SECTION 14 REGULATORY INFORMATION (CONTINUED)

Sodium hydroxide - Section 311

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

Sodium aluminate	1302-42-7
Sodium hydroxide	1310-73-2
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 ingredient(s):

Chemical Name	CAS #	% Concentration Range
Sodium hydroxide	1310-73-2	5-10
Sodium aluminate	1302-42-7	20-40

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

NALCO CHEMICAL COMPANY ONE NALCO CENTER • NAPERVILLE, ILLINOIS 60563-1198
AREA 708-305-1000

NALCO

PRODUCT

NALCO 2 SODIUM ALUMINATE

Emergency Telephone Number

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

SECTION 16 USER'S RESPONSIBILITY (CONTINUED)

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

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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.

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AREA 708-305-1000

SECTION 17 BIBLIOGRAPHY (CONTINUED)

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist
DATE CHANGED: 06/14/93 DATE PRINTED: 06/06/94

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AREA 708-305-1000

NALCO

PRODUCT

Emergency Telephone Number

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

MATERIAL SAFETY DATA SHEET

NALCO

PRODUCT

NALCO 1720 OXYGEN SCAVENGER

Emergency Telephone Number

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

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 1720 OXYGEN SCAVENGER
DESCRIPTION: An aqueous solution of bisulfite and cobalt sulfate

NFPA 704M/HMIS RATING: 1/1 HEALTH 0/0 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 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.%
Sodium bisulfite	7631-90-5	20-40
Potassium bisulfite	7773-03-7	1-5

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: Induce vomiting. Give water. Call a physician at once.
INHALATION: Remove to fresh air. Treat symptoms. Call a physician at once.

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, Inhalation

EYE CONTACT: Can cause mild, short-lasting irritation.

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AREA 708-305-1000

SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

SKIN CONTACT: Can cause mild, short-lasting irritation.
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

TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but acute studies have been conducted on a similar product. The resul ts
are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = 4,112 mg/kg

95% Confidence Limit = 3,571 - 4,735 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD50 = Greater than 3,000 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 1.0/8.0

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 9.4/110.0

COMMENTS: No corneal or iridial effects observed. Transient conjunctivitis of 1, 24 and 48 hours. Eyes to normal by 72 hours.

OTHER TOXICITY STUDIES:
Ingestion of sulfite can cause an allergic reaction in sensitive individuals. The resultant symptoms can include difficulty in breathing, flushed skin and a rash.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear pink	FORM: Liquid	ODOR: Pungent
DENSITY:	10.1-10.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.22-1.28 @ 60 Degrees F	ASTM D-1298
pH (NEAT) =	3.5-4.1	ASTM E-70

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SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

VISCOSITY:	5 cps @ 60 Degrees F	ASTM D-2983
FREEZE POINT:	11 Degrees F	ASTM D-1177
BOILING POINT:	205 Degrees F @ 760 mm Hg	ASTM D-86
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

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve SOx 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.

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.

STORAGE: Evolves SO2 when open to atmosphere. The rate of SO2 evolution increases with temperature and/or transfer of product. SO2 may react with vapors from neutralizing amines, and may produce a visible cloud of amine salt particulate.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion, SOx, H2S 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 or mists may be released.

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SECTION 10 PERSONAL PROTECTION EQUIPMENT (CONTINUED)

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 in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

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 based on product.

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AREA 708-305-1000

SECTION 12 ENVIRONMENTAL INFORMATION (CONTINUED)

96-hour static acute LC50 to Fathead Minnow = 382 mg/L

96 hour no observed effect concentration is 250 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

48 hour static acute LC50 to Daphnia Magna = 728 mg/L

48 hour no observed effect concentration is 250 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

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

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE - (DEPENDENT UPON MODE, PACKAGE)	BISULFITES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S. 8, UN 2693, PG III
CONTAINS	- SODIUM BISULFITE

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.

Sodium bisulfite = Irritant
Potassium bisulfite - Irritant

Sulfur dioxide = TWA 2 ppm, STEL 5 ppm ACGIH/TLV
5 mg/m3 10 mg/m3 ACGIH/TLV
Sodium bisulfite = TWA 5 mg/m3 ACGIH/TLV

Sulfur dioxide = TWA 2 ppm, STEL 5 ppm OSHA/PEL
5 mg/m3 10 mg/m3 OSHA/PEL
Sodium bisulfite = TWA 5 mg/m3 OSHA/PEL

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AREA 708-305-1000

SECTION 14 REGULATORY INFORMATION (CONTINUED)

CERCLA/SUPERFUND, 40 CFR 117, 302:
This product contains cobalt compounds, a Reportable Quantity (RQ) substance and if 6,250 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802). Refer to CLEAN AIR ACT Amendment below for additional information.

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).

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act:
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310 Boiler Water Additives.

This product has been certified as KOSHER/PAREVE for year-round use EXCEPT FOR THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

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):
This product contains the following ingredient covered by the Clean Water Act:

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AREA 708-305-1000

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Sodium bisulfite - Section 311

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:

Cobalt compounds - Section 112

In October 1990, Congress passed the Clean Air Act Amendments of 1990. This amendment added 189 compounds and classes of substances to Section 112 of the Clean Air Act. The Comprehensive Environmental Remediation, Cleanup, and Liability Act (CERCLA) in turn requires spill reporting of materials listed under Section 112. For new substances to the CERCLA list, a reportable quantity (RQ) of one pound is automatically assigned until the Environmental Protection Agency (EPA) establishes a scientifically valid value.

Cobalt sulfate is one of the compounds that falls into this situation. Nalco Chemical Company will base our product RQ on the one pound cobalt sulfate RQ until the EPA modifies the value.

STATE REGULATIONS:

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

MICHIGAN CRITICAL MATERIALS:
This product contains the following substance(s) identified on the Michigan Critical Materials Register:

Trace of cobalt sulfate

STATE RIGHT TO KNOW LAWS:
The following ingredients shown are disclosed for compliance with State Right To Know Laws:

Cobalt sulfate	10124-43-3
Potassium bisulfite	7773-03-7
Sodium bisulfite	7631-90-5
Water	7732-18-5

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AREA 708-305-1000

SECTION 15 ADDITIONAL INFORMATION

Nalco internal number F100777

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

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

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THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE

SECTION 17 BIBLIOGRAPHY (CONTINUED)

WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: Ricky A. Stackhouse PhD., Toxicologist
DATE CHANGED: 03/14/94 DATE PRINTED: 06/06/94

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

Emergency Telephone Number

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

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AREA 708-305-1000

MATERIAL SAFETY DATA SHEET

NALCO

PRODUCT

CUSTAMINE CA-669A

Emergency Telephone Number

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

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: CUSTAMINE CA-669A
DESCRIPTION: An aqueous solution of cyclohexylamine, morpholine and diethylaminoethanol

NFPA 704M/HMIS RATING: 3/3 HEALTH 2/2 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 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.%
Cyclohexylamine	108-91-8	40-70
Diethylaminoethanol	100-37-8	10-20
Morpholine	110-91-8	5-10

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 at once.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician at once. If breathing has stopped, give cardiopulmonary resuscitation (CPR). Administer oxygen. Call a physician at once.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the

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SECTION 4 FIRST AID INFORMATION (CONTINUED)

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 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. Can cause allergic contact dermatitis in susceptible individuals.
INGESTION:	Corrosive to mucous membranes and digestive tract.
INHALATION:	Can be corrosive to the mucous membranes and the lungs. Can cause an allergic reaction in susceptible individuals.

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

TOXICITY STUDIES: 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) of a smilar product:
LD50 = 440 mg/kg

95% Confidence Limit = 297 - 651 mg/kg

COMMENTS: All deaths occurred within 48-hours after dosing. Signs of intoxication included slowed respiration, salivation, lethargy, ataxia, muscular tremors and prostation as well as signs of severe gastrointestinal

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SECTION 14 REGULATORY INFORMATION (CONTINUED)

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).

FOOD AND DRUG ADMINISTRATION (FDA):
Federal Food, Drug and Cosmetic Act:
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21CFR 173.310 and 182.90.

U. S. DEPARTMENT OF AGRICULTURE (USDA):
USDA Inspection and Grading Programs - Food Safety and Inspection Service:
This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category G6.

U. S. EPA - OFFICE OF DRINKING WATER - ADDITIVES EVALUATION BRANCH:
This product meets the Water Chemical Codex requirements and is acceptable for use as a primary coagulant in the treatment of water for potable purposes.

AMERICAN WATER WORKS ASSOCIATION (AWWA):
This product meets the requirements for ANSI/AWWA Standard B405-89.

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):
This product contains the following ingredient covered by the Clean Water Act:

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SECTION 12 ENVIRONMENTAL INFORMATION (CONTINUED)

48 hour static acute LC50 to Daphnia magna = 64 mg/L

48 hour no observed effect concentration is 40 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Moderately toxic

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

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE - (DEPENDENT UPON MODE, PACKAGE)	SODIUM ALUMINATE, SOLUTION 8, UN 1819, PG II
CONTAINS	- SODIUM HYDROXIDE

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.

Sodium hydroxide - Corrosivity

Sodium hydroxide = Ceiling 2 mg/m3 ACGIH/TLV
Sodium aluminate (soluble salt, as Al) = TWA 2 mg/m3 ACGIH/TLV

Sodium hydroxide = Ceiling 2 mg/m3 OSHA/PEL
Sodium aluminate (soluble salt, as Al) = TWA 2 mg/m3 OSHA/PEL

CERCLA, 40 CFR 117, 302:
This product contains sodium hydroxide, a Reportable Quantity (RQ) substance and if 27,000 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

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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AREA 708-305-1000

SECTION 11 SPILL AND DISPOSAL INFORMATION (CONTINUED)

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 meets the criteria of a 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

CHEMICAL OXYGEN DEMAND (COD): 1,420 mg/L

BIOCHEMICAL OXYGEN DEMAND (5-day BOD): 921 mg/L

TOTAL ORGANIC CARBON (TOC): 924 mg/L

AQUATIC DATA:

96 hour static acute LC50 to Rainbow Trout = 172 mg/L

96 hour no observed effect concentration is less than 100 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Moderately toxic

96-hour static acute LC50 to Fathead Minnow = 530 mg/L

96 hour no observed effect concentration is 400 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

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SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: Contact with reactive metals (eg. aluminum) may result in the generation of flammable hydrogen gas.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: 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: Avoid aluminum and brass, product will corrode these.

THERMAL DECOMPOSITION PRODUCTS: Not applicable

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: 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 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.

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NALCO

PRODUCT

NALCO 2 SODIUM ALUMINATE

Emergency Telephone Number

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

SECTION 4 FIRST AID INFORMATION (CONTINUED)

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

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.

INGESTION: Can be harmful.

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):
Sodium hydroxide LD(LO) = 500 mg/kg

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Cloudy white	FORM: Liquid	ODOR: None
DENSITY:	12.2-12.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.46-1.52 @ 77 Degrees	ASTM D-1298
pH (NEAT) =	14	ASTM E-70
VISCOSITY:	280 cps @ 40 Degrees F	ASTM D-2983
FREEZE POINT:	Less than -40 Degrees F	ASTM D-1177
POUR POINT:	-40 Degrees F	ASTM D-97
FLASH POINT:	None	

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

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MATERIAL SAFETY DATA SHEET

NALCO

PRODUCT

NALCO 2 SODIUM ALUMINATE

Emergency Telephone Number

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

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 2 SODIUM ALUMINATE
DESCRIPTION: An aqueous solution of sodium aluminate

NFPA 704M/HMIS RATING: 3/3 HEALTH 0/0 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 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.%
Sodium hydroxide	1310-73-2	5-10
Sodium aluminate	1302-42-7	20-40

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Contains caustic. Causes burns to skin and eyes. Do not get in eyes, on skin, or on clothing. Wear goggles and face shield when handling. Do not take internally.

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 at once.

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.

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NALCO

PRODUCT

Emergency Telephone Number

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

SECTION 17 BIBLIOGRAPHY (CONTINUED)

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

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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: 05/20/92 DATE PRINTED: 06/06/94

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SECTION 14 REGULATORY INFORMATION (CONTINUED)

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:

Sodium nitrate 7631-99-4

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
Sodium nitrate	7631-99-4	5-10

SECTION 15 ADDITIONAL INFORMATION

Nalco internal number 101102

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., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

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SECTION 14 REGULATORY INFORMATION (CONTINUED)

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).

FOOD AND DRUG ADMINISTRATION (FDA):
Federal Food, Drug and Cosmetic Act:
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310, boiler water additives.

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

MICHIGAN CRITICAL MATERIALS:

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SECTION 11 SPILL AND DISPOSAL INFORMATION (CONTINUED)

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

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

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'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.

Sodium nitrate - Irritant

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):

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AREA 708-305-1000

SECTION 9 REACTIVITY INFORMATION (CONTINUED)

nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO2, NOx, 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 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. Additionally, local exhaust ventilation is recommended where mists or aerosols 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 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.

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NALCO

PRODUCT

TRANSPORT-PLUS 1740

Emergency Telephone Number

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

SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

EYE CONTACT: Can cause moderate irritation.
SKIN CONTACT: Can cause moderate irritation.
INGESTION: Can be harmful.

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):
Sodium nitrate LD = 200 mg/kg

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear amber	FORM: Liquid	
DENSITY:	9.5-9.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.14-1.16 @ 60 Degrees F	ASTM D-1298
pH (NEAT) =	10.4	ASTM E-70
VISCOSITY:	14 cps @ 70 Degrees F	ASTM D-2983
FLASH POINT:	Greater than 200 Degrees F (PMCC)	ASTM D-93

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 200 Degrees F (PMCC) 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 under fire conditions.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong acids (eg. sulfuric, phosphoric,

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MATERIAL SAFETY DATA SHEET

NALCO

PRODUCT

TRANSPORT-PLUS 1740

Emergency Telephone Number

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

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: TRANSPORT-PLUS 1740
DESCRIPTION: An aqueous solution of a methacrylate polymer and nitrate

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 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.%
Sodium nitrate	7631-99-4	5-10

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May be harmful if swallowed. May cause irritation to skin and eyes. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Do not take internally.

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: Wash thoroughly with soap and rinse with water. Call a physician.

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

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SECTION 17 BIBLIOGRAPHY (CONTINUED)

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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: 07/26/93 DATE PRINTED: 06/06/94

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SECTION 14 REGULATORY INFORMATION (CONTINUED)

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

INTERNATIONAL REGULATIONS:

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

SECTION 15 ADDITIONAL INFORMATION

Nalco internal number F101313

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

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SECTION 12 ENVIRONMENTAL INFORMATION

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, this product is not 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.

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SECTION 10 PERSONAL PROTECTION EQUIPMENT (CONTINUED)

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 in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

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.

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SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

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

TOXICITY STUDIES: No toxicity studies have been conducted on this product.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear to slightly hazy yellow FORM: Liquid

DENSITY:	9.1-9.4 lbs/gal.	
SPECIFIC GRAVITY:	1.09-1.13 @ 77 Degrees F	ASTM D-1298
pH (NEAT) =	7.5-10.5	ASTM E-70
VISCOSITY:	13 cps @ 73 Degrees F	ASTM D-2983
FREEZE POINT:	28 Degrees F	ASTM D-1177
FLASH POINT:	Greater than 200 Degrees F (PMCC)	ASTM D-93

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 200 Degrees F (PMCC) 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.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known

SECTION 10 PERSONAL PROTECTION EQUIPMENT

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 respiratory with a dust/mist prefilter or supplied air.

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

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AREA 708-305-1000

MATERIAL SAFETY DATA SHEET

NALCO

PRODUCT

NALCO 7206T LIQUID

Emergency Telephone Number

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

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 7206T LIQUID
DESCRIPTION: An aqueous solution of sodium polyacrylate, aryl sulfonate, and a tracer

NFPA 704M/HMIS RATING 1/1 HEALTH 0/0 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:	Wash thoroughly with soap and rinse with water. Call a physician.
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 slight irritation.
SKIN CONTACT:	May cause irritation with prolonged contact.
INGESTION:	Possibly harmful if swallowed.
INHALATION:	Inhalation of high concentrations of solvent vapor or mist may cause headache, nausea, irritation of nose, throat, and lungs.

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SECTION 6 TOXICOLOGY INFORMATION (CONTINUED)

irritation (with bleeding). Necropsy of decedents confirmed the severe gastrointestinal irritation.

Rating = Toxic by Ingestion

ACUTE DERMAL TOXICITY (ALBINO RABBITS) of a similar product:
LD50 = Less than 2,000 mg/kg

COMMENTS: All ten rabbits (5 male and 5 female) receiving a single dermal dose of 2,000 mg/kg of a similar product died with 48-hours after application of the dose. Signs of intoxication included vocalization, salivation, ataxia, tremors and severe local skin reactions including corrosive action.

Rating = Slightly toxic by dermal absorption

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

COMMENTS: Application of 0.5 ml of a similar product to a 6cm2 site on the shaven back of each of a group of six albino rabbits (4-hour occluded contact) produced severe redness and swelling including corrosive action. These findings were still present after 72-hours at which time the animals were euthanized.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: Corrosive

COMMENTS: Instillation of 0.1 ml of a similar product into the conjunctival sac of one eye of each of a group of six albino rabbits produced severe ocular injury characterized by severe redness, swelling and discharge, and corneal opacity including corrosive action. No irritation rating could be calculated. All animals were euthanized after 72-hours. No eye irritation index could be calculated.

SKIN SENSITIZATION: Cyclohexylamine can cause sensitization in susceptible individuals.

OTHER TOXICITY RESULTS: Mutagenicity tests on morpholine provided the following results: Ames was negative; sister chromatid exchange was equivocal; cell transformation was positive; mouse lymphoma was weakly positive and rat hepatocyte/DNA repair was negative. A similar battery was run on cyclohexylamine with inconclusive results. Diethylaminoethanol is nonmutagenic in the Ames test using Salmonella strains TA98, 100, 1535 and 1537 with an

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SECTION 6 TOXICOLOGY INFORMATION (CONTINUED)

without metabolic activation.

CHRONIC TOXICITY RESULTS: A two year rat inhalation study with morpholine was negative for cancer. A one year feeding study in Beagle dogs at dose levels of 500 and 1,000 ppm of diethylaminoethanol showed no significant effects.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear, colorless to light amber FORM: Liquid

DENSITY:	7.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	0.93 @ 70 Degrees F	ASTM D-1298
pH (at 10%) =	12.3	ASTM E-70
VISCOSITY:	Less than 20 cps @ 70 Degrees F	ASTM D-2983
FREEZE POINT:	Less than -50 Degrees F	ASTM D-1177
FLASH POINT:	117 Degrees F (PMCC)	ASTM D-93

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

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: 117 Degrees F (PMCC) ASTM D-93

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: May evolve NOx 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.

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

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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 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 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.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D001.

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SECTION 11 SPILL AND DISPOSAL INFORMATION (CONTINUED)

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 a similar product.

96 hour static acute LC50 to Rainbow Trout = 130 mg/L

96 hour no observed effect concentration is 56 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

96 hour static acute LC50 to Fathead Minnow = 75 mg/L

96 hour no observed effect concentration is 32 mg/L based on no mortality or abnormal effects.

TOXICITY RATING: Moderately toxic

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

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CODE - (DEPENDENT UPON MODE, PACKAGE)	ALKYLAMINES, N.O.S. 8 (3), UN 2734, PG II
CONTAINS	- CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL, MORPHOLINE

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(s) in this product are

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