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June 16, 2010

Mr. John Kessler  
Siting Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

<b>DOCKET</b>	
<b>09-AFC-10</b>	
DATE	<u>JUN 16 2010</u>
RECD.	<u>JUN 16 2010</u>

Subject: Rice Solar Energy Project (09-AFC-10)  
Supplementary Informational Item 1

Dear Mr. Kessler:

Attached please find one hardcopy and one CD of Rice Solar Energy, LLC's Supplementary Informational Item 1 for the Application for Certification for the Rice Solar Energy Project (09-AFC-10).

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

CH2M HILL

A handwritten signature in blue ink, appearing to read "Douglas M. Davy".

Douglas M. Davy, Ph.D.  
AFC Project Manager

cc: POS List  
Project File

## Rice Solar Energy Project CEC Docket #09-AFC-10

SUBMITTED TO: California Energy Commission  
SUBMITTED BY: Rice Solar Energy, LLC  
WITH TECHNICAL ASSISTANCE BY: CH2M HILL, WorleyParsons  
DATE: June 16, 2010  
TOPIC: *Supplementary Information Item #1, Hazardous Materials List*

Provided below is Rice Solar Energy, LLC's (RSE's) Supplementary Information Item 1 (SII-1), submitted in support of RSE's Application for Certification (AFC) for the Rice Solar Energy Project (RSEP) (09-AFC-10). The SII is an updated informational item from the Applicant in regards to the hazardous materials to be maintained onsite during operations.

### Hazardous Materials

*SII-1 As the proceedings for the RSEP have moved forward, the Applicant has been able to fine tune the chemical list for the project. As a result, the list has changed from that provided in the AFC.*

**Information:** Attachment SII1-1 provides the new hazardous materials list for the RSEP. In addition, Attachment SII1-2 provides MSDSs of six of the additional chemicals to be onsite.

Attachment SII1-1  
**Hazardous Materials Table**

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## SOLAR RESERVE – RICE - 150 MW DRY COOLED SOLAR THERMAL PLANT

### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Hydrogen	Low toxicity; Hazard class – Flammable gas	None Established	In generator cooling loop and “tube trailer”; total inventory of up to 63,000 SCF (335 pounds) if hydrogen cooled STG is used	Pressure safety tank, crash posts, pressure relief valves	Generator cooling
Sodium Hydroxide, 50% solution	High toxicity; Hazard class – Corrosive	PEL: 2 mg/m <sup>3</sup>	Carbon steel tank; 8,500 gallons	Isolated from incompatible chemicals and secondary containment	Water treatment; Condensate polishing
Sodium Hypochlorite, 12.5% solution	High toxicity; Hazard class – Poison-B, Corrosive	Workplace Environmental Exposure Limit (WEEL) - STEL: 2 mg/m <sup>3</sup> PEL: 0.5 ppm (TWA), STEL: 1 ppm as Chlorine TLV: 1 ppm (TWA), STEL: 3 ppm as Chlorine	Plastic tanks; 17,000 gallons total inventory (2 x 8,500 gallons)	Secondary containment	Raw water biocide; Potable water biocide; cooling water biocide
Sulfuric Acid, 29.5% solution	High toxicity; Hazard class – Corrosive, water reactive	PEL: 1 mg/m <sup>3</sup>	Contained in batteries; 2,000 gallons total inventory	Isolated from incompatible chemicals and secondary containment	Battery electrolyte
Sulfuric Acid, 93% solution	High toxicity; Hazard class – Corrosive, water reactive	PEL: 1 mg/m <sup>3</sup>	Lined, carbon steel tanks; 16,000 gallons total inventory (2 x 8,000 gallons)	Isolated from incompatible chemicals, and secondary containment	Cooling tower anti- scaling (pH control); wastewater neutralization
Carbon Dioxide	Low toxicity; Hazard class – Non flammable gas	TLV: 5,000 ppm (9,000 mg/m <sup>3</sup> ) TWA	Carbon steel tank, 15 tons maximum onsite inventory	Carbon steel tank with crash posts	Fire suppression

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Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Lube Oil	Low toxicity Hazard class – NA	None established	Carbon steel tanks, 10,000 gallons in equipment and piping, additional maintenance inventory of up to 550 gallons in 55-gallon steel drums.	Secondary containment for tank and for maintenance inventory	Equipment lubrication
Mineral Insulating Oil	Low toxicity Hazard class – NA	None established	Carbon steel transformers; total onsite inventory of 32,000 gallons	Used only in transformers, secondary containment for each transformer	Large capacity transformers
Diesel Fuel	Low toxicity; Hazard class – Combustible liquid	PEL: none established TLV: 100 mg/m <sup>3</sup>	Carbon steel tanks (21,000 gallons)	Stored in two 10,000 gallon tanks, secondary containment, plus two day tanks, one for each diesel fire pump.	Emergency generators and fire pumps
Nitrogen	Low toxicity; Hazard class – Non-flammable gas	None established	Carbon steel tank; 7,500 pounds total inventory	Carbon steel tank with crash posts	Blanketing and layup of steam plant
Hydraulic fluid	Low to moderate toxicity; Hazard class – Class IIIB combustible liquid	TWA (oil mist): 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	Carbon steel tanks and sumps; 500 gallons in equipment, maintenance inventory of 110 gallons in 55-gallon steel drums	Found only in equipment, with a small maintenance inventory. Maintenance inventory stored within secondary containment.	Steam turbine controls system

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### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Water treatment chemical NALCO Tri-Act 1800, or equal Cyclohexylamine (5 – 10%) Monoethanolamine (10 – 30%) Methoxypropylamine (10 – 30%)	High toxicity; Hazard class – Corrosive, Class II Combustible liquid	Cyclohexylamine = TLV: 10 ppm (41 mg/m <sup>3</sup> ) Monoethanolamine = TLV: 3 ppm (7.5 mg/m <sup>3</sup> ) TWA: 3 ppm (7.5 mg/m <sup>3</sup> ) STEL: 6 ppm (15 mg/m <sup>3</sup> ) Methoxypropylamine = TLV: 5 ppm TWA STEL: 15 ppm	Plastic totes, 2 x 400 gallons each	Inventory management, isolated from incompatible chemicals and secondary containment	Condensate pH management
Water treatment chemical NALCO Elimin-Ox Carbohydazide (5 - 10%), or equal	Moderate toxicity; Hazard class – Sensitizer	Carbohydazide = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Condensate and feedwater O <sub>2</sub> management
Water treatment chemical NALCO 3D Trasar 3DT185, or equal Phosphoric Acid (60 -100%)	High toxicity; Hazard class – Corrosive	Phosphoric acid = PEL: 1 mg/m <sup>3</sup> (TWA) TLV: 1 mg/m <sup>3</sup> (TWA), STEL: 3 mg/m <sup>3</sup>	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Cooling water corrosion control
Water treatment chemical NALCO 3D Trasar 3DT177, or equal Phosphoric acid (30%)	Moderate toxicity; Hazard class – Irritant	Phosphoric acid = PEL: 1 mg/m <sup>3</sup> (TWA) TLV: 1 mg/m <sup>3</sup> (TWA), STEL: 3 mg/m <sup>3</sup>	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Cooling water corrosion control

## SOLAR RESERVE – RICE - 150 MW DRY COOLED SOLAR THERMAL PLANT

### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Water treatment chemical NALCO 3D Trasar 3DT190, or equal	Low toxicity; Hazard class – Irritant	None established for mixture	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Cooling water scale control
Water treatment chemical NALCO Acti-Brom (R) 7342, or equal Sodium bromide	Low toxicity; Hazard class – Irritant	Sodium bromide = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Cooling water oxidizing biocide
Water treatment chemical NALCO pHFreedom® 5200M, or equal Sodium salt of phosphonomethylat ed diamine	Low to moderate toxicity; Hazard class – Irritant	Sodium salt of phosphonomethylated diamine = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Brine concentrator preheater scale control
Water treatment chemical NALCO PCL-1346, or equal	Low toxicity; Hazard class – Irritant	None established for mixture	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	Cooling water silica scale control
Water treatment chemical NALCO Permacare (R) PC-7408, or equal Sodium bisulfite	Low toxicity; Hazard class – Irritant	Sodium bisulfite = PEL: none established: TLV: 5 mg/m <sup>3</sup> TWA	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment	RO system – chlorine scavenger

## SOLAR RESERVE – RICE - 150 MW DRY COOLED SOLAR THERMAL PLANT

### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Water treatment chemical NALCO BT-3000, or equal Sodium hydroxide Sodium tripolyphosphate	High toxicity; Hazard class – Corrosive	Sodium hydroxide = PEL: 2 mg/m <sup>3</sup> Sodium tripolyphosphate = PEL: none established	Plastic totes, 2 x 400 gallons each	Inventory management, isolated from incompatible chemicals and secondary containment	Boiler drum pH control
Water treatment chemical NALCO 8338, or equal Sodium nitrite Sodium tolytriazole Sodium hydroxide	Moderate toxicity; Hazard class – Toxic	Sodium nitrite = PEL: none established Sodium tolytriazole = PEL: none established Sodium hydroxide = PEL: 2 mg/m <sup>3</sup>	Plastic totes, 2 x 400 gallons each	Inventory management, isolated from incompatible chemicals and secondary containment	Closed loop cooling system corrosion inhibitor
Welding gas Acetylene	Moderate toxicity; Hazard class – Toxic	PEL: none established	Steel cylinders; 200 cubic foot each, 800 cubic foot total on site	Inventory management, isolated from incompatible chemicals,	Welding gas
Welding gas Oxygen	Low toxicity; Hazard class – Oxidizer	PEL: none established	Steel cylinders; 200 cubic foot each, 800 cubic foot total on site	Inventory management, isolated from incompatible chemicals	Welding gas
Welding gas Argon	Low toxicity; Hazard class – Nonflammable gas	PEL: none established	Steel cylinders; 200 cubic foot each, 800 cubic foot total on site	Inventory management	Welding gas

## SOLAR RESERVE – RICE - 150 MW DRY COOLED SOLAR THERMAL PLANT

### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Activated Carbon	Non-toxic (when unsaturated), low to moderate toxicity when saturated, depending on the adsorbed material; Hazard class – combustible solid	TWA (total particulate): 15 mg/m <sup>3</sup> TWA (respirable fraction): 5 mg/m <sup>3</sup> TLV (graphite, all forms except graphite fibers): 2 mg/m <sup>3</sup> TWA	Used in two x 2,000-lb canisters, 4,000 pounds total inventory, no additional storage	No excess inventory stored onsite, prompt disposal when spent	Production of potable water
Herbicide Roundup® or equivalent	Low toxicity; Hazard class - Irritant	Isopropylamine salt of glyphosphate = no specific occupational exposure has been established	Brought on site by licensed contractor, used immediately. Maximum of 1 gallon stored onsite.	Inventory management, isolated from incompatible chemicals	Weed management
Soil stabilizer Active ingredient: acrylic or vinyl acetate polymer or equivalent	Non-toxic; Hazard class - NA	None established	Supplied in 55-gallon drums or 400-gallon totes, used immediately. Maximum onsite storage of 55 gal	Inventory management, isolated from incompatible chemicals	Dust control
Aluminum Sulfate (50 wt%), or Ferric Chloride (50 wt%), or Ferric Sulfate (50 wt%)	Moderate Toxicity Hazard class - Corrosive	PEL: 2 mg(Al)/m <sup>3</sup>	Plastic tank, 6,000 gallons onsite storage.	Inventory management, isolated from incompatible chemicals	Water treatment system flocculating agent
Sodium Sulfide / Sodium Hydrosulfide	Moderate Toxicity Hazard class - Corrosive	TWA: 10ppm (14mg/m <sup>3</sup> ) STEL: 15ppm (21mg/m <sup>3</sup> )	Brought on site by licensed contractor. No storage onsite	No excess inventory stored onsite, prompt disposal when spent	Water treatment; precipitate heavy metals

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Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
Aqueous Ammonia (19% NH <sub>3</sub> by weight)	High Toxicity Hazard class - Corrosive Liquid	TWA: 25ppm STEL: 35ppm PEL: 50ppm	Brought on site by licensed contractor. No storage onsite	No excess inventory stored onsite, prompt disposal when spent	Boiler drum, steam, and feedwater conditioner (pH control)
NALCO Permacare PC-33 or equal	Low Toxicity Hazard class – Corrosive Liquid	None established for product. Ingredient limits appear below. ACGIH/TLV: Sodium Hydroxide CEILING: 2 mg/m <sup>3</sup> OSHA/PEL: Sodium Hydroxide CEILING: 2 mg/m <sup>3</sup>	110 gallons (55 gallon drums)	Use plastic drums, inventory management and isolate from incompatible chemicals.	RO membrane high pH cleaners
NALCO Permacare PC-77, or equal	Low Toxicity Hazard class – Irritant	None established (contains no hazardous ingredients)	110 gallons (55 gallon drums)	Use plastic drums, inventory management and isolate from incompatible chemicals.	RO membrane low pH cleaners
NALCO Permacare PC-191, or equal	Low Toxicity Hazard class - Irritant	None established (contains no hazardous ingredients)	Plastic Totes, 400 gallon	Inventory management, isolated from incompatible chemicals and secondary containment	RO Antiscalant

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### Anticipated Hazardous Materials Used During Plant Operation

Hazardous Material	Relative Toxicity <sup>1</sup> and Hazard Class <sup>2</sup>	Permissible Exposure Limit	Storage Description; Capacity	Storage Practices and Special Handling Precautions	Possible Uses
NALCO Permacare PC-11, or equal	High Toxicity Hazard class – Corrosive Liquid	None established for product. Ingredient limits appear below. Manufacturer's Recommendation: Dibromoacetonitrile CEILING: 0.1 ppm (Skin) 2,2-Dibromo-3- nitrilopropionamide CEILING: 2 mg/m <sup>3</sup> AIHA/WEEL: Polyethylene Glycol TWA: 10 mg/m <sup>3</sup>	Plastic Totes, 400 gallon	Inventory management, isolated from incompatible chemicals and secondary containment	Membrane cleaner and preservative
Propylene Glycol (Antifreeze)	Low Toxicity Hazard class – NA	None established	Plastic totes, 25 gallons onsite storage	Inventory management, isolated from incompatible chemicals	Antifreeze; closed cooling system anti- corrosive – compatible with different types of metals

<sup>1</sup> Low toxicity is used to describe materials with an NFPA Health rating of 0 or 1. Moderate toxicity is used describe materials with an NFPA rating of 2. High toxicity is used to describe materials with an NFPA rating of 3. Extreme toxicity is used to describe materials with an NFPA rating of 4.

<sup>2</sup> NA denotes materials that do not meet the criteria for any hazard class defined in the 1997 Uniform Fire Code.

<sup>3</sup> Proprietary names are listed to provide indicative chemical product but is not intended to limit supplier, brand or product.

Attachment SII1-2  
**Material Safety Data Sheets**

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# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO BT-3000**

EMERGENCY TELEPHONE NUMBER(S)  
(800) 424-9300 (24 Hours) CHEMTREC

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO BT-3000**

APPLICATION : BOILER WATER TREATMENT

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 3/3 FLAMMABILITY : 0/0 INSTABILITY : 0/0 OTHER :  
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium Hydroxide	1310-73-2	1.0 - 5.0
Sodium Tripolyphosphate	7758-29-4	1.0 - 5.0

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

#### DANGER

Corrosive. May cause tissue damage.

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Keep container tightly closed and in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Protect product from freezing. Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. Not flammable or combustible. May evolve oxides of phosphorus (POx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :  
Corrosive. Will cause eye burns and permanent tissue damage.



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### SKIN CONTACT :

May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

### INGESTION :

Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

### INHALATION :

Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.

### SYMPTOMS OF EXPOSURE :

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

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.

## 4. FIRST AID MEASURES

### EYE CONTACT :

PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

### SKIN CONTACT :

Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

### INGESTION :

DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

### INHALATION :

Remove to fresh air, treat symptomatically. Get medical attention.

### NOTE TO PHYSICIAN :

Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : > 200 °F / > 93 °C ( PMCC )

### EXTINGUISHING MEDIA :

Not expected to burn. Use extinguishing media appropriate for surrounding fire.



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### FIRE AND EXPLOSION HAZARD :

Not flammable or combustible. May evolve oxides of phosphorus (POx) under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

### METHODS FOR CLEANING UP :

**SMALL SPILLS:** Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Do not mix with acids. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

### STORAGE CONDITIONS :

Store the containers tightly closed. Store separately from acids. Store in suitable labelled containers.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

### ACGIH/TLV :

Substance(s)

Sodium Hydroxide                      CEILING: 2 mg/m<sup>3</sup>

Tetrasodium                              TWA: 5 mg/m<sup>3</sup>

Pyrophosphate

OSHA/PEL :

Substance(s)



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Sodium Hydroxide CEILING: 2 mg/m<sup>3</sup>

Tetrasodium  
Pyrophosphate TWA: 5 mg/m<sup>3</sup>

### ENGINEERING MEASURES :

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

### RESPIRATORY PROTECTION :

If significant mists, vapors or aerosols are generated an approved respirator is recommended. A dust, mist, fume cartridge may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, PVC gloves, Butyl gloves, Rubber gloves

### SKIN PROTECTION :

Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

### EYE PROTECTION :

Wear a face shield with chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

### HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Liquid

APPEARANCE Light yellow

ODOR None

SPECIFIC GRAVITY 1.05 - 1.09 @ 77 °F / 25 °C

DENSITY 8.7 - 9.1 lb/gal

SOLUBILITY IN WATER Complete

pH (1 %) 11.8

pH (100 %) 13.3

VISCOSITY < 4 cps @ 72 °F / 22 °C

FREEZING POINT < 33 °F / < 1 °C



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Note: These physical properties are typical values for this product and are subject to change.

### 10. STABILITY AND REACTIVITY

**STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of phosphorus

### 11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

**SENSITIZATION :**

This product is not expected to be a sensitizer.

**CARCINOGENICITY :**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

**HUMAN HAZARD CHARACTERIZATION :**

Based on our hazard characterization, the potential human hazard is: High

### 12. ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product.

**ACUTE FISH RESULTS :**

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	> 5,000 mg/l	Product

**ACUTE INVERTEBRATE RESULTS :**

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	3,125 mg/l		Product



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### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Low

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

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

### 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

### 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

#### LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III

Flash Point :	> 93 °C / > 200 °F
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DOT Reportable Quantity (per package) :	45,900 lbs
DOT RQ Component :	SODIUM HYDROXIDE

#### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)



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MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III

## 15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Hydroxide : Corrosive  
Sodium Tripolyphosphate : Non-Hazardous

CERCLA/SUPERFUND, 40 CFR 117, 302 :

This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance  
Sodium Hydroxide

RQ  
45,900 lbs

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 substances 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 indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

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



# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO BT-3000**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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

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

## TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (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

Limitations: no more than required to produce intended technical effect.

## FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

This product contains the following substances listed in the regulation:

Substance(s)	Citations
<ul style="list-style-type: none"><li>Sodium Hydroxide</li><li>Sodium Tripolyphosphate</li></ul>	Sec. 311

## CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

## CALIFORNIA PROPOSITION 65 :

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

## MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

## STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Hydroxide	1310-73-2
Sodium Tripolyphosphate	7758-29-4

## NATIONAL REGULATIONS, CANADA :

## WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## WHMIS CLASSIFICATION :

E - Corrosive Material



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO BT-3000**

EMERGENCY TELEPHONE NUMBER(S)

**(800) 424-9300 (24 Hours) CHEMTREC**

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### 16. OTHER INFORMATION

Nalco Internal No. F103915

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: Low

Any use inconsistent with our recommendations may affect the 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 insure safe workplace operations. Please consult your local sales representative for any further information.

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

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

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

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

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO BT-3000**

EMERGENCY TELEPHONE NUMBER(S)

**(800) 424-9300 (24 Hours) CHEMTREC**

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Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department  
Date issued : 05/03/2006  
Version Number : 1.12



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO 8338**

APPLICATION : CLOSED SYSTEM CORROSION INHIBITOR

COMPANY IDENTIFICATION : Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 1/2 FLAMMABILITY : 0/0 INSTABILITY : 0/0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium Nitrite	7632-00-0	10.0 - 30.0
Sodium Tolytriazole	64665-57-2	1.0 - 5.0
Sodium Hydroxide	1310-73-2	0.1 - 1.0

### 3. HAZARDS IDENTIFICATION

#### \*\*EMERGENCY OVERVIEW\*\*

#### WARNING

Contains sodium nitrite. May be harmful or fatal if swallowed. Substances in the product can lead to the formation of methemoglobin. Unborn children are particularly sensitive to methemoglobinemia. May cause skin and eye irritation.

Do not get in eyes, on skin, on clothing. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. If swallowed, seek medical advice immediately and show this container or label. Protect product from freezing.

Wear suitable protective clothing, gloves and eye/face protection.

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. If product is allowed to dry, the sodium nitrite is an oxidizing agent and can initiate the combustion of other materials.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Can cause mild to moderate irritation.

SKIN CONTACT :

Can cause mild irritation.

INGESTION :

Not a likely route of exposure. Large exposures may be fatal. Ingestion of sodium nitrite can cause methemoglobinemia which can lead to cyanosis and possible death. Pregnant women and their fetuses are particularly sensitive to the effects of methemoglobinemia.

INHALATION :

Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

SYMPTOMS OF EXPOSURE :

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :

Sodium Nitrite. Pregnant women are particularly sensitive to methemoglobinemia.

HUMAN HEALTH HAZARDS - CHRONIC :

Repeated ingestion of small amounts of sodium nitrite causes drops in blood pressure, rapid pulse, headaches and visual disturbances. It may also react with organic amines in the body to form carcinogenic nitrosamines.

## 4. FIRST AID MEASURES

EYE CONTACT :

Immediately flush eye with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get immediate medical attention.

SKIN CONTACT :

Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

INGESTION :

Induce vomiting if the patient is fully conscious. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :

Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition. Measures against circulatory shock, respiratory depression and convulsions may be needed.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :

Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (CO<sub>x</sub>) under fire conditions. May evolve oxides of nitrogen (NO<sub>x</sub>) under fire conditions. If product is allowed to dry, the sodium nitrite is an oxidizing agent and can initiate the combustion of other materials.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

### 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

### 7. HANDLING AND STORAGE

HANDLING :

Avoid eye and skin contact. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Keep the containers closed when not in use. Use with adequate ventilation.

STORAGE CONDITIONS :

Protect product from freezing. Store the containers tightly closed. Store in suitable labelled containers.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### ENGINEERING MEASURES :

General ventilation is recommended.

### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

### SKIN PROTECTION :

Wear standard protective clothing.

### EYE PROTECTION :

Wear chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available. Keep a safety shower available.

### HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Yellow
ODOR	Organic
SPECIFIC GRAVITY	1.16 - 1.20 @ 77 °F / 25 °C
DENSITY	9.7 - 10.0 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	11.5 - 14
VISCOSITY	3 cps @ 70 °F / 21 °C
FREEZING POINT	2 °F / -16.7 °C

Note: These physical properties are typical values for this product and are subject to change.

## 10. STABILITY AND REACTIVITY

### STABILITY :

Stable under normal conditions.

### HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)  
(800) 424-9300 (24 Hours) CHEMTREC

### CONDITIONS TO AVOID :

Freezing temperatures.

### MATERIALS TO AVOID :

Contact with reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) may generate heat, fires, explosions and toxic vapors. Do not mix with amines. Sodium nitrite can react with certain amines to produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.

### HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of nitrogen

## 11. TOXICOLOGICAL INFORMATION

The following results are for the active components.

### ACUTE ORAL TOXICITY :

Species	LD50	Test Descriptor
Rat	180 mg/kg	Active Substance Sodium Nitrite

Rating : Toxic

### CARCINOGENICITY :

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

### TERATOGENICITY :

Experimental animal studies with sodium nitrite have shown reproductive effects in the offspring of treated parents. These effects are not transmissible.

### HUMAN HAZARD CHARACTERIZATION :

Based on our hazard characterization, the potential human hazard is: High

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

### ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	38 mg/l	Product
Fathead Minnow	96 hrs	303 mg/l	Product

### ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	250 mg/l	120 mg/l	Product
Ceriodaphnia dubia	48 hrs	138 mg/l		Product



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### PERSISTENCY AND DEGRADATION :

Chemical Oxygen Demand (COD) : 77,600 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	< 2 mg/l	Product

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: High

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

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

### LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	None
DOT Reportable Quantity (per package) :	500 lbs
DOT RQ Component :	SODIUM NITRITE



# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

## AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

## MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	III

## 15. REGULATORY INFORMATION

### NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Nitrite : Target Organ Effect - Kidney, Target Organ Effect - Nervous system, Target Organ Effect - Blood  
Sodium Tolytriazole : Irritant, Eye irritant  
Sodium Hydroxide : Corrosive

CERCLA/SUPERFUND, 40 CFR 117, 302 :

This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product.

<u>RQ Substance</u>	<u>RQ</u>
Sodium Nitrite	500 lbs

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 substances 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 indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
X	Delayed (Chronic) Health Hazard
-	Fire Hazard



# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

- Sudden Release of Pressure Hazard
- Reactive Hazard

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

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

This product contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

<u>Hazardous Substance(s)</u>	<u>CAS NO</u>	<u>% (w/w)</u>
Sodium Nitrite	7632-00-0	10.0 - 30.0

### TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

This product contains the following substances listed in the regulation:

<u>Substance(s)</u>	<u>Citations</u>
• Sodium Nitrite	Sec. 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

### CALIFORNIA PROPOSITION 65 :

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

### MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

### STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Nitrate	7631-99-4
Sodium Nitrite	7632-00-0
Sodium Tolytriazole	64665-57-2
Sodium Hydroxide	1310-73-2
Water	7732-18-5



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :

D1B - Materials Causing Immediate and Serious Toxic Effects - Toxic Material, D2A - Materials Causing Other Toxic Effects - Very Toxic Material, E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### 16. OTHER INFORMATION

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: Moderate

\* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the 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 insure safe workplace operations. Please consult your local sales representative for any further information.

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

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

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

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



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 8338**

EMERGENCY TELEPHONE NUMBER(S)

**(800) 424-9300 (24 Hours) CHEMTREC**

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department

Date issued : 06/30/2005

Version Number : 1.7



# MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT185**

EMERGENCY TELEPHONE NUMBER(S)  
(800) 424-9300 (24 Hours) CHEMTREC

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : 3D TRASAR 3DT185

APPLICATION : CORROSION INHIBITOR

COMPANY IDENTIFICATION : Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 3/3 FLAMMABILITY : 0/0 INSTABILITY : 0/0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Phosphoric Acid	7664-38-2	60.0 - 100.0

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

#### DANGER

Corrosive. May cause tissue damage.

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.

Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.

Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas. May evolve oxides of phosphorus (POx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :  
Corrosive. Will cause eye burns and permanent tissue damage.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT185**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### SKIN CONTACT :

May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

### INGESTION :

Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

### INHALATION :

Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.

### SYMPTOMS OF EXPOSURE :

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

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.

### HUMAN HEALTH HAZARDS - CHRONIC :

No adverse effects expected other than those mentioned above.

## 4. FIRST AID MEASURES

### EYE CONTACT :

PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

### SKIN CONTACT :

Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

### INGESTION :

DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. Get immediate medical attention.

### INHALATION :

Remove to fresh air, treat symptomatically. Get medical attention.

### NOTE TO PHYSICIAN :

Probable mucosal damage may contraindicate the use of gastric lavage. Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : None



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT185**

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### EXTINGUISHING MEDIA :

Not expected to burn. Use extinguishing media appropriate for surrounding fire.

### FIRE AND EXPLOSION HAZARD :

Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas. May evolve oxides of phosphorus (PO<sub>x</sub>) under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

### METHODS FOR CLEANING UP :

**SMALL SPILLS:** Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

### STORAGE CONDITIONS :

Store the containers tightly closed. Store in suitable labelled containers. Store separately from bases.

### UNSUITABLE CONSTRUCTION MATERIAL :

Product is corrosive to aluminum. Aluminum should not be used for feed, storage, or transportation systems., This product is corrosive to mild steel.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.



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**ACGIH/TLV :**

Substance(s)

Phosphoric Acid

TWA: 1 mg/m<sup>3</sup>

STEL: 3 mg/m<sup>3</sup>

**OSHA/PEL :**

Substance(s)

Phosphoric Acid

TWA: 1 mg/m<sup>3</sup>

STEL: 3 mg/m<sup>3</sup>

**ENGINEERING MEASURES :**

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

**RESPIRATORY PROTECTION :**

Respiratory protection is not normally needed. If significant mists, vapors or aerosols are generated an approved respirator is recommended. If significant mists, vapors or aerosols are generated an approved respirator is recommended. An organic vapor/acid gas cartridge with dust/mist prefilter may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

**HAND PROTECTION :**

PVC gloves, Neoprene gloves, Butyl gloves

**SKIN PROTECTION :**

**EYE PROTECTION :**

Wear a face shield with chemical splash goggles.

**HYGIENE RECOMMENDATIONS :**

Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE            Liquid

APPEARANCE                Light yellow

ODOR                         Acidic

SPECIFIC GRAVITY            1.58 @ 74 °F / 23.3 °C

SOLUBILITY IN WATER        Complete

pH (100 %)                    < 1

VISCOSITY                     21 cps @ 74 °F / 20 °C

FREEZING POINT              20 °F / -6.7 °C

BOILING POINT                217 °F / 103 °C



## MATERIAL SAFETY DATA SHEET

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VOC CONTENT 0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

### 10. STABILITY AND REACTIVITY

**STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

Contact with strong alkalis (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of phosphorus

### 11. TOXICOLOGICAL INFORMATION

The following results are for the product.

**ACUTE ORAL TOXICITY :**

Species	LD50	Test Descriptor
Rat	1,530 mg/kg	Product

Rating : Harmful

**ACUTE DERMAL TOXICITY :**

Species	LD50	Test Descriptor
Rabbit	2,740 mg/kg	Product

Rating : Non-Hazardous

**PRIMARY SKIN IRRITATION :**

Draize Score	Test Descriptor
8 / 8.0	Product

Rating : Extremely irritating (Corrosive)

**PRIMARY EYE IRRITATION :**

Draize Score	Test Descriptor
110 / 110.0	Product

Rating : Extremely irritating (Corrosive)



# MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT185**

EMERGENCY TELEPHONE NUMBER(S)  
(800) 424-9300 (24 Hours) CHEMTREC

## SENSITIZATION :

This product is not expected to be a sensitizer.

## CARCINOGENICITY :

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

## HUMAN HAZARD CHARACTERIZATION :

Based on our hazard characterization, the potential human hazard is: High

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

#### ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Mosquito Fish (Gambusia spp.)	96 hrs	184 mg/l	Product
Fathead Minnow	96 hrs	3,660 mg/l	Product
Rainbow Trout	96 hrs	4,844 mg/l	Product

#### ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	2,083 mg/l		Product
Ceriodaphnia dubia	48 hrs	1,625 mg/l		Product

#### AQUATIC MICROORGANISM RESULTS :

Species	Exposure	EC50/LC50	Test Descriptor
Pseudomonas putida		> 1,000 mg/l	Product

#### CHRONIC FISH RESULTS :

Species	Exposure	NOEC / LOEC	End Point	Test Descriptor
Fathead Minnow	7 Days	1,250 mg/l / 2,500 mg/l		Product

## MOBILITY :

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%



## MATERIAL SAFETY DATA SHEET

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The portion in water is expected to be soluble or dispersible.

### BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Low

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

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

### LAND TRANSPORT :

Proper Shipping Name :	PHOSPHORIC ACID SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1805
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	None

### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	PHOSPHORIC ACID SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1805
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	821
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)



# MATERIAL SAFETY DATA SHEET

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**3D TRASAR 3DT185**

EMERGENCY TELEPHONE NUMBER(S)  
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MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	PHOSPHORIC ACID SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1805
Hazard Class - Primary :	8
Packing Group :	III

## 15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Phosphoric Acid : Corrosive

CERCLA/SUPERFUND, 40 CFR 117, 302 :

This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

<u>RQ Substance</u>	<u>RQ</u>
Phosphoric Acid	6,700 lbs

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 substances 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 indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

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

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

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



## MATERIAL SAFETY DATA SHEET

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### TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

This product contains the following substances listed in the regulation:

Substance(s)	Citations
• Phosphoric Acid	Sec. 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

### CALIFORNIA PROPOSITION 65 :

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

### MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

### STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Phosphoric Acid

7664-38-2

### NATIONAL REGULATIONS, CANADA :

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

### WHMIS CLASSIFICATION :

E - Corrosive Material

### CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### INTERNATIONAL CHEMICAL CONTROL LAWS

#### AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).



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### CHINA

All substances in this product comply with the Chemical Control Law and are listed on the Inventory of Existing Chemical Substances China (IECSC).

### EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

### JAPAN

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Ministry of International Trade & Industry List (MITI).

### KOREA

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

This product's trade name is registered with the Korean Ministry of Environment (KMOE).

### THE PHILIPPINES

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippine Inventory of Chemicals & Chemical Substances (PICCS).

## 16. OTHER INFORMATION

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

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

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

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

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

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.



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Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department

Date issued : 01/13/2006

Version Number : 1.4



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO PCL-1346**

EMERGENCY TELEPHONE NUMBER(S)  
(800) 424-9300 (24 Hours) CHEMTREC

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO PCL-1346**

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 1 / 1 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :  
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

### 3. HAZARDS IDENTIFICATION

#### \*\*EMERGENCY OVERVIEW\*\*

#### CAUTION

May cause irritation with prolonged contact.  
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water. Protect product from freezing.  
May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :  
May cause irritation with prolonged contact.

SKIN CONTACT :  
May cause irritation with prolonged contact.

INGESTION :  
Not a likely route of exposure. No adverse effects expected.

INHALATION :  
Not a likely route of exposure. No adverse effects expected.



## MATERIAL SAFETY DATA SHEET

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**NALCO PCL-1346**

EMERGENCY TELEPHONE NUMBER(S)

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### SYMPTOMS OF EXPOSURE :

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

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.

## 4. FIRST AID MEASURES

### EYE CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

### SKIN CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

### INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

### INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

### NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : > 212 °F / > 100 °C ( PMCC )

### EXTINGUISHING MEDIA :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

### FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS :

Do not touch spilled material. Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible.



## MATERIAL SAFETY DATA SHEET

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**NALCO PCL-1346**

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### METHODS FOR CLEANING UP :

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Avoid eye and skin contact. Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use.

### STORAGE CONDITIONS :

Store the containers tightly closed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

### ENGINEERING MEASURES :

General ventilation is recommended.

### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

### SKIN PROTECTION :

Wear standard protective clothing.

### EYE PROTECTION :

Wear chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE      Liquid



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APPEARANCE	Colorless Pale amber
ODOR	None
SPECIFIC GRAVITY	1.02 @ 77 °F / 25 °C
DENSITY	8.51 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	2.6
VAPOR PRESSURE	Same as water
EVAPORATION RATE	Same as water

Note: These physical properties are typical values for this product and are subject to change.

### 10. STABILITY AND REACTIVITY

**STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

None known

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of carbon

### 11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

**SENSITIZATION :**

This product is not expected to be a sensitizer.

**CARCINOGENICITY :**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

**HUMAN HAZARD CHARACTERIZATION :**

Based on our hazard characterization, the potential human hazard is: Low



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO PCL-1346**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this product.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: High

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

### 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by 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 waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

### 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

### 15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

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



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO PCL-1346**

EMERGENCY TELEPHONE NUMBER(S)

**(800) 424-9300 (24 Hours) CHEMTREC**

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 substances 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 substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :  
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :  
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :  
None of the substances are specifically listed in the regulation.

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

MICHIGAN CRITICAL MATERIALS :  
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :  
None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :  
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :  
Not considered a WHMIS controlled product.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO PCL-1346**

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(800) 424-9300 (24 Hours) CHEMTREC

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### 16. OTHER INFORMATION

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

#### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

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

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

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

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department

Date issued : 08/16/2005



**MATERIAL SAFETY DATA SHEET**

PRODUCT

**NALCO PCL-1346**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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Version Number : 1.3



# MATERIAL SAFETY DATA SHEET

PRODUCT

**PermaClean® PC-33**

EMERGENCY TELEPHONE NUMBER

(800)462-5378 (24 Hours) (800) I-M-ALERT

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **PermaClean® PC-33**

APPLICATION : REVERSE OSMOSIS CLEANER

CHEMICAL DESCRIPTION : Water, Modified Amino compound, Sodium Nitrilotriacetic Acid

COMPANY IDENTIFICATION : Nalco Chemical Company  
One Nalco Center  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER : (800)462-5378 (24 Hours) (800) I-M-ALERT

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

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous.

Hazardous Substance(s)	CAS NO	% (w/w)
Trisodium Nitrilotriacetate Monohydrate	18662-53-8	1.0 - 5.0
Sodium Hydroxide	1310-73-2	1.0 - 5.0
Tetrasodium EDTA	64-02-8	30.0 - 60.0

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

#### WARNING

Irritating to eyes and skin.  
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.  
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :  
Can cause mild irritation.



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**SKIN CONTACT :**

May cause irritation with prolonged contact.

**INGESTION :**

Not a likely route of exposure. No adverse effects expected.

**INHALATION :**

Not a likely route of exposure. No adverse effects expected.

**SYMPTOMS OF EXPOSURE :**

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

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.

**HUMAN HEALTH HAZARDS - CHRONIC :**

This product contains nitrilotriacetic acid, trisodium salt. The International Agency for Research on Cancer (IARC) has evaluated Nitrilotriacetic acid, trisodium salt, and found it to be a possible human carcinogen (Group 2B) based on sufficient animal data and insufficient human evidence.

Sodium nitrilotriacetate has been shown to cause kidney damage and urinary tract tumours when fed to laboratory animals at very high doses.

### 4. FIRST AID MEASURES

**EYE CONTACT :**

Flush affected area with water. If symptoms develop, seek medical advice.

**SKIN CONTACT :**

Flush affected area with water. If symptoms develop, seek medical advice.

**INGESTION :**

If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice. Do not induce vomiting without medical advice.

**INHALATION :**

If symptoms develop, seek medical advice. Remove to fresh air, treat symptomatically.

**NOTE TO PHYSICIAN :**

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

### 5. FIRE FIGHTING MEASURES

FLASH POINT : None



## MATERIAL SAFETY DATA SHEET

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### EXTINGUISHING MEDIA :

Use extinguishing media appropriate for surrounding fire. This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable.

### FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS :

Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Restrict access to area as appropriate until clean-up operations are complete.

### METHODS FOR CLEANING UP :

Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. **SMALL SPILLS:** Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use. Avoid eye and skin contact.

### STORAGE CONDITIONS :

Store the containers tightly closed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

### ACGIH/TLV :

Substance(s)

Sodium Hydroxide

CEILING: 2 mg/m<sup>3</sup>



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OSHA/PEL :

Substance(s)

Sodium Hydroxide CEILING: 2 mg/m<sup>3</sup>

ENGINEERING MEASURES :

General ventilation is recommended.

RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

HAND PROTECTION :

Nitrile gloves, Butyl gloves, PVC gloves, Neoprene gloves

SKIN PROTECTION :

Wear standard protective clothing.

EYE PROTECTION :

Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :

Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available.

HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

### 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Yellow
ODOR	Slight, Ammoniacal
SPECIFIC GRAVITY	1.28
DENSITY	10.51 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	12.0 - 13.0
(1 %)	11.4
BOILING POINT	224.6 °F / 107 °C

### 10. STABILITY AND REACTIVITY

STABILITY :

Stable under normal conditions.



## MATERIAL SAFETY DATA SHEET

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HAZARDOUS POLYMERIZATION :  
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :  
Freezing temperatures.

MATERIALS TO AVOID :  
None known.

HAZARDOUS DECOMPOSITION PRODUCTS :  
Under fire conditions: Oxides of carbon, Oxides of nitrogen

### 11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :  
Species LD50 Tested Substance  
Rat > 2,000 mg/kg Product  
Rating : Non-Hazardous

CARCINOGENICITY :  
Oral administration of large doses of nitrilotriacetic acid in the diet of mice and rats resulted in kidney tumors/cancer in mice. In the rats, there was an increase in bladder cancer in males, and induced liver and adrenal cancer in females. Oral administration of nitrilotriacetic acid, trisodium salt, monohydrate in the diet of mice and rats resulted in induced hematopoietic tumors in male mice. In rats tumors/cancers in the urinary system (kidney, ureter, and bladder) was observed. When administered in drinking-water to male rats, the material induced cancers of the kidney.

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

### 12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Tested Substance
Bluegill Sunfish	96 hrs	1,030 mg/l	Product

Rating : Essentially non-toxic

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION  
Based on our hazard characterization, the potential environmental hazard is: Moderate  
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low



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

### 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: D002

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

### 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

#### LAND TRANSPORT :

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

#### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S  
Technical Name(s) : TETRASODIUM SALT OF EDTA, SODIUM HYDROXIDE  
UN/ID No : 3267  
Hazard Class - Primary : 8  
Packing Group : III  
IATA Cargo Packing Instructions : 820  
IATA Cargo Aircraft Limit : 60 L (Max net quantity per package)

#### MARINE TRANSPORT (IMDG/IMO) :

IMDG Page : 8147-1  
Proper Shipping Name : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S  
Technical Name(s) : TETRASODIUM SALT OF EDTA, SODIUM HYDROXIDE  
UN/ID No : 3267  
Hazard Class - Primary : 8  
Packing Group : III



## MATERIAL SAFETY DATA SHEET

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**PermaClean® PC-33**

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### 15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, none of the substances 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 substances 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:

X	Immediate (Acute) Health Hazard
	Delayed (Chronic) Health Hazard
	Fire Hazard
	Sudden Release of Pressure Hazard
	Reactive Hazard

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

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

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

TOXIC SUBSTANCES CONTROL ACT (TSCA) :

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

NSF INTERNATIONAL :

This product has received NSF/International certification under ANSI/NSF Standard 60 in the "Other" category. The official name is "Miscellaneous Water Supply Products." Only product manufactured at NDT plant at Chagrin Falls, OH, and whose container label bears the ANSI/NSF Mark may be used in potable water treatment applications. This product is designed to be used off-line and must be flushed and drained before being placed into service. The pH of the influent and effluent water should be monitored to ensure that all traces of the product have been removed before placing into service.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :

This product contains the following substances listed in the regulation:



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**PermaClean® PC-33**

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(800)462-5378 (24 Hours) (800) I-M-ALERT

Substance(s)  
Sodium Hydroxide :

Citations  
Sec. 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :  
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :

This product contains the following substances which require warning under California Proposition 65.

Substance(s)  
Nitrilotriacetic Acid

Concentration  
<= %

EFFECTS  
Causes Cancer

MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Hydroxide  
Trisodium Nitrilotriacetate

1310-73-2  
5064-31-3

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :

D2A - Materials Causing Other Toxic Effects - Very Toxic Material, E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

All substances in this product are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### 16. OTHER INFORMATION

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: Low

Any use inconsistent with our recommendations may affect the 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.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**PermaClean® PC-33**

EMERGENCY TELEPHONE NUMBER

(800)462-5378 (24 Hours)

(800) I-M-ALERT

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

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, Co.

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

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

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO

Prepared By : Product Safety Department

Date issued : 09/22/2000

Replaces : 08/30/2000



# MATERIAL SAFETY DATA SHEET

PRODUCT

**pHREEdom® 5200M**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : pHREEdom® 5200M

APPLICATION : SCALE CONTROL

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 1 / 2 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium salt of phosphonomethylated diamine		10.0 - 30.0

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

#### WARNING

Irritating to eyes.

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.

Wear suitable protective clothing.

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Can cause moderate irritation.

SKIN CONTACT :

May cause irritation with prolonged contact.



## MATERIAL SAFETY DATA SHEET

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**pHREEdom® 5200M**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### INGESTION :

Not a likely route of exposure. No adverse effects expected.

### INHALATION :

Not a likely route of exposure. No adverse effects expected.

### AGGRAVATION OF EXISTING CONDITIONS :

A review of available data does not identify any worsening of existing conditions.

### HUMAN HEALTH HAZARDS - CHRONIC :

No adverse effects expected other than those mentioned above.

## 4. FIRST AID MEASURES

### EYE CONTACT :

Immediately flush eye with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get immediate medical attention.

### SKIN CONTACT :

Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

### INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

### INHALATION :

Remove to fresh air, treat symptomatically. Get medical attention.

### NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : > 200 F / > 93.3 C

### EXTINGUISHING MEDIA :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Keep containers cool by spraying with water. Use extinguishing media appropriate for surrounding fire.

### FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) and sulfur (SOx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**pHREEdom® 5200M**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

#### METHODS FOR CLEANING UP :

**SMALL SPILLS:** Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

#### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

### 7. HANDLING AND STORAGE

#### HANDLING :

Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Keep the containers closed when not in use. Use with adequate ventilation.

#### STORAGE CONDITIONS :

Store the containers tightly closed. Store in suitable labelled containers.

#### SUITABLE CONSTRUCTION MATERIAL :

HDPE (high density polyethylene), Stainless Steel 304, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

#### ENGINEERING MEASURES :

General ventilation is recommended.

#### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

#### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

#### SKIN PROTECTION :

Wear standard protective clothing.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**pHREEdom® 5200M**

EMERGENCY TELEPHONE NUMBER(S)

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### EYE PROTECTION :

Wear chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available. Keep a safety shower available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Light yellow
ODOR	Slight
SPECIFIC GRAVITY	1.17 - 1.21 @ 77 °F / 25 °C
DENSITY	9.7 - 10.1 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	4.2 - 5.2
VISCOSITY	16 cps @ 40 °F / 4.4 °C
VOC CONTENT	0 % Calculated

Note: These physical properties are typical values for this product and are subject to change.

## 10. STABILITY AND REACTIVITY

### STABILITY :

Stable under normal conditions.

### HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.

### CONDITIONS TO AVOID :

Freezing temperatures.

### MATERIALS TO AVOID :

Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

### HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of nitrogen, Oxides of sulfur, Oxides of phosphorus

## 11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.



## MATERIAL SAFETY DATA SHEET

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**pHREEdom® 5200M**

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### SENSITIZATION :

This product is not expected to be a sensitizer.

### CARCINOGENICITY :

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

#### ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	> 1,000 mg/l	Product

Rating : Essentially non-toxic

#### ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	> 1,000 mg/l		Product

Rating : Essentially non-toxic

### MOBILITY :

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM , provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	30 - 50%

The portion in water is expected to be soluble or dispersible.

### BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

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

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by 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.



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As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

### 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

### 15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium salt of phosphonomethylated diamine : Eye 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) :

This product does not contain substances 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 indicated EPA hazard categories:



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- X Immediate (Acute) Health Hazard
- Delayed (Chronic) Health Hazard
- Fire Hazard
- Sudden Release of Pressure Hazard
- Reactive Hazard

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

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

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

### TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

### CALIFORNIA PROPOSITION 65 :

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

### MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

### STATE RIGHT TO KNOW LAWS :

None of the substances are specifically listed in the regulation.

### NATIONAL REGULATIONS, CANADA :

#### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

#### WHMIS CLASSIFICATION :

D2B - Materials Causing Other Toxic Effects - Toxic Material

#### CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.



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### INTERNATIONAL CHEMICAL CONTROL LAWS

#### EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

### 16. OTHER INFORMATION

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

#### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

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

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

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

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

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department

Date issued : 02/21/2004



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Version Number : 1.4



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – WWW.ENERGY.CA.GOV

**APPLICATION FOR CERTIFICATION  
FOR THE *RICE SOLAR ENERGY POWER  
PLANT PROJECT***

**Docket No. 09-AFC-10**

***PROOF OF SERVICE***  
**(Revised 3/4/2010)**

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**DECLARATION OF SERVICE**

I, Mary Finn, declare that on June 17, 2010, I served and filed copies of the attached, 09-AFC-10-RSEP Supplementary Information Item #1 Hazardous Materials List. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [\[http://www.energy.ca.gov/sitingcases/ricesolar\]](http://www.energy.ca.gov/sitingcases/ricesolar).

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

**(Check all that Apply)**

**FOR SERVICE TO ALL OTHER PARTIES:**

x  sent electronically to all email addresses on the Proof of Service list;

by personal delivery

by delivering on this date for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for the mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

**AND**

**FOR FILING WITH THE ENERGY COMMISSION:**

x  sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (**preferred method**);

**OR**

depositing in the mail an original and 12 paper copies, as follows:

**CALIFORNIA ENERGY COMMISSION**

Attn: Docket No. 09-AFC-10

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512

[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

I declare under penalty of perjury that the foregoing is true and correct.



Mary Finn