

January 7, 2014

Mr. Eric Nygaard
Ohio EPA – Central Office
Division of Surface Water
Lazarus Government Center
50 West Town Street, Suite 700
Columbus, OH 43215

Subject: Contract No. DE-AC30-11CC40015, DUF₆ Conversion Project
Ohio Environmental Protection Agency (EPA) Permit No. OIS00034*AD
Request to Modify the October 17, 2007 Director's Final Findings and Orders
(DFF&O) for Cooling Water Treatment Additive Use

Dear Mr. Nygaard:

B&W Conversion Services, LLC (BWCS) requests a modification to the October 17, 2007 Director's Final Findings and Orders (DFF&O) to allow the use of additional cooling water treatment additives. General Electric Water & Process Technologies (GE) has recommended the use of Spectrus BD1500, a biodispersant, and Foamtrol AF3561, an antifoaming agent, to address a possible cooling tower fouling issue. The dosage will be 30 parts per million (ppm) and 15 ppm, respectively. The estimated effluent concentration based on cooling water flows will be 22.5 ppm and 11.25 ppm, respectively. Material Safety Data Sheets (MSDS) and a Fact Sheets are attached.

If you have any questions, contact Roger L. Coats, Environmental Program Manager, at (859) 685-9246.

Yours truly,


George E. Dials
President and Project Manager

Attachment: MSDS and Fact Sheet for Spectrus BD1500 and Foamtrol AF3561

cc:	J. Zimmerman, DOE	D. Senderling, DOE	P. Burban, DOE
	J. Saluke, DOE	M. Mattheiss, BWCS	R. Hoffman, BWCS
	R. Hall, BWCS	D. Hulett, BWCS	K. Collier, BWCS
	R. Coats, BWCS	G. LeHew, BWCS	DOE Project File
	Project File	BWCS Project File	



GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 27-MAY-2011
Supercedes: 24-JUN-2009

SPECTRUS BD1500

1 Identification

Identification of substance or preparation
SPECTRUS BD1500

Product Application Area
Water-based 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: 27-MAY-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 is not applicable
Odor: Slight; 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; 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.

HAZARDOUS INGREDIENTS:

This product is not hazardous as defined by OSHA regulations.

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.

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:

oxides of carbon

FLASH POINT:

> 200F > 93C SETA(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. Reasonable and safe chemical storage. Store away from acids.

8 Exposure controls / personal protection

EXPOSURE LIMITS

This product is not hazardous as defined by OSHA regulations.

ENGINEERING CONTROLS:

adequate ventilation

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 or viton gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav. (70F, 21C)	1.020	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	31	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-1		
Viscosity(cps 70F, 21C)	30	% Solubility (water)	100.0

Odor	Slight
Appearance	Colorless
Physical State	Liquid
Flash Point	SETA(CC) > 200F > 93C
pH As Is (approx.)	12.5
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. Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon

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

Ceriodaphnia 48 Hour Static Renewal Bioassay
LC50 Greater Than= 3000 mg/L
Ceriodaphnia 7 Day Static Renewal Bioassay
IC25 = 652 mg/L
Daphnia magna 48 Hour Static Acute Bioassay
0% Mortality= 2000 mg/L
Fathead Minnow 7 Day Static Renewal Bioassay
IC25 = 3000; LC50 Greater Than= 3000 mg/L
Fathead Minnow 96 Hour Static Bioassay with 48-Hour Renewal
0% Mortality= 2000 mg/L
Menidia beryllina (Silversides) 96 Hour Static Acute Bioassay
0% Mortality= 5000 mg/L
Mysid Shrimp 96 Hour Static Acute Bioassay
25% Mortality= 5000; No Effect Level= 2500 mg/L
Rainbow Trout 96 Hour Static Renewal Bioassay

No Effect Level= 3000 mg/L
No Data Available.

BIODEGRADATION

BOD-28 (mg/g): 5
BOD-5 (mg/g): 4
COD (mg/g): 341
TOC (mg/g): 80

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: Not Regulated

IMDG: Not Regulated

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):

No regulated constituent present at OSHA thresholds

FOOD AND DRUG ADMINISTRATION:

21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)

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

Registration number: 141059

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:

Product is non-hazardous under Section 311/312

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):**

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

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
	-----	-----	-----
MSDS status:	14-JUL-1997		** NEW **
	09-SEP-1998	15	14-JUL-1997
	15-SEP-1998	15	09-SEP-1998
	25-JUN-1999	11	15-SEP-1998
	02-APR-2001	12	25-JUN-1999
	25-JUN-2001	15	02-APR-2001
	05-OCT-2001	4, 16	25-JUN-2001
	10-JAN-2002	15	05-OCT-2001
	18-JAN-2002	15	10-JAN-2002
	07-FEB-2006	12	18-JAN-2002
	10-JUL-2008	4, 8, 11, 15	07-FEB-2006
	31-OCT-2008	11	10-JUL-2008
	05-FEB-2009	12	31-OCT-2008
	24-JUN-2009	10, 15	05-FEB-2009
	27-MAY-2011	7, 10	24-JUN-2009

Spectrus* BD1500

Biocide Enhancer

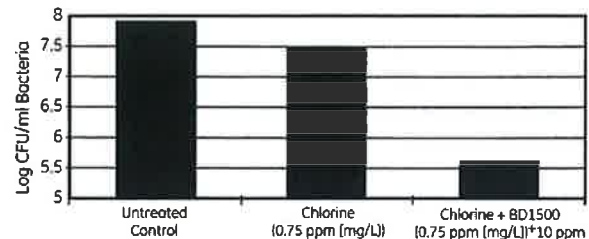
- Improves the ability of biocides to control microbiological fouling
- Can be used with both oxidizing and non-oxidizing biocides
- Compatible with all GE water treatment programs

Description and Use

Spectrus* BD1500 is a blend of non-ionic ingredients specifically formulated to assist in the control of microbiological fouling in industrial water systems. Control of microbiological populations in industrial water systems is essential to prevent biofouling. In cooling systems, biofouling of heat exchange equipment and tower fill reduces heat transfer efficiency and can force unscheduled shut-downs and extended turnarounds leading to lost production. Equipment can also be damaged as a result of microbiologically influenced corrosion (MIC) associated with biofouling. Consequently, biofouling must be prevented in order for operating units to avoid such events and achieve profit goals.

Although Spectrus BD1500 has no biocidal activity of its own, it can significantly enhance the effectiveness of biocides applied to industrial water systems (see chart). Spectrus BD1500 can be used with oxidizing biocides (such as chlorine, bromine, or chlorine dioxide) as well as non-oxidizing biocides.

Spectrus BD1500 is especially useful when acceptable control of biological activity cannot be achieved with biocides alone. For example the use of this product may be indicated where biocide usage or biocide discharge is limited by environmental regulations.



Spectrus BD1500 Improves Performance of Halogen

Treatment and Feeding Requirements

The typical feed range for Spectrus BD1500 ranges from 10 to 50 ppm (mg/L) in the cooling water. Actual dosage and frequency of Spectrus BD1500 addition will depend on many factors. These include, but are not limited to, system cleanliness, types of microbes, nutrient concentrations, temperature, pH, retention time, and other system operating characteristics. Microbiological monitoring is recommended to evaluate product requirements. Consult your GE representative for technical advice on your specific application.

Spectrus BD1500 should be fed in conjunction with biocides that are EPA approved for use in industrial water systems. If the biocide is fed continuously (e.g., continuous chlorination), feed Spectrus BD1500 continuously as well. In such systems, feed Spectrus BD1500 at a rate sufficient to generate the desired treatment residual (typically 5 to 15 ppm [mg/L]) in the blowdown of recirculating cooling systems or in the total water flow of once-through cooling systems. In once-through cooling systems and other systems that that are halogenated intermittently, begin feeding 5 to 15 ppm (mg/L) of Spectrus BD1500 30 minutes to 1 hour prior to the start of halogenation and continue for the duration of the halogen feed period. If the biocide is slug-fed, apply Spectrus BD1500 in a similar fashion. Base the quantity fed on the total system volume.



Find a contact near you by visiting www.ge.com/water and clicking on "Contact Us".
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Spectrus BD1500 has the potential to cause foaming, especially at higher dosages. If foam is a concern, have an antifoam available when using this product.

Feed point - Apply Spectrus BD1500 to a point in the system where turbulence and flow patterns assure good mixing with the water being treated.

Dilution - This blended product is best fed neat (undiluted) from the storage container. If necessary (e.g., for feeding from a day tank), the product can be diluted with water.

Compatible Materials - Spectrus BD1500 is compatible with the following materials of construction: Low Carbon Steel, Stainless Steel, Copper, Brass, PVC, High Density Cross-linked Polyethylene, Polypropylene, Kynar, Teflon, Nylon, Viton A, Buna N, Urethane, Neoprene, Natural Rubber, Viton Litharge. (Kynar is a registered trademark of Arkema, Teflon and Viton are registered trademarks of DuPont.)

Avoid - Aluminum, High and Low Density Uncrosslinked Polyethylene, Polysulfide, Hypalon, Buna S, Tygon. (Tygon is a registered trademark of Saint-Gobain Corporation)

General Properties

Physical properties of Spectrus BD1500 are shown on the Material Safety Data Sheet, a copy of which is available on request.

Packaging Information

Spectrus BD1500 is a liquid and is available in a wide variety of containers and delivery methods, including GE's ChemSure* Drumless Delivery Services

Storage

Store Spectrus BD1500 at moderate temperatures. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

Safety Precautions

A Material Safety Data Sheet containing detailed information about this product is available upon request.



GE Water & Process Technologies

Material Safety Data Sheet

Issue Date: 22-JUN-2011
Supersedes: 10-FEB-2010

FOAMTROL AF3561

1 Identification

Identification of substance or preparation
FOAMTROL AF3561

Product Application Area
Antifoam

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: 22-JUN-2011

2 Hazard(s) identification

EMERGENCY OVERVIEW

CAUTION

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

DOT hazard is not applicable
Odor: Slight; Appearance: White, Dispersion

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 slight irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:

Primary route of exposure;Mists/aerosols cause irritation to the upper respiratory tract.

INGESTION EFFECTS:

No evidence of adverse effects from available information.

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.

HAZARDOUS INGREDIENTS:

This product is not hazardous as defined by OSHA regulations.

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.

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 medical attention if irritation persists after flushing.

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

FLASH POINT:

> 213F > 101C 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:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Protect from freezing. Preferably stored between 40-100F (5-38C). Shelf life 270 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

This product is not hazardous as defined by OSHA regulations.

ENGINEERING CONTROLS:

adequate ventilation

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 organic vapor 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)	0.957	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	20	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-7		
Viscosity(cps 70F, 21C)	636	% Solubility (water)	< 0.0

Odor		Slight
Appearance		White
Physical State		Dispersion
Flash Point	P-M(CC)	> 213F > 101C
pH As Is (approx.)		9.0
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 water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon

11 Toxicological information

No Data Available.

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay
LC50= 3608; No Effect Level= 2500 mg/L
Fathead Minnow 96 Hour Static Acute Bioassay
LC50= 2939; No Effect Level= 1250 mg/L

BIODEGRADATION

BOD-5 (mg/g): 27
COD (mg/g): 279
TOC (mg/g): 7

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

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: Not Regulated

IMDG: Not Regulated

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):

No regulated constituent present at OSHA thresholds

FOOD AND DRUG ADMINISTRATION:

This product is FDA acceptable for use under 21 CFR: 176.170, 176.180 and 176.210.

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

Registration number: Not Registered

SARA SECTION 312 HAZARD CLASS:

Product is non-hazardous under Section 311/312

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	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(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:	03-SEP-2007		** NEW **
	25-SEP-2007	15	03-SEP-2007
	13-NOV-2007	12	25-SEP-2007
	18-DEC-2007	9	13-NOV-2007
	21-JUL-2008	12	18-DEC-2007
	10-FEB-2010	14	21-JUL-2008
	22-JUN-2011	10	10-FEB-2010

FoamTrol* AF3561

Antifoaming Agent

- Prevents foam in wastewater and process water areas
- Nonylphenol Ethoxylate (NPE) Free
- Water based antifoam
- Effective in a variety of systems
- Low aquatic toxicity product

Description and Use

FoamTrol* AF3561 is a water-based, multi-component NPE-free antifoam. Due to global environmental concerns, regulatory agencies have introduced mandates to restrict the use of NPEs by substituting with alternative products.

Since FoamTrol AF3561 is a water based product, it is ideal for consideration in both process and wastewater applications in a variety of industries, including controlling of residual foam in industrial wastewater effluent.

This product can be applied to biological wastewater treatment systems, primary wastewater systems and other areas where foam causes safety, processing or nuisance concerns.

Treatment and Feeding Requirements

Proper treatment levels for GE Water & Process Technologies FoamTrol AF3561 depend upon site specific foam control requirements. Feed point locations, the degree of foam control required, as well as the type and severity of foam must be evaluated. A simple laboratory test method, developed by GE Water & Process Technologies, is often used to evaluate initial performance of FoamTrol AF3561 compared to other antifoams. Full-scale treatment of systems is commonly designed based on this testing. Your local GE representative will be able to conduct these evaluations.

Several levels of sophistication in feeding product are available. FoamTrol AF3561 may be fed using a standard chemical metering pump to an area of turbulence (for dispersion of product). This is a common application method. Automatic, requirement-based feedback control of product, based on foam level sensing is available. Site-specific control algorithms can be developed if further automation and unique control strategies are required. Contact your local GE representative to discuss these needs.

FoamTrol AF3561 may be fed neat (undiluted) directly from the shipping container or storage tank. It also may be diluted with carrier water immediately prior to the application point. FoamTrol AF3561 is compatible with 304 and 316 stainless steel, Teflon** polytetrafluoroethylene and other materials. Consult your GE representative for more information on the selection of tanks, pumps, piping and fittings.

General Properties

Physical properties of FoamTrol AF3561 are shown on the Material Safety Data Sheet (MSDS), a copy of which is available on request. The components of this product are authorized by 21 CFR of the Food and Drug Administration for the following designated food additive or food contact uses: 21 CFR 176.170, 21 CFR 176.180, and 21 CFR 176.210.

Packaging Information

FoamTrol AF3561 is a liquid product available in a variety of containers. Consult your GE representative for delivery and packaging alternatives.



Find a contact near you by visiting www.ge.com/water and clicking on "Contact Us".

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** Trademark of E.I. Du Pont de Nemours and Company.

Storage and Handling

Store FoamTrol AF3561 at moderate temperatures of 45° to 70°F (7° to 21°C) to maintain homogeneity. Do not store this product below 40°F (4.4°C) to minimize the potential of freezing. If allowed to freeze, irreversible damage can occur to the product.

Safety Precautions

A Material Safety Data Sheet containing detailed information about this product is available on request.