8, UN 3265, PG II
DOT EMERGENCY RESPONSE GUIDE #: 153
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE) 8, UN 3265, PG II
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE) 8, UN 3265, PG II

15 Regulatory information

TSCA:
This is an EPA registered biocide and is exempt from TSCA inventory requirements.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
FIFRA REGISTRATION NUMBER:
3876-151
FOOD AND DRUG ADMINISTRATION:
21 CFR 176.300 & 176.170 (slimicides and as a preservative)
When used in this specified application, all ingredients comprising this product are authorized by FDA for the manufacture of paper and paperboard that may contact aqueous and fatty foods as per 21 CFR 176.170(a)(4).
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: 141064
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:
<table>
<thead>
<tr>
<th>CAS#</th>
<th>CHEMICAL NAME</th>
<th>RANGE</th>
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<tbody>
<tr>
<td>10377-60-3</td>
<td>MAGNESIUM NITRATE</td>
<td>2.0-5.0%</td>
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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                       3    Serious Hazard
Fire                        0        Minimal Hazard
Reactivity                  0        Minimal Hazard
Special                     CORR     DOT corrosive
(1) Protective Equipment    D        Goggles, Face Shield, Gloves, Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

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