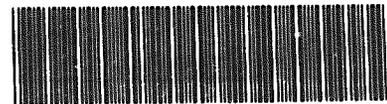




NALCO CHEMICAL COMPANY

ONE NALCO CENTER □ NAPERVILLE, ILLINOIS 60563-1198 □ AREA 708-305-1454



BEHQ-96-13698

July 17, 1996

JOHN J. KASPER
DIRECTOR, PRODUCT SAFETY
ENVIRONMENTAL HEALTH & SAFETY

BEHQ.0796-13698

CERTIFIED MAIL

TSCA Document Receipt Office (TS-790)
Attention: 8(e) Coordinator
Office of Pollution Prevention & Toxics
U. S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Contains No CBI

ORIGINAL

RECEIVED
JUL 23 11:01

Subject: This Notice is being submitted in accordance with Section 8(e)
(43FR1110, March 16, 1978 Statement of Interpretation)

On July 8, 1996, we became aware that a customer inadvertently overfed a product containing 2-Propen-1-aminium, *N, N*-dimethyl-*N*-2-propenyl-, chloride, homopolymer (CAS Nbr. 26062-79-3). According to the customer, approximately 1100 gallons of our product was diluted with water to 5000 gallons and fed to an impoundment containing 2,000,000 gallons of water. This impoundment then flows through nine (9) ponds, containing an additional 2,000,000 gallons of water, before discharging to the Tug Fork Creek in McDowell County, West Virginia. On July 7, 1996, the West Virginia Division of Water Resources found an unidentified number of dead fish in the creek downstream from the release point. When the fish kill was detected, flow from the ponds was blocked. Water samples were taken from the impoundment and at sites on the Tug Fork.

Samples taken on July 6, 1996 from the impoundment and at three (3) locations on the creek were analyzed on July 11, 1996 and July 12, 1996 for polymer levels (Attachment 1). Several samples contained levels of polymer exceeding the estimated LC₅₀'s for Bluegill sunfish, Fathead minnow and Rainbow trout.

Based on the acute aquatic toxicity of the cationic polymer, the 96 hour LC₅₀'s for our product, which contains 10% polymer, is estimated to be 1.8 ppm for Bluegill sunfish, 1.8 ppm for Fathead minnow, and 0.94 ppm for Rainbow trout. In addition, the 48 hour LC₅₀ to *Daphnia magna* was 190 ppm.

From conversations with the customer, the initial response was that at least 400 fish, primarily suckers and shiners, had been killed in the creek. The state is completing a more accurate assessment of the numbers.

The impoundment will be treated with additional solids and anionic polymer to bind the cationic polymer before discharge to the creek is restarted. A second analysis of water samples taken from the Tug Fork on July 8, 1996 showed no detectable levels of polymer in the creek. Analysis of two (2) local wells showed no detectable levels of polymer.

Enclosed is our MSDS (Attachment 2) which was in the possession and reviewed by our customer when this incident occurred. The MSDS identifies the hazard. It was their belief that the volume of impoundment water would provide sufficient dilution and absorption to mitigate the acute lethality.

We will advise you if any significant, new information is identified.

Sincerely,

John J. Kasper, M. Sc.



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JJK:165.02pl
Enclosures

RECEIVED
OPPT NCIC
56 JUL 26 AM 10:56



July 17, 1996

JOHN J. KASPER
DIRECTOR, PRODUCT SAFETY
ENVIRONMENTAL HEALTH & SAFETY

55 JUL 23 7:11:07

070711-07

CERTIFIED MAIL

TSCA Document Receipt Office (TS-790)
Attention: 8(e) Coordinator
Office of Pollution Prevention & Toxics
U. S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Subject: Notification Submitted in Accordance with Section 8(e)

The information below fulfills our reporting requirements. Enclosed is a summary of the circumstances and of actions taken.

- A. This notice has been sent by Certified Mail.
- B. This notice is being submitted in accordance with EPA's March 16, 1978, Statement of Interpretation for Notification of Substantial Risk: Section 8(e) of the Toxic Substance Control Act as published in 45 Federal Register 11110.
- C. John J. Kasper, M.Sc.
Director, Product Safety
One Nalco Center
Naperville, IL 60563-1198
(708) 305-1454

Nalco Chemical Company
One Nalco Center
Naperville, IL 60563-1198
(708) 305-1000
- D. 2-Propen-1-aminium, *N, N*-dimethyl-*N*-2-propenyl-, chloride, homopolymer (CAS Nbr. 26062-79-3) and impoundment water.
- E. A fish kill of 400 fish (suckers and shiners) occurred in Tug Fork Creek, McDowell County, West Virginia. The impoundment water discharge to the creek was stopped. A second analysis of water from Tug Creek for the polymer (CAS Nbr. 26062-79-3) showed none detectable. Analysis of two wells showed no polymer detected.

The risk from the polymer was its initial, acute effects.
- F. The West Virginia Division of Water Resources is investigating the fish kill.

Sincerely,

John J. Kasper, M. Sc.



NALCO CHEMICAL COMPANY

ONE NALCO CENTER □ NAPERVILLE, ILLINOIS 60563-1198 □ AREA 708-305-1000

Consol Residual 8856 Analyses

7/12/96

<u>Sample Location</u>	<u>Sample Date</u>	<u>Concentration of 8856 (ppm)</u>
PAG-01	7/6/96	143
“	7/8/96	133
PAG-IS-01	7/6/96	< 0.1
“	7/8/96	<0.1
PAG-IS-02	7/6/96	28
“	7/8/96	2.9
PAGETON IMPD	7/6/96	218
“	7/8/96	201
TUG FORK - 1	7/6/96	87
“	7/8/96	< 0.1
TUG FORK - 2	7/6/96	37
“	7/8/96	< 0.1
TUG FORK - 3	7/6/96	10
“	7/8/96	< 0.1
TUG FORK - 4	7/6/96	0.14
“	7/8/96	< 0.1
PAGETON IMPD Column	7/10/96	182
Well 1		< 0.1
Well 2		< 0.1



MATERIAL SAFETY DATA SHEET

PRODUCT

A POLYQUATERNARY AMINE

Emergency Telephone Number

Medical (800) 462-5378 (24 hours)

(800) I-M-A! ERT

SECTION 1 PRODUCT IDENTIFICATION

DESCRIPTION: An aqueous solution of a polyquaternary amine

NFPA 704M/HMIS RATING: 0/0 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: No specific antidote is known. 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.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does



MATERIAL SAFETY DATA SHEET

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SECTION 5 HEALTH EFFECTS INFORMATION

(CONTINUED)

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 have been conducted on a similar product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = 4,699 mg/kg

95% Confidence Limit = 3,772 - 5,854 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:
0.84/8.0 Mildly Irritating

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING:
1.0/110.0 Practically Non-Irritating

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

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear amber	FORM: Liquid	ODOR: None
DENSITY:	8.5 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.02 @ 60 Degrees F	ASTM D-1298
pH (NEAT) =	7.5	ASTM E-70
VISCOSITY:	140 cps @ 44 Degrees F/ 110 cps @ 72 Degrees F/ 70 cps @ 110 Degrees F	ASTM D-2983
FLASH POINT:	None (PMCC)	ASTM D-93

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (PMCC) ASTM D-93



MATERIAL SAFETY DATA SHEET

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SECTION 8 FIRE AND EXPLOSION INFORMATION

(CONTINUED)

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 NO_x under fire conditions.

SECTION 9 REACTIVITY INFORMATION

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.

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.

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.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment or doing maintenance.

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

HUMAN EXPOSURE CHARACTERIZATION: Based on Nalco's recommended product application and our recommended personal protective equipment, the potential human exposure is: LOW.

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



MATERIAL SAFETY DATA SHEET

PRODUCT

A POLYQUATERNARY AMINE

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SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

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.

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.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA: Results below based on a similar product.

96 hour static acute LC50 to Bluegill Sunfish = 0.90 ppm

96 hour no observed effect concentration is 0.56 ppm based on no mortality or abnormal effects.

96 hour static acute LC50 to Rainbow Trout = 0.47 ppm

96 hour no observed effect concentration is 0.18 ppm based on no mortality or abnormal effects.

96 hour static acute LC50 to Sheepshead Minnow = Greater than 1000 ppm

96 hour no observed effect concentration is 100 ppm based on no mortality or abnormal effects.

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

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our Hazard Characterization, the potential environmental hazard is: HIGH.
Based on Nalco's recommended product application and the product's



MATERIAL SAFETY DATA SHEET

PRODUCT

A POLYQUATERNARY AMINE

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SECTION 12 ENVIRONMENTAL INFORMATION

(CONTINUED)

characteristics, the potential environmental exposure is: MODERATE.

SECTION 13 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 : PRODUCT IS NOT REGULATED
DURING TRANSPORTATION

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, this product is not hazardous.

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 that this product is not hazardous under 29 CFR 1910.1200.

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 (at a level of 1% or greater) on the List of Toxic Chemicals.

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MATERIAL SAFETY DATA SHEET

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A POLYQUATERNARY AMINE

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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

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:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

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 RISK CHARACTERIZATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

- * The human risk is: LOW.
- * The environmental risk is: MODERATE.



MATERIAL SAFETY DATA SHEET

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SECTION 16 RISK CHARACTERIZATION

(CONTINUED)

Any use inconsistent with Nalco's recommendations may affect our risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

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., 4th edition, 1996.

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DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 9th edition, 1996.

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

PATY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 4th edition, Vol. 2 A-F, 1994.

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).



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SECTION 17 BIBLIOGRAPHY

(CONTINUED)

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: William S. Utley, PhD., DABT, Manager, Product Safety
DATE CHANGED: 01/09/91 DATE PRINTED: 07/17/96

Best Available Copy

PAGE 8 OF 8