

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467



Dominion™

Certified Mail
Return Receipt Requested

50-338/339

June 18, 2001

Mr. Jeffery S. Talbott
DEQ - Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

RE: North Anna Power Station - New Bearing Cooling Tower Chemical

Dear Mr. Talbott:

As Ron Birkhead of our Environmental Policy and Compliance Department recently discussed with you, North Anna Power Station personnel plan to use a new algicide in the bearing cooling tower. Enclosed for your information are calculations on the quantity of algicide recommended by the supplier and a MSD sheet for the product.

The bearing cooling system supplies cooling and seal water flow for various steam and power-conversion equipment for full-load operation. The critical equipment supplied by the bearing cooling system includes the Main Turbine oil coolers, the Main Generator hydrogen coolers and various condensate/feedwater pump seal coolers. The bearing cooling system is a common system shared between the 2 generating units at the station. An induced-draft cooling tower serves as the primary heat sink. The cooling tower has a volume of 500,000 gallons.

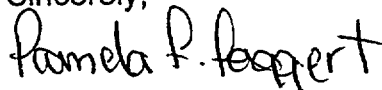
The cooling tower manufacturer, Marley, recommends continuous blowdown to prevent the dissolved solids from concentrating to the point where they will form scale. The cooling tower is blown down on a continuous basis at a rate of 0.30 mgd through Outfall 105. Outfall 105 is an internal discharge to the discharge canal, which has a flow of 2,000,000 gpm of lake water from once through condenser cooling.

The supplier is recommending that the algicide be initially supplied to the cooling tower at the rate of 12 gallons per week. After the initial application, it is anticipated that the feed rate will be reduced to 3 gallons per week.

C 0001

If you have any questions or desire additional information, please call Mr. Birkhead at 804-273-2992.

Sincerely,



Pamela F. Faggert

cc:

U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
RE: North Anna Units 1 and 2
Docket Nos. 50-338/50-339
License Nos. NPF-4/NPF-7

Mr. M.J. Morgan
NRC Senior Resident Inspector
North Anna Power Station



ALGICIDE CALCULATIONS

Nalco 2894 Algicide

8.57 lbs / gal

Suggested dosing:

Heavily fouled systems: 47 ppm (product), twice per week
Low to moderate fouled systems: 6 – 47 ppm, once or twice per week
To maintain control: 6 – 24 ppm as needed

Recommended dosage for North Anna:

Initial dosage of 24 ppm once per week, initially
Follow up with 6 ppm per week and evaluate effectiveness

500,000 gallons volume = 4.2 million pounds
 $4.2 \times 24 \text{ ppm} = 100.8 \text{ pounds (approximately 12 gallons)}$
 $4.2 \times 6 \text{ ppm} = 25.2 \text{ pounds (approximately 3 gallons)}$

Package – 30-gallon drum

Feed with positive displacement transfer pump. Recommend a small, double diaphragm, pneumatic pump with a measured suction wand.

Total product required:

12 gallons initial
 $3 \text{ gals per week} \times 30 \text{ weeks} = 90 \text{ gallons}$

Approximately 4 x 30 gallon barrels



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2894 ALGICIDE

Emergency Telephone Number

Medical (800) 462-5378 (24 hours) (800) I-M-ALERT

SECTION 01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: NALCO 2894 ALGICIDE

DESCRIPTION: An aqueous solution of a substituted isothiazolinone, alcohol, and surfactant mixture

NFPA 704M/HMIS RATING 3/3 HEALTH 1/1 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 02 COMPOSITION AND INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous. One or more is being claimed as a trade secret under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 15 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one	64359-81-5	4.0-4.5
Anionic/nonionic surfactant mixture	Proprietary	25-40
Benzyl alcohol	100-51-6	5-10

SECTION 03 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER! Corrosive. Causes irreversible eye damage. Harmful if absorbed through the skin. Avoid contact with skin or clothing. Harmful if inhaled. May cause allergic skin reaction.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Corrosive to the eyes with possible permanent damage depending on the length of exposure and on the first aid action given.

SKIN CONTACT: Can cause mild, short-lasting irritation.
Can be harmful if absorbed.
May cause skin sensitization.

INGESTION: Can be harmful.

INHALATION: May cause irritation to the respiratory tract and lungs.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.



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AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 04 FIRST AID INFORMATION

EYES: Immediately flush with water for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash thoroughly with soap and rinse with water. Call a physician. Wash contaminated clothing thoroughly before reuse. Do not take clothing home to be laundered. Discard contaminated shoes, belts and other articles made of leather.

INGESTION: Do not induce vomiting. Give water. Call a physician.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 05 FIRE FIGHTING MEASURES

FLASH POINT: 311 Degrees F (SETA) ASTM D-3278

EXTINGUISHING MEDIA: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NOx or SOx under fire conditions.

SECTION 06 ACCIDENTAL RELEASE MEASURES

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT or (800) 462-5378.

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.

Large liquid spills: Dike to prevent further movement and reclaim into recovery



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or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8.

This product is toxic to fish. It should not be directly discharged into lakes, ponds, streams, waterways or public water supplies.

SECTION 07 HANDLING AND STORAGE

Storage : Keep container closed when not in use.

SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant mists are generated, use either a chemical cartridge respirator with a dust/mist prefilter or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors, mists may be released.

PROTECTIVE EQUIPMENT: Wear impermeable gloves, boots, apron and a face shield with chemical splash goggles. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear, pale yellow

FORM: Liquid

ODOR: Mild

SOLUBILITY IN WATER: Completely

SPECIFIC GRAVITY: 1.02 @ 77 Degrees F

ASTM D-1298

pH (NEAT) = 4.0-6.5

ASTM E-70

VISCOSITY: 60 cps @ 70 Degrees F

BROOKFIELD



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2894 ALGICIDE

Emergency Telephone Number

Medical (800) 462-5378 (24 hours) (800) I-M-ALERT

BOILING POINT: 212 Degrees F @ 760 mm Hg ASTM D-86
FLASH POINT: 311 Degrees F (SETA) ASTM D-3278
EVAPORATION RATE
(BuAc = 1): Less than 1 Water ASTM D-1901
PERCENT VOLATILE
BY WEIGHT: 57-71
VAPOR DENSITY (Air=1): Less than 1 @ 68 Degrees F Water

NOTE: These physical properties are typical values for this product.

SECTION 10 STABILITY AND REACTIVITY

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

Avoid alkaline materials (eg. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanides, sulfides, hypochlorites, chlorites) which can generate heat with splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion, CO, CO₂, NO_x, SO_x, HCl H₂S may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 11 TOXICOLOGICAL INFORMATION

TOXICITY STUDIES: Toxicity studies have been conducted on this product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = Greater than 5,000 mg/Kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD₅₀ = Greater than 2,000 mg/Kg

ACUTE INHALATION TOXICITY (ALBINO RATS): LC₅₀ = 1.3 mg/L
(4-hour exposure)

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS): Slight irritation

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS): Corrosive

SKIN SENSITIZATION: Product is a skin sensitizer.

OTHER TOXICITY RESULTS: Product is non-mutagenic.

HUMAN HAZARD CHARACTERIZATION: Based on our hazard characterization, the potential human hazard is: HIGH.



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SECTION 12 ECOLOGICAL INFORMATION

AQUATIC DATA:

Results below are based on the active ingredient.

96 hour static acute LC50 to Bluegill Sunfish = 14 ug/L

TOXICITY RATING: Very toxic

96 hour static acute LC50 to Rainbow Trout = 2.7 ug/L

TOXICITY RATING: Very toxic

48 hour static acute EC50 to Daphnia magna = 5.2 ug/L

TOXICITY RATING: Very toxic

Acute Algal EC50, Selenastrum: 32 ug/L

TOXICITY RATING: Very toxic

OTHER STUDIES: Biodegradation (Aquatic metabolism)

Active ingredient half-life (anaerobic) = Less than 1 hour

Active ingredient half-life (aerobic) = Less than 1 hour

Activated sludge respiration inhibition (for active ingredient).

EC50 (3-hour) = Greater than 5.7 mg/L (maximum solubility concentration in water)

Material did not inhibit respiration of activated sludge by more than 25% at an tested concentration.

If released into the environment, see CERCLA in Section 15.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our Hazard Characterization, the potential environmental hazard is: HIGH.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state and federal regulations.



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SECTION 14 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES : CORROSIVE LIQUID, ACIDIC,
ORGANIC, N.O.S.

UN/ID NO : UN 3265
HAZARD CLASS - PRIMARY : 8 - CORROSIVE
PACKING GROUP : III
IMDG PAGE NO : 8147-1
IATA PACKING INSTRUCTION : CARGO: 820
IATA CARGO AIRCRAFT LIMIT : 60 L (MAX NET QUANTITY PER PACKAGE)
FLASH POINT : 311 F 155.0 C
TECHNICAL NAME(S) : ISOTHIAZOLINONE MICROBIOCIDE
RQ LBS (PER PACKAGE) : NONE
RQ COMPONENT(S) : NONE

SECTION 15 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one - Corrosive

Anionic/nonionic surfactant mixture - Irritant

Benzyl alcohol - Eye/skin irritant

Benzyl alcohol = TWA 10 ppm, 44.2 mg/m3 ACGIH/TLV

4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one = TWA 0.06 mg/m3 , STEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an



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or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8.

This product is toxic to fish. It should not be directly discharged into lakes, ponds, streams, waterways or public water supplies.

SECTION 07 HANDLING AND STORAGE

Storage : Keep container closed when not in use.

SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant mists are generated, use either a chemical cartridge respirator with a dust/mist prefilter or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors, mists may be released.

PROTECTIVE EQUIPMENT: Wear impermeable gloves, boots, apron and a face shield with chemical splash goggles. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear, pale yellow

FORM: Liquid

ODOR: Mild

SOLUBILITY IN WATER: Completely

SPECIFIC GRAVITY: 1.02 @ 77 Degrees F

ASTM D-1298

pH (NEAT) = 4.0-6.5

ASTM E-70

VISCOSITY: 60 cps @ 70 Degrees F

BROOKFIELD



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(800) I-M-ALERT

BOILING POINT: 212 Degrees F @ 760 mm Hg ASTM D-86
FLASH POINT: 311 Degrees F (SETA) ASTM D-3278
EVAPORATION RATE
(BuAc = 1): Less than 1 Water ASTM D-1901
PERCENT VOLATILE
BY WEIGHT: 57-71
VAPOR DENSITY (Air=1): Less than 1 @ 68 Degrees F Water

NOTE: These physical properties are typical values for this product.

SECTION 10 STABILITY AND REACTIVITY

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

Avoid alkaline materials (eg. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanides, sulfides, hypochlorites, chlorites) which can generate heat with splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion, CO, CO₂, NO_x, SO_x, HCl H₂S may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 11 TOXICOLOGICAL INFORMATION

TOXICITY STUDIES: Toxicity studies have been conducted on this product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = Greater than 5,000 mg/Kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD₅₀ = Greater than 2,000 mg/Kg

ACUTE INHALATION TOXICITY (ALBINO RATS): LC₅₀ = 1.3 mg/L
(4-hour exposure)

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS): Slight irritation

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS): Corrosive

SKIN SENSITIZATION: Product is a skin sensitizer.

OTHER TOXICITY RESULTS: Product is non-mutagenic.

HUMAN HAZARD CHARACTERIZATION: Based on our hazard characterization, the potential human hazard is: HIGH.



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SECTION 12 ECOLOGICAL INFORMATION

AQUATIC DATA:

Results below are based on the active ingredient.

96 hour static acute LC50 to Bluegill Sunfish = 14 ug/L

TOXICITY RATING: Very toxic

96 hour static acute LC50 to Rainbow Trout = 2.7 ug/L

TOXICITY RATING: Very toxic

48 hour static acute EC50 to Daphnia magna = 5.2 ug/L

TOXICITY RATING: Very toxic

Acute Algal EC50, Selenastrum: 32 ug/L

TOXICITY RATING: Very toxic

OTHER STUDIES: Biodegradation (Aquatic metabolism)

Active ingredient half-life (anaerobic) = Less than 1 hour

Active ingredient half-life (aerobic) = Less than 1 hour

Activated sludge respiration inhibition (for active ingredient).

EC50 (3-hour) = Greater than 5.7 mg/L (maximum solubility concentration in water)

Material did not inhibit respiration of activated sludge by more than 25% at an tested concentration.

If released into the environment, see CERCLA in Section 15.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our Hazard Characterization, the potential environmental hazard is: HIGH.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state and federal regulations.



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SECTION 14 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES : CORROSIVE LIQUID, ACIDIC,
ORGANIC, N.O.S.

UN/ID NO : UN 3265
HAZARD CLASS - PRIMARY : 8 - CORROSIVE
PACKING GROUP : III
IMDG PAGE NO : 8147-1
IATA PACKING INSTRUCTION : CARGO: 820
IATA CARGO AIRCRAFT LIMIT : 60 L (MAX NET QUANTITY PER PACKAGE)
FLASH POINT : 311 F 155.0 C
TECHNICAL NAME(S) : ISOTHIAZOLINONE MICROBIOCIDES
RQ LBS (PER PACKAGE) : NONE
RQ COMPONENT(S) : NONE

SECTION 15 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one - Corrosive

Anionic/nonionic surfactant mixture - Irritant

Benzyl alcohol - Eye/skin irritant

Benzyl alcohol = TWA 10 ppm, 44.2 mg/m³ ACGIH/TLV

4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one = TWA 0.06 mg/m³ , STEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an



MATERIAL SAFETY DATA SHEET

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Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

TOXIC SUBSTANCES CONTROL ACT (TSCA):

This product is exempted under TSCA and regulated under FIFRA.
The inerts are on the Inventory List.

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA):

EPA Reg. No. 707-259-1706.

This product is registered for use as a microorganism control chemical used in industrial recirculating cooling water tower systems.

used in brewery pasteurizers.

used in air washer systems.

In all cases follow instructions on the product label.

REGISTERED WITH THE U. S. EPA, OFFICE OF FUEL AND FUEL ADDITIVE
REGISTRATION, as a fuel additive.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 13 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/ formerly
Sec. 307, 40 CFR 116/formerly Sec. 311:
None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments),



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Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):

This product contains the following ingredients covered by the Clean Air Act:

Benzyl alcohol - Section 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

Acetaldehyde and 1,4-dioxane, known to the State of California to cause cancer, are present as an impurity or residue.

Ethylene oxide, known to the State of California to cause cancer, birth defects, or other reproductive harm, is present as an impurity or residue.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

The following ingredient(s) are disclosed for compliance with State Right To Know Laws:

Benzyl alcohol 100-51-6

INTERNATIONAL REGULATIONS:

This is a WHMIS controlled product under The House of Commons of Canada Bill C-70 (Class D2B). The product contains the following substance(s), from the Ingredient Disclosure List or has been evaluated based on its toxicological properties, to contain the following hazardous ingredient(s):

Chemical Name	CAS #	% Concentration Range
4,5-Dichloro-2-n-octyl-4-isothiazolin-3-one	64359-81-5	4.0-4.5
Anionic/nonionic surfactant mixture	Proprietary	25-40
Benzyl alcohol	100-51-6	5-10

SECTION 16 OTHER INFORMATION

None

SECTION 17 USER'S RESPONSIBILITY

Our Risk Characterization is being determined.



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This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 18 REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (CD-ROM version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (CD-ROM version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, Ohio (CD-ROM version), Micromedex, Inc., Englewood, CO.

Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood, CO.

Suspect Chemicals Sourcebook (a guide to industrial chemicals covered under major regulatory and advisory programs), Roytech Publications (a Division of Ariel Corporation), Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM version), Micromedex, Inc., Englewood, CO.



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NALCO 2894 ALGICIDE

Emergency Telephone Number

Medical (800) 462-5378 (24 hours) (800) I-M-ALERT

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