

Duke Power Company
Electric System Support Department
13339 Hagers Ferry Road
Huntersville, NC 28078-7929



DUKE POWER

February 15, 1995

Mr. Timothy M. Eleazer
Industrial and Agricultural Wastewater Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subject: Catawba Nuclear Station -NPDES Permit No. SC0004278
Request Approval for Use of Chemicals
File: CN-702.13

Dear Mr. Eleazer:

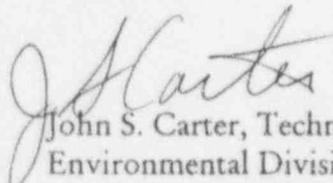
Catawba Nuclear Station is requesting approval to use the following additional treatment chemicals.

1. Carbohydrazide
2. NALCO DYNACOOOL 1389
3. dibromo-3-nitrilopropionamide or DBNPA
4. 3-MPA or 3-methoxypropylamine

All of the chemical proposed for use will be discharged below aquatic toxicity levels. The MSDS sheets and supporting information is provided for each compound.

Approval of these chemicals is needed by March 24, 1995 in order to meet schedules. Therefore, please respond to this request at your earliest convenience. Should you have any questions concerning this letter please give John Estridge a call at (704) 875-5965.

Sincerely,


John S. Carter, Technical System Manager
Environmental Division, Water Protection

9502280392 950215
PDR ADOCK 05000413
P PDR

Cool
1/1

jte/417

cc: Mr. Al Williams - Catawba EQC
NRC Document Distribution List

bc: M.A. Lascara - MF03A5
C.T. Peed - CN01EM
A.P. Jackson - CN03CH
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J.S. Velte-MG03A3

CATAWBA NUCLEAR STATION
PROPOSED USAGE
February 15, 1995

NPDES PERMIT SC0004278
Part III Item 9 Requirements

1. NAME AND GENERAL COMPOSITION OF THE CHEMICAL
Carbohydrazide
Typical Manufacture Product Name: NALCO 1250 Oxygen Scavenger

This product is a non hazardous substitute for hydrazine and is considered to be an environmentally friendly substitute for hydrazine.

2. QUANTITIES TO BE USED

This product will be used in two applications.

- a. NS Heat Exchanger Wet Layup. Carbohydrazide will be used as a corrosion inhibitor in the nuclear service water heat exchangers during wet layup. Wet layup is the period of time when the heat exchanger is not in use. The typical concentration in the NS heat exchanger during wet layup is 35 mg/l with an anticipated discharge at outfall 001 of 2.3 mg/l.
- b. Secondary Chemistry. Carbohydrazide will be used in the station's secondary chemistry system in two separate applications. The secondary system is a closed loop system which can discharge to the conventional wastewater treatment system. The conventional wastewater system discharges to Lake Wylie via outfall 002.

The first application is for steam generator wet layup. During wet layup of the steam generators carbohydrazide will have an anticipated concentration of 200-300 mg/l.

The second operation would be during power operation. Carbohydrazide will be used as an oxygen scavenger. Carbohydrazide thermally breaks down to hydrazine during full power operation. Hydrazine concentration in the secondary system is currently maintained at approximately 100 ppb during full power operation. Carbohydrazide will be used to maintain the 100 ppb concentration of hydrazine.

3. FREQUENCY OF USE

- a. Carbohydrazide will be used for the NS heat exchanger wet layup. The wet layup of these heat exchangers and the subsequent discharge will occur approximately four times per year on average.

b. Carbohydrazide will be used continuously in the secondary chemistry systems.

4. PROPOSED DISCHARGE CONCENTRATION

a. Carbohydrazide will be used at 35 mg/l during NS heat exchanger wet lay up. Discharge pathway would be to outfall 001 at approximately 2-3 mg/l.

b. The discharge pathway from the secondary chemistry system is to the conventional wastewater treatment system which discharges to Lake Wylie via outfall 002. The worst case concentration of carbohydrazide in the conventional waste system is anticipated at approximately 10 mg/l. Worst case concentration is from four steam generators discharging the contents of wet layup to the WC system. The discharge of carbohydrazide from outfall 002 will be less than the 8.1 mg/l NOEL value or as limited by the NPDES permit.

During full power operation the discharge concentration of carbohydrazide from outfall 002 is negligible.

5. EPA REGISTRATION NUMBER

MSDS sheet provided.

6. AQUATIC TOXICITY INFORMATION

The 7-day no observed effect concentration is 8.1 mg/l based on no effect on reproduction for Ceriodaphnia Dubia.

1955



Utility
Chemicals

Product
Bulletin

U-1250

NALCO® 1250

OXYGEN SCAVENGER

Product Benefits

- Is an all-volatile oxygen scavenger/metal passivator that is safer to handle than hydrazine
- Provides especially rapid passivation of utility cycle low pressure feedwater heaters
- Exhibits superior low temperature oxygen scavenging
- Can provide substantial reduction in amounts of iron and copper "crud" transported into the economizer/steam generator
- Does not add dissolved solids to the water treated

Principal Uses

NALCO 1250 is used in utility cycles as an oxygen scavenger and metal passivator, often as a direct replacement for hydrazine.

or super-critical applications. Water containing NALCO 1250 may be used for direct-contact spray atomizers.

It is recommended for all cycles, including once-through sub-critical

General Description

NALCO 1250 is a liquid chemical reducing agent. For typical chemical and physical properties, refer to

the NALCO 1250 Material Safety Data Sheet.

Application

The product feed point may vary with the cycle being treated. Typical addition points are: (1) discharge side of condensate pumps; (2) after condensate polishers; (3) deaerator (or storage section); (4) boiler feed-pump discharge. A stainless steel injection quill (available from Nalco) is recommended at the point of chemical addition.

eralized water whose temperature is in the range of 50 to 100°F. Only mild and brief agitation is needed to prepare a solution. A covered tank is recommended to minimize reaction with air.

NALCO 1250 can be fed neat or in any convenient dilution. To prepare dilutions, use condensate or demin-

To assure constant reduction of oxygen and optimal passivation of all pre-boiler system components, NALCO 1250 should be fed *continuously*.

Materials Compatibility

Polyethylene and stainless steel (types 304 and 316) are acceptable materials of construction for solution tanks, lines, and pump components. Do not use copper,

copper alloys, nickel, lead, or zinc components in contact with the product.

(Continued on Reverse Side)

NALCO CHEMICAL COMPANY
ONE NALCO CENTER • NAPERVILLE, ILLINOIS 60563-1198

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water-based
organic
inhibitor -
Spec.
break down from
hydrazine!



Handling and Storage

Please read the label and Material Safety Data Sheet for complete handling information before using this product.

The suggested in-plant storage limit is six months. NALCO 1250 should

be kept from freezing. If freezing occurs and turbidity develops, the drum should be mixed by steam sparging with low pressure steam, in a well-vented area, prior to dilution.

Shipping

NALCO 1250 is shipped from Clearing, Illinois in 55-gallon non-returnable steel drums, in 200-

and 400-gallon returnable PORTA-FEED® units, or in bulk.

FDA/USDA Status

NALCO 1250 cannot be used where compliance with FDA or USDA regulation is required.

Remarks

If you need assistance or information, please call your nearest Nalco representative, or our Naperville office at (708) 305-1000.

For **Medical and Transportation Emergencies** involving Nalco products call (24-hour response): (708) 920-1510.



* 19559

PRODUCT

NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 1250 OXYGEN SCAVENGER

DESCRIPTION: An aqueous solution of a modified amino compound

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

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally.

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

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
INGESTION: 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 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: May cause irritation with prolonged contact.
SKIN CONTACT: May cause irritation with prolonged contact.
INGESTION: Can be harmful.

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



PRODUCT

NALCO 1250 OXYGEN SCAVENGER

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

SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

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

SECTION 6 TOXICOLOGY INFORMATION

TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but studies have been conducted on a similar 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
- PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 0.33/8.0 Minimal irritation
- PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 0.33 /110.0 Practically non-irritating
- OTHER TOXICITY RESULTS: Ames test was weakly positive.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear, colorless	FORM: Liquid	
DENSITY: 8.7-lbs/gal.		
SOLUBILITY IN WATER: Completely		
SPECIFIC GRAVITY: 1.04-1.05 @ 77 Degrees F		ASTM D-1298
pH (NEAT) = 8.4		ASTM E-70
VISCOSITY: 3 cps @ 75 Degrees F		ASTM D-2983
FREEZE POINT: 28 Degrees F		ASTM D-1177
BOILING POINT: 211 Degrees F @ 760 mm Hg		ASTM D-86
FLASH POINT: None		

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

- FLASH POINT: None
- 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 under fire conditions.



PRODUCT

NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Mineral acids, nitrites.

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.

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

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant vapors, mists or aerosols are generated, wear a NIOSH approved or equivalent respirator.

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

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed).

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 11 SPILL AND DISPOSAL INFORMATION

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 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA



PRODUCT

NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

in Section 14.

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 deep-well injected in accordance with local, state, and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

Results below are based on a similar product.

96 hour static acute LC50 to Bluegill Sunfish = 190 ppm

96 hour static acute LC50 to Rainbow Trout = 360 ppm

Results below are based on the product.

7-day chronic static renewal IC25 for
Ceriodaphnia Dubia reproduction = 17.3 mg/L

7-day no observed effect concentration is 8.1 mg/L
based on no effect on reproduction.

48 hour static acute LC50 to Ceriodaphnia Dubia = 85 mg/L

48 hour no observed effect concentration is 31 mg/L based on no mortality.

TOXICITY RATING:

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE -
(DEPENDENT UPON MODE, PACKAGE)

PRODUCT IS NOT REGULATED
DURING TRANSPORTATION



PRODUCT

NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, none of the ingredients in this product are hazardous.

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 Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

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).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 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),
Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:
Hydrazine is known to the State of California to cause cancer. This product



#19559

PRODUCT
NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

contains levels of hydrazine at less than 0.1%.

MICHIGAN CRITICAL MATERIALS:

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

STATE RIGHT TO KNOW LAWS:

This product does not contain ingredients listed by State Right To Know Laws.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

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 ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Admur, M. O., eds., Macmillan Publishing Company, Inc., N. Y., 2nd edition, 1980.

CHEMICAL HAZARDS OF THE WORKPLACE, Proctor, N. H., and Hughes, J. P., eds., J. P. Lipincott Company, N.Y., 1981.

DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.

PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E.,



PRODUCT

NALCO 1250 OXYGEN SCAVENGER

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 17 BIBLIOGRAPHY

(. CONTINUED)

eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

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

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist

DATE CHANGED: 05/16/94

DATE PRINTED: 10/05/94



#19559

MATERIAL SAFETY DATA SHEET

PRODUCT

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

D. Bain
445 Chem Str.

CATAWBA NUCLEAR STATION
PROPOSED USAGE
February 15, 1995

NPDES PERMIT SC0004278
Part III Item 9 Requirements

1. NAME AND GENERAL COMPOSITION OF THE CHEMICAL
Typical Manufacture Product Name: NALCO DYNACOOOL 1389

This product is a cooling water dispersant.

2. QUANTITIES TO BE USED

NS Heat Exchanger Wet Layup. Nalco Dynacool 1389 will be used to enhance the dispersion of mud and silt in the nuclear service water heat exchangers during wet layup. Wet layup is the period of time when the heat exchanger is not in use. The typical concentration in the NS heat exchanger during wet layup is 5 mg/l with an anticipated discharge at outfall 001 of 0.3 mg/l.

3. FREQUENCY OF USE

The wet layup of these heat exchangers and the subsequent discharge will occur approximately four times per year on average.

4. PROPOSED DISCHARGE CONCENTRATION
0.3 MG/L

5. EPA REGISTRATION NUMBER
MSDS Sheet Attached.

6. AQUATIC TOXICITY INFORMATION

The 48 hour static acute LC50 to Daphnia Magna is greater than 1000 mg/l.

**DYNACOOOL®
1389****COOLING
WATER
DISPERSANT**

U-1389

Product Benefits

- Provides stabilization of zinc and phosphates to enhance performance of corrosion control programs
- Highly effective at dispersing iron, manganese, and suspended solids
- Fouling deterrent — helps remove suspended foulants
- Helps prevent iron redeposition during acid upsets

Principal Uses

DYNACOOOL 1389 is a specially formulated liquid product containing an organic dispersant. It is designed to control deposition of iron, manganese, and suspended solids in cooling water systems. This product is particularly effective where soluble iron and manganese are encountered in makeup or once-through cooling water.

DYNACOOOL 1389 also enhances the performance of zinc and phosphate corrosion control programs by increasing solubility of zinc and phosphate components, especially in high pH waters.

General Description

DYNACOOOL 1389 is a liquid formulation containing DYNACOOOL enhanced organic dispersant.

For typical chemical and physical properties, refer to the DYNACOOOL 1389 Material Safety Data sheet.

Application

DYNACOOOL 1389 should be fed directly from the drum or bulk storage tank to a point in the system where rapid mixing will occur. Continuous feed is required to maintain the proper dosage in the system at all times.

The specific dosage of DYNACOOOL 1389 will vary depending upon the operating characteristics of the sys-

tem, the water chemistry, and the severity of problems encountered. Your Nalco representative can recommend the optimum dosage necessary to ensure maximum program performance. DYNACOOOL 1389 should not be used in the treatment of potable water, or where the contamination of potable water may occur.

Handling

Read the label and Material Safety Data Sheet for complete handling

information before using this product.

(Continued on Reverse Side)

NALCO CHEMICAL COMPANY
ONE NALCO CENTER • NAPERVILLE, ILLINOIS 60563-1198

Operations in Argentina, Australia, Austria, Belgium, Brazil, Canada, Caribbean, Chile, Colombia, Ecuador, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Portugal, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Taiwan, Thailand, Turkey, United Kingdom, U.S.A., Venezuela and Yugoslavia.



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Shipping and Storage

DYNACOOOL 1389 is shipped in bulk and in 200- and 400-gallon returnable PORTA-FEED® units.

The recommended in-plant storage limit is one year.

Remarks

If you need assistance or information, please call your nearest Nalco representative, or our Naperville office at (708) 305-1000.

For **Medical and Transportation Emergencies** involving Nalco products call (24-hour response): (800) I-M-ALERT or (800) 462-5378.



PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 1389 LIQUID
DESCRIPTION: A modified polyacrylate

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

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

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

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
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 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: May cause irritation with prolonged contact.
SKIN CONTACT: May cause irritation with prolonged contact.

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

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

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PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute 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
Toxicity Rating: No appreciable toxicity

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 0.0/8.0 Non-irritating

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 4.7/110.0 Minimally irritating
COMMENTS: Slight conjunctivitis was apparent one hour.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR:	Clear to hazy, colorless to brown	FORM:	Liquid
SPECIFIC GRAVITY:	1.27 @ 71 Degrees F		ASTM D-1298
pH (NEAT) =	4.5-6.0		ASTM E-70
VISCOSITY:	570 cps @ 71 Degrees F		ASTM D-2983
FREEZE POINT:	13 Degrees F		ASTM D-1177
POUR POINT:	15 Degrees F		ASTM D-97
BOILING POINT:	212 Degrees F @ 760 mm Hg		ASTM D-86
FLASH POINT:	None (FMCC)		ASTM D-93

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (FMCC) ASTM D-93

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 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known

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

PAGE 2 OF 7



PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed. If significant mists or aerosols are generated, wear a NIOSH approved or equivalent respirator.

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

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Wear impermeable gloves, boots, aprons or a slicker suit to avoid skin contact. Chemical goggles and face shield are also recommended. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, and natural rubber (compatibility studies have not been performed).

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 11 SPILL AND DISPOSAL INFORMATION

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 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

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



PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

96 hour static acute LC50 to Bluegill Sunfish = Greater than 1,000 ppm

96 hour no observed effect concentration is 1000 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 ppm

96 hour no observed effect concentration is 560 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

OTHER STUDIES:

48 hour static acute LC50 to Daphnia Magna = Greater than 1,000 ppm

48 hour no observed effect concentration is 180 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE -
(DEPENDENT UPON MODE, PACKAGE)

PRODUCT IS NOT REGULATED
DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, none of the ingredients in this product are hazardous.



PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

96 hour static acute LC50 to Bluegill Sunfish = Greater than 1,000 ppm

96 hour no observed effect concentration is 1000 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 ppm

96 hour no observed effect concentration is 560 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

OTHER STUDIES:

48 hour static acute LC50 to Daphnia Magna = Greater than 1,000 ppm

48 hour no observed effect concentration is 180 ppm based on no mortality or abnormal effects.

TOXICITY RATING: No appreciable toxicity

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE -
(DEPENDENT UPON MODE, PACKAGE)PRODUCT IS NOT REGULATED
DURING TRANSPORTATION

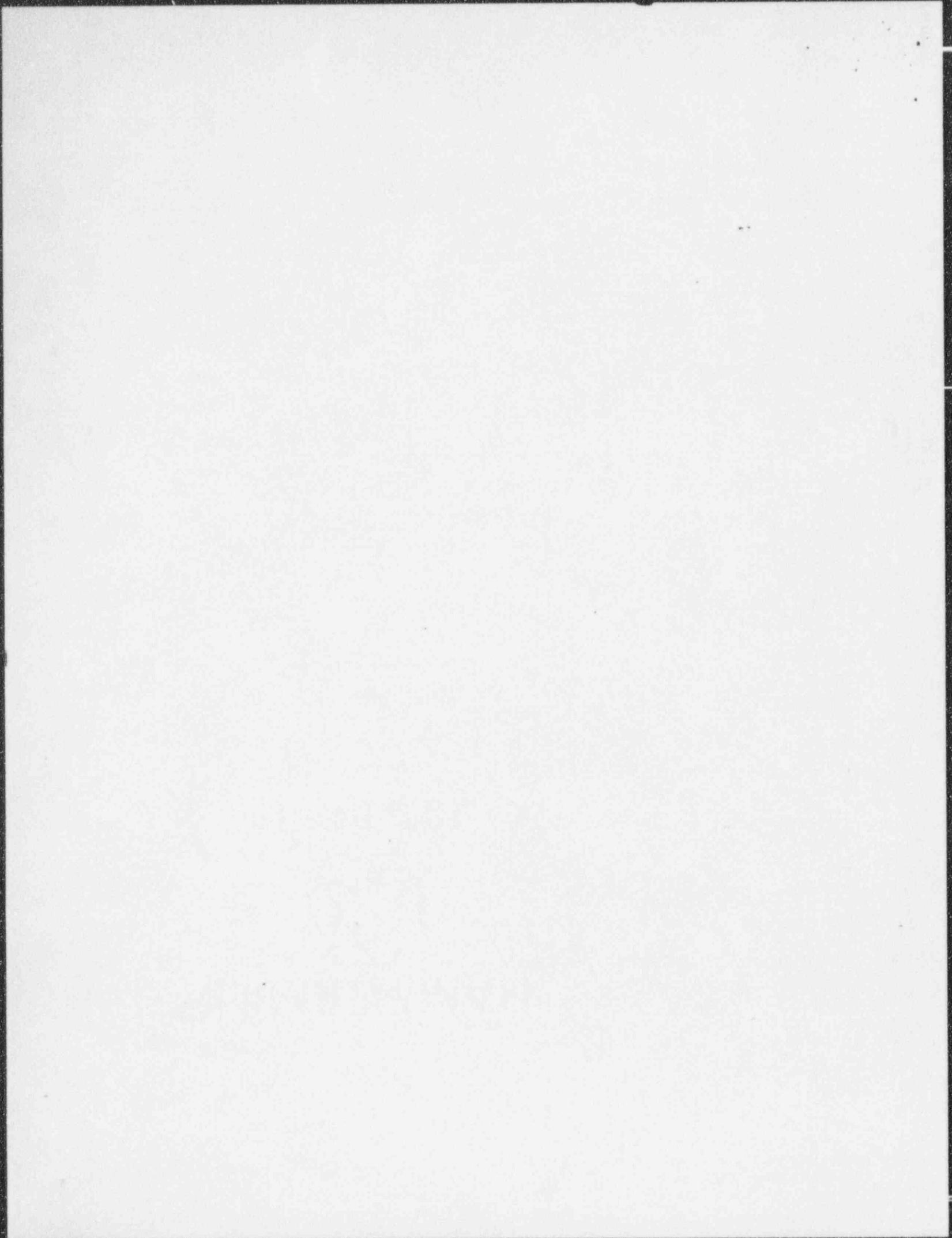
SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, none of the ingredients in this product are hazardous.





PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 482-5378 (24 hours)

(800) I-M-ALERT

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

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 Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

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).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/
formerly Sec. 307, 40 CFR 119/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),
Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:

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

STATE RIGHT TO KNOW LAWS:

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PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

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

Acrylic polymer	Trade Secret
Water	7732-18-5

INTERNATIONAL REGULATIONS:

This is not a WHMIS controlled product under The House of Commons of Canada Bill C-70.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

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 ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Adair, M. O., eds., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

CHEMICAL HAZARDS OF THE WORKPLACE, Proctor, N. H., and Hughes, J. P., eds., J. P. Lipincott Company, N.Y., 1981.

DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.

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PRODUCT

NALCO 1389 LIQUID

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 17 BIBLIOGRAPHY

(CONTINUED)

PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

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

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist

DATE CHANGED: 03/31/94

DATE PRINTED: 10/05/94



PRODUCT

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

CATAWBA NUCLEAR STATION
PROPOSED USAGE

February 15, 1995

NPDES PERMIT SC0004278

Part III Item 9 Requirements

1. NAME AND GENERAL COMPOSITION OF THE CHEMICAL

2,2 dibromo-3-nitrilopropionamide or DBNPA

Typical Manufacture Product Name: NALCO 7320

This product is a microorganism control chemical.

2. QUANTITIES TO BE USED

NS Heat Exchanger Wet Layup. DBNPA will be used in the nuclear service water heat exchangers during wet layup. Wet layup is the period of time when the heat exchanger is not in use. The typical concentration in the NS heat exchanger during wet layup is 20 mg/l with an anticipated discharge at outfall 001 of 0 mg/l. This product will decay away within 72 hours of application.

3. FREQUENCY OF USE

The wet layup of these heat exchangers and the subsequent discharge will occur approximately four times per year on average.

4. PROPOSED DISCHARGE CONCENTRATION

0 MG/L

5. EPA REGISTRATION NUMBER

The EPA registration number for this compound is 1706-138.

6. AQUATIC TOXICITY INFORMATION

DBNPA has a 48 hour LC50 to Daphnia Magnia of 1.24 mg/l.

Nalco 7320 has a 20% concentration of DBNPA as the active product.



NALCO® 7320

MICROORGANISM CONTROL CHEMICAL

Product Benefits

NALCO 7320 is a penetrating formulation designed to help penetrate and remove slime deposits. This microorganism control chemical offers the following benefits:

- Effective slime control — can work in hard-to-control systems

- Broad pH range effectiveness — works in both alkaline and acid environments
- Minimal effluent impact — generally hydrolyzes to less toxic components

Principal Uses

NALCO 7320 can effectively control microorganism growths and associated deposits in industrial recirculating cooling water towers and brewery pasteurizers. It is particularly useful against slime-forming bac-

teria that can produce a deposit environment where serious corrosion and fouling take place. NALCO 7320 is a nonoxidizing biocide that has penetrating and dispersing characteristics.

General Description

NALCO 7320 is an organo-bromine biocide formulated in a nonaqueous solution with the following properties:

Color	Clear to yellow
Odor	Pungent organic
Specific Gravity (@ 60°F)	1.24-1.26
Density	10.5 lb/gal
pH (1% Solution @ 75°F)	4.3
Flash Point (COC)	>360°F

Pour Point	-45°C
Freeze Point	-50°C
Freeze-Thaw Recovery	Complete
EPA Registration Number	1706-138
Active Ingredient (by weight):	
2,2 dibromo-3-nitrilopropionamide	20%

Dosage and Feeding

The specific dosage of NALCO 7320 will vary depending upon the operating characteristics of your system, the water chemistry, and the severity of problems encountered.

Your Nalco representative will recommend the optimum dosage necessary to ensure maximum program performance for your system.

(Continued on Reverse Side)

NALCO CHEMICAL COMPANY WATER TREATMENT CHEMICALS

2901 BUTTERFIELD ROAD • OAK BROOK, ILLINOIS 60521

SUBSIDIARIES IN ARGENTINA, AUSTRIA, BRAZIL, CHILE, COLOMBIA, ECUADOR, FINLAND, FRANCE, HOLLAND, HONG KONG, ITALY, PHILIPPINES, SAUDI ARABIA, SPAIN, SWEDEN, VENEZUELA AND WEST GERMANY • AFFILIATES IN AUSTRALIA, CANADA, JAPAN, MEXICO, SINGAPORE, SOUTH AFRICA, TAIWAN, UNITED KINGDOM AND THE UNITED STATES



Handling and Storage

NALCO 7320, if contacted, causes severe burns to eyes. Contact with skin may cause chemical burns. May be harmful or fatal if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling NALCO 7320. Keep container closed when not in use. Use only in well-ventilated area. In case of eye or skin contact with the neat

product, immediately flush skin or eyes with water for at least 15 minutes, and get medical attention. Remove and wash contaminated clothing before reuse.

Keep the product away from smoke or fumes. Apply this product only as specified. The recommended in-plant storage limit is six months.

Shipping

NALCO 7320 is shipped in 30-gallon, nonreturnable lined steel

drums containing approximately 300 pounds net.

Drum Disposal

Do not reuse the container. Triple rinse all containers and either dispose in a landfill approved for

pesticide containers, bury in a safe place, or incinerate.

Remarks

NALCO 7320 is intended for industrial use only. Do not apply to potable or domestic water systems. Use NALCO 7320 only as specified on the label.

This product is toxic to fish. Do not contaminate water sources by cleaning feed equipment or by disposing of wastes.



PRODUCT NAME:

NALCO 7320 MICROBIOCIDAL

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 7320 MICROBIOCIDAL
DESCRIPTION: Microorganism control chemical

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

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
2,2-dibromo-3-nitrilopropionamide	10222-01-2	20-40

SECTION 3 PRECAUTIONARY LABEL INFORMATION

DANGER: Corrosive. Causes severe burns of eyes. Eye contact may cause loss of vision. May burn skin. May be harmful or fatal if swallowed. Do not get in eyes, on skin or on clothing. Chemical Worker's goggles must be worn when handling. Wash thoroughly after handling.

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

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush 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. Call a physician at once.

INGESTION: Induce vomiting. Give water. Call a physician at once.

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.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression



PRODUCT

NALCO 7320 MICROBIOCIDE

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 4 FIRST AID INFORMATION

(CONTINUED)

and convulsions may be needed.

SECTION 5 HEALTH EFFECTS INFORMATION

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: Corrosive to the skin, possibly resulting in third degree burns depending on the length of exposure and on the first aid action given. May be a skin sensitizer.

INGESTION: Can be harmful. Can be fatal.

INHALATION: May cause irritation to the respiratory tract and lungs. Vapors of cyanogen bromide and dibromo-acetylnitrile may form in drum headspace.

SYMPTOMS OF EXPOSURE: Excessive exposure may increase the blood and tissue levels of bromine. Observations in animals include kidney effects following repeated ingestion, but no evidence of systemic toxicity following repeated dermal exposure at maximum attainable doses (data on active ingredient).

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

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but toxicity studies of the active ingredient have been reviewed. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):

Active ingredient LD50 = 235 mg/kg (male)

Active ingredient LD50 = 178 mg/kg (female)

95% Confidence Limit = 169 - 328 mg/kg

ACUTE ORAL TOXICITY (GUINEA PIGS):

Active ingredient LD50 = 118 mg/kg (female)

95% Confidence Limit = 85 - 165 mg/kg

ACUTE ORAL TOXICITY (ALBINO RABBITS):

Active ingredient LD50 = 118 mg/kg (mixed sexes)



PRODUCT

NALCO 7320 MICROBIOCIDAL

Emergency Telephone Number

Medical (800) 482-5378 (24 hours)

(800) I-M-ALERT

SECTION 6 TOXICOLOGY INFORMATION

(CONTINUED)

95% Confidence Limit = 160 - 262 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS):

Active ingredient LD50 = Greater than 2,000 mg/kg

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: Severe irritant

COMMENTS: Severe eye reaction with possible tissue destruction and impairment.

SKIN SENSITIZATION: Expected to be a sensitizer.

CHRONIC TOXICITY RESULTS: Water containing 100 ppm of the active ingredient was given to rats in a 90-day drinking study. No toxic effects were observed at this concentration. Only minimal effects were noted at 500 ppm. A metabolism study using rats showed that the active ingredient is metabolized and readily excreted in the urine, with 82% being excreted within 24-hours.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear to yellow	FORM: Liquid	ODOR: Pungent organic
DENSITY: 10.3-10.9 lbs/gal.		
SOLUBILITY IN WATER: Completely		
SPECIFIC GRAVITY: 1.24-1.31 @ 75 Degrees F		ASIM D-1298
pH (at 1%) = 2.4-4.0		ASIM E-70
FREEZE POINT: -58 Degrees F		ASIM D-1177
POUR POINT: -49 Degrees F		ASIM D-97
BOILING POINT: Decomposes		ASIM D-86
FLASH POINT: Greater than 360 Degrees F (COC)		ASIM D-92
VAPOR PRESSURE: Greater than 10 mm Hg @ 77 Degrees F		ASIM D-323

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 360 Degrees F (COC) ASIM D-92

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: Forms methyl bromide, ethyl bromide,



PRODUCT

NALCO 7320 MICROBIOCIDES

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 8 FIRE AND EXPLOSION INFORMATION

(CONTINUED)

hydrogen cyanide, and NOx above 158 degrees F.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid temperatures above 50 degrees C, 122 degrees F for decomposition, 75 degrees C, 167 degrees F, for severe reactivity.

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.

STORAGE: Store below 140 degrees F. Product is corrosive to aluminum. Aluminum should not be used for feed, storage, or transportation systems.

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

Gases formed above 120 degrees C. include methyl and/or ethyl bromide, hydrogen cyanide, nitric oxide and cyanogen bromide.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

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

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors or 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.



PRODUCT

NALCO 7320 MICROBIOCIDES

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 11 SPILL AND DISPOSAL INFORMATION

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 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

Can add excess soda ash or other alkalis to hasten degradation of product. Maintain the solution at a pH of 9.0 or higher for at least 18 hours before disposal.

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

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.

METAL CONTAINERS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

PLASTIC CONTAINERS: Do not reuse empty container. Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA: Product



PRODUCT

NALCO 7320 MICROBIOCIDES

Emergency Telephone Number

Medical (800) 482-5378 (24 hours)

(800) I-M-ALERT

SECTION 12 ENVIRONMENTAL INFORMATION

(CONTINUED)

96 hour static acute LC50 to Bluegill Sunfish = 8.9 mg/l

96 hour no observed effect concentration is 6.5 mg/l based on no mortality or abnormal effects.

96 hour static acute LC50 to Rainbow Trout = 3.6 mg/l

96 hour no observed effect concentration is 2.8 mg/l based on no mortality or abnormal effects.

96 hour static acute LC50 to Mysid Shrimp = 4.2 mg/l

96 hour no observed effect concentration is 3.2 mg/l based on no mortality or abnormal effects.

96 hour static acute LC50 to Sheepshead Minnow = 7.5 mg/l

96 hour no observed effect concentration is 3.2 mg/l based on no mortality or abnormal effects.

AQUATIC DATA: Active ingredient

96 hour static acute LC50 to Bluegill Sunfish = 1.3 mg/l

96 hour static acute LC50 to Rainbow Trout = 1.0 mg/l

96 hour LC50 to Fathead Minnows = 1.36 mg/l

48 hour acute LC50 to Daphnia Magna = 1.24 mg/l

96 hour acute LC50 to Sheepshead Minnow = 1.4 mg/l

96 hour acute LC50 to Grass Shrimp = 11.5 mg/l

24 hour acute LC50 to Brackish Water Clam = 20 mg/l

AVIAN TOXICITY:

ACUTE ORAL TOXICITY (Mallard Duck):

Active ingredient LD50 = 205 mg/kg (male)

Active ingredient LD50 = 216 mg/kg (female)

ACUTE ORAL TOXICITY (Bobwhite Quail):

Active ingredient LD50 = 166 mg/kg (male)



PRODUCT

NALCO 7320 MICROBIOCIDES

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 12 ENVIRONMENTAL INFORMATION

(CONTINUED)

Active ingredient LD50 = 150 mg/kg (female)

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE -
(DEPENDENT UPON MODE, PACKAGE)

NOT REGULATED DURING TRANSPORTATION
IN THE U.S., PER 49CFR 173.154(D),
IF TRANSPORTED IN PACKAGE COMPATIBLE
WITH THIS MATERIAL

CONTAINS

- 2,2-DIBROMO-3-NITRILOPROPION-
AMIDE

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

2,2-dibromo-3-nitrilopropionamide - Corrosive, sensitizer

2,2-dibromo-3-nitrilopropionamide = 2 mg/m³ (ceiling) TLV
Manufacturer's recommendation

CERCLA, 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 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

XX Delayed (chronic) health hazard



PRODUCT

NALCO 7320 MICROBIOCIDES

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-ALERT

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

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 active ingredient is regulated under FIFRA, exempted under TSCA. All the other ingredients are on the TSCA Inventory List.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 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),
Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product contains the following ingredients covered by the Clean Air Act:

Polyethylene glycol - Section 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:

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

STATE RIGHT TO KNOW LAWS:

This product does not contain ingredients listed by State Right To Know Laws.

INTERNATIONAL REGULATIONS:



PRODUCT

NALCO 7320 MICROBIOCIDE

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

SECTION 14 REGULATORY INFORMATION (CONTINUED)

This product is a registered biocide and is exempt from WHMIS under The House of Commons of Canada Bill C-70.

SECTION 15 ADDITIONAL INFORMATION

Nalco internal number FDCC32794

SECTION 16 USER'S RESPONSIBILITY

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 use, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

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SECTION 17 BIBLIOGRAPHY

(CONTINUED)

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

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: Ricky A. Stackhouse Ph.D., Toxicologist

DATE CHANGED: 04/27/94

DATE PRINTED: 09/28/94

CATAWBA NUCLEAR STATION
PROPOSED USAGE
February 15, 1995

NPDES PERMIT SC0004278
Part III Item 9 Requirements

1. NAME AND GENERAL COMPOSITION OF THE CHEMICAL

3-MPA or 3-methoxypropylamine

Typical Manufacture Product Name: NALCO 94UF193

This product will be used for pH control.

The use of MPA will help to reduce the amount of low level radioactive waste generated at the site. This product is considered an environmentally friendly substitute for ethanolamine due to the reduction in resin waste.

2. QUANTITIES TO BE USED

3-MPA will be used in the secondary system to replace ethanolamine as the secondary pH control additive. This product will be used in the range of 1-10 mg/l.

3. FREQUENCY OF USE

continuously

4. PROPOSED DISCHARGE CONCENTRATION

1-10 MG/L is the concentration to be used in the secondary chemistry system. There secondary system is discharged to the conventional wastewater treatment ponds and discharged to Lake Wylie via outfall 002. The anticipated worst case discharge concentration out outfall 002 is 0.1 mg/l.

5. EPA REGISTRATION NUMBER

MSDS sheets attached.

6. AQUATIC TOXICITY INFORMATION

The 7-day Ceriodaphnia no observed effect concentration for reproduction is 9.5 mg/l.

The 7-day Ceriodaphnia no observed effect concentration for survival is 75 mg/l.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 94UF193

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SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 94UF193

DESCRIPTION: A solution of alkyl primary amine

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 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified one or more hazardous ingredient(s) under OSHA's hazard Communication Rule, 29 CFR 1910.1200. Their identity is being claimed a trade secret. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
Primary amine	Proprietary	20-40

SECTION 3 PRECAUTIONARY LABEL INFORMATION

DANGER! Corrosive. Causes eye and skin burns. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or mist. Keep container closed when not in use. Use only with adequate ventilation. Wash thoroughly after handling.

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

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush 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. Call a physician at once.

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.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of



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NALCO 94UF193

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SECTION 4 FIRST AID INFORMATION

(CONTINUED)

gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

SECTION 5 HEALTH EFFECTS INFORMATION

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

EYE CONTACT: Can cause injury or damage. 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 severe irritation. Can cause allergic contact dermatitis in susceptible individuals.

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.

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

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but toxicity studies of the ingredient(s) in Section 2 have been reviewed. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):
Primary amine LD50 = 750 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS):
Primary amine LD50 = 2,600 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 6.6/8.0 Corrosive

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 104/110.0 Extremely irritating

SKIN SENSITIZATION: Skin sensitization expected.

OTHER TOXICITY RESULTS: Primary amine. Bacterial mutagenicity bioassay (Ames) negative.



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SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR:	Colorless to light yellow	FORM:	Liquid	ODOR:	Ammonia
DENSITY:	8.1-8.2 lbs/gal.				
SOLUBILITY IN WATER:	Completely				
SPECIFIC GRAVITY:	0.98-0.99 @ 60 Degrees F			ASIM D-1298	
pH (NEAT) = 12-14		pH (at 1%) = 11.5		ASIM E-70	
VISCOSITY:	34 SUS @ 100 Degrees F			ASIM D-2983	
FREEZE POINT:	-20 Degrees F			ASIM D-1177	
POUR POINT:	Less than -30 Degrees F			ASIM D-97	
FLASH POINT:	Greater than 200 Degrees F (TCC)			ASIM D-56	
PERCENT VOLATILE BY WEIGHT:	3 @ 75 Degrees F				

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 200 Degrees F (TCC) ASIM D-56

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: Ammonia, CO, CO2 may be evolved under fire conditions.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: N-nitrosamines, many are cancer causing agents to laboratory animals, may be formed when certain amines are mixed with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations.

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 contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

FEEDING EQUIPMENT: Do not use with aluminum, copper or brass, Plasite 7122, Plasite 8-4005, hypalon, viton, Buna-N, polyurethane, rubber, vinyl or neoprene.



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SECTION 9 REACTIVITY INFORMATION

(CONTINUED)

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

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

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

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

PROTECTIVE EQUIPMENT: Wear gloves, boots, apron and a face shield with chemical splash goggles. 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 11 SPILL AND DISPOSAL INFORMATION

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 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

Keep the spill away from heat, sparks, flames and welding operations. Ventilate area and evacuate employees from exposure if the airborne concentration exceeds the TLV. Refer to Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a



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SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

As a hazardous liquid waste, it must be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to a licensed industrial waste landfill (Hazardous Waste Treatment, Storage and Disposal facility). A hazardous liquid waste can also be incinerated in accordance with local, state, and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

Results below are based on the product.

7-day Cierodaphnia reproductive IC25 = 10.1 mg/L

7-day Cierodaphnia reproductive IC50 = 17.5 mg/L

The 7-day no observed effect concentration for reproduction is 9.5 mg/L.

The 7-day no observed effect concentration for survival is 75 mg/L.

If released into the environment, see CERCLA in Section 14.

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE - ALKYLAMINES, N.O.S.
(DEPENDENT UPON MODE, PACKAGE) 8, UN 2735, PG II
CONTAINS - ORGANIC AMINE COMPOUND

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Primary amine - Corrosive, sensitizer



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Primary amine = 10 ppm, STEL 20 ppm
Workplace Environmental Exposure Limit (WEEL)

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
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

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).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 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),
Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals which require warning under California Proposition 65.

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:

Primary amine	Trade secret
Water	7732-18-5

INTERNATIONAL REGULATIONS:

This is a WHMIS controlled product under The House of Commons of Canada Bill C-70 (Class E). 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 ingredients(s):

Chemical Name	CAS #	% Concentration Range
Primary amine	Proprietary	20-40

SECTION 15 ADDITIONAL INFORMATION

Nalco internal number F102763

SECTION 16 USER'S RESPONSIBILITY

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 ensure safe workplace operations. Please consult your local sales representative for any further information.

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PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist

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