

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME :** NALCO(R) 7341

**APPLICATION :** MICROORGANISM CONTROL CHEMICAL

**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 :** 1 / 1 **OTHER :** OXY  
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 Hypochlorite	7681-52-9	10.0 - 30.0
Sodium Hydroxide	1310-73-2	0.1 - 1.0

**3. HAZARDS IDENTIFICATION****\*\*EMERGENCY OVERVIEW\*\*****DANGER**

**CORROSIVE. MAY CAUSE SEVERE SKIN IRRITATION OR CHEMICAL BURNS TO BROKEN SKIN. CAUSES EYE DAMAGE.** Strong Oxidizer. Potential skin sensitizer.

Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves (PVC or Nitrile) when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated. 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.

Not flammable but can act as an oxidizing agent, enhancing the burning rate of other materials. May evolve chlorine under fire conditions. May evolve HCl under fire conditions. Hypochlorous acid

**PRIMARY ROUTES OF EXPOSURE :**

Eye, Skin

**HUMAN HEALTH HAZARDS - ACUTE :****EYE CONTACT :**

Corrosive. Will cause eye burns and permanent tissue damage.

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

1 / 12

BEFORE THE OIL CONSERVATION DIVISION

Hidalgo, New Mexico

Case No. 14246.... Exhibit No. 12

Submitted by:

**RASER POWER SYSTEM, LLC**

Hearing Date: December 1, 2008

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****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. Repeated or prolonged contact may cause skin sensitization.

**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. Causes severe skin burns and eye damage.

**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.

**IF ON SKIN,** wash with plenty of soap and water.

**IF IN EYES,** flush with water for at least 15 minutes. Get medical attention.

**IF SWALLOWED,** drink large amounts of water. **DO NOT** give vinegar or other acids. **DO NOT** induce vomiting. Call a physician or poison control center immediately.

**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.



## SAFETY DATA SHEET

### PRODUCT

**NALCO(R) 7341**

### 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 :

Not flammable but can act as an oxidizing agent, enhancing the burning rate of other materials. May evolve chlorine under fire conditions. May evolve HCl under fire conditions. Hypochlorous acid

### 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. Spill may be slippery. 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 :

Do not clean up spills with sawdust, cotton waste or other combustible absorbent materials. **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 labeled containers. Store in a cool well ventilated area away from direct sunlight.

### SUITABLE CONSTRUCTION MATERIAL :

EPDM, Buna-N, Hypalon, Neoprene, Polyethylene, Vinyl, PVC, Teflon, Viton

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access



## SAFETY DATA SHEET

### PRODUCT

**NALCO(R) 7341**

### EMERGENCY TELEPHONE NUMBER(S)

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

#### UNSUITABLE CONSTRUCTION MATERIAL :

Aluminum, Brass, Carbon steel, Nickel, Polypropylene, Polyurethane, Stainless Steel 304, Stainless Steel 316L

## 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/m3

#### OSHA/PEL :

Substance(s)

Sodium Hydroxide CEILING: 2 mg/m3

Substance(s)

#### AIHA/WEEL :

Substance(s)

Sodium Hypochlorite STEL: 2 mg/m3

#### 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. 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. If dusts are generated, select and use an approved air-purifying respirator in accordance with AS/NZS 1715 and AS/NZS 1716.

#### HAND PROTECTION :

When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

#### 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.

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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	Yellow Green
ODOR	Chlorine
SPECIFIC GRAVITY	1.21
DENSITY	10.12 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	11.5 - 13.5
FREEZING POINT	-11 °F / -24 °C
BOILING POINT	219 °F / 103.9 °C

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

**10. STABILITY AND REACTIVITY****STABILITY :**

Decomposes slowly.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures. Direct sunlight. Sodium hypochlorite releases chlorine when heated above 95 degrees F/ 35 C. If this should occur, the drum should be properly vented. Protective equipment should be utilized to prevent eye and skin contact or exposures above the regulated level for chlorine gas.

**MATERIALS TO AVOID :**

Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with organic materials (e.g. rags, sawdust, hydrocarbon oils or solvents) and avoid reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) which can generate heat, fires, explosions and the release of toxic fumes. Metals

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Chlorine gas, HCl, May evolve toxic fumes.

**11. TOXICOLOGICAL INFORMATION**

The following results are for the product.

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****ACUTE ORAL TOXICITY :**

Species LD50  
Rat > 5,000 mg/kg  
Rating : Non-Hazardous

Test Descriptor  
Product

**SENSITIZATION :**

Repeated or prolonged contact may cause skin sensitization.

**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	1.94 mg/l	Product
Bluegill Sunfish	96 hrs	5.3 mg/l	Product
Inland Silverside	96 hrs	16.88 mg/l	Product

**ACUTE INVERTEBRATE RESULTS :**

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	1.57 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	33.76 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%

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

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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 :	HYPOCHLORITE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1791
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	None
DOT Reportable Quantity (per package) :	800 lbs
DOT RQ Component :	SODIUM HYPOCHLORITE

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

Proper Shipping Name :	HYPOCHLORITE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1791
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	821
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

**Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000**For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****MARINE TRANSPORT (IMDG/IMO) :**

Proper Shipping Name :	HYPOCHLORITE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 1791
Hazard Class - Primary :	8
Packing Group :	III

**15. REGULATORY INFORMATION**

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this 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 Hypochlorite : Corrosive, Oxidizer  
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. 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>
Sodium Hypochlorite	800 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
X	Fire Hazard
-	Sudden Release of Pressure Hazard
X	Reactive Hazard



**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

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)

**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 175.105 Adhesives, 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

**NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :**

NSF Registration number for this product is : 140606

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas.

**FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :**

EPA Reg. No. 1706-20001

In all cases follow instructions on the product label.

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:

Substance(s)	Citations
<ul style="list-style-type: none"><li>Sodium Hypochlorite</li><li>Sodium Hydroxide</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 :**

This product contains the following substances listed in the regulation:

Sodium Hypochlorite

**Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000**

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**SAFETY DATA SHEET****PRODUCT****NALCO(R) 7341****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****STATE RIGHT TO KNOW LAWS :**

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

Sodium Hypochlorite  
Sodium Hydroxide

7681-52-9  
1310-73-2

**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, C - Oxidizing Material, D2B - Materials Causing Other Toxic Effects - Toxic Material

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

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

**AUSTRALIA**

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

**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 substance(s) in this preparation are included in or exempted from 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)

**PHILIPPINES**

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

**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:



## SAFETY DATA SHEET

### PRODUCT

**NALCO(R) 7341**

### EMERGENCY TELEPHONE NUMBER(S)

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

\* 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<sup>TM</sup> CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS<sup>II</sup> 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<sup>II</sup> 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<sup>TM</sup> 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<sup>II</sup> CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight<sup>TM</sup> (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<sup>TM</sup> CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS<sup>II</sup> CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department

**Nalco Company** 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access



## SAFETY DATA SHEET

PRODUCT

**NALCO(R) 7341**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

Date issued : 11/03/2008

Version Number : 1.17

**Nalco Company** 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME : 3D TRASAR 3DT189

APPLICATION : COOLING 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 : 2 / 2 FLAMMABILITY : 0 / 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)
Substituted aromatic amine	Proprietary	1.0 - 5.0
Phosphoric Acid	7664-38-2	1.0 - 5.0
Sulfuric Acid	7664-93-9	1.0 - 5.0

**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 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 :

Irritating, and may injure eye tissue if not removed promptly.

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****SKIN CONTACT :**

Can cause mild irritation.

**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.

**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 symptoms develop, seek medical advice.

**SKIN CONTACT :**

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

**INGESTION :**

Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water.

**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 :**

Not applicable

**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.



## MATERIAL SAFETY DATA SHEET

### PRODUCT

**3D TRASAR 3DT189**

### EMERGENCY TELEPHONE NUMBER(S)

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

#### FIRE AND EXPLOSION HAZARD :

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

### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

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. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. 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. Clean contaminated surfaces with water or aqueous cleaning agents. 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. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

#### STORAGE CONDITIONS :

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

#### SUITABLE CONSTRUCTION MATERIAL :

Buna-N, Hypalon, EPDM, Polyethylene, Polypropylene, HDPE (high density polyethylene), PVC, Epoxy phenolic resin

#### UNSUITABLE CONSTRUCTION MATERIAL :

Brass, Stainless Steel 304, Neoprene, Viton, Polyurethane, 100% phenolic resin liner, Stainless Steel 316L

### 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.



## MATERIAL SAFETY DATA SHEET

### PRODUCT

**3D TRASAR 3DT189**

### EMERGENCY TELEPHONE NUMBER(S)

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

#### ACGIH/TLV :

##### Substance(s)

Phosphoric Acid

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

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

Sulfuric Acid

TWA: 0.2 mg/m<sup>3</sup> Thoracic fraction

#### OSHA/PEL :

##### Substance(s)

Phosphoric Acid

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

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

Sulfuric Acid

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

#### ENGINEERING MEASURES :

General ventilation is recommended.

#### RESPIRATORY PROTECTION :

Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Multi-contaminant cartridge, with a Particulate pre-filter. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

#### HAND PROTECTION :

When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from, PVC, ., Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

#### SKIN PROTECTION :

Wear standard protective clothing. See general advice.

#### EYE PROTECTION :

When handling this product, the use of splash chemical goggles is recommended.

#### HYGIENE RECOMMENDATIONS :

Use good work and personal hygiene practices to avoid exposure. 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. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

##### PHYSICAL STATE

Liquid

##### APPEARANCE

Yellow

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access



**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

ODOR None

SPECIFIC GRAVITY	1.151 @ 77 °F / 25 °C
DENSITY	9.56 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	1.8
VISCOSITY	5.4 cst
INITIAL BOILING POINT	212 °F / 100 °C
VAPOR PRESSURE	0.5 mm Hg @ 100 °F / 37.8 °C
VOC CONTENT	0.4 % 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 :**

Bases 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 carbon, Oxides of sulfur, Oxides of phosphorus, Oxides of nitrogen

**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).

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****HUMAN HAZARD CHARACTERIZATION :**

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

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product.

**ACUTE FISH RESULTS :**

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	3,750 mg/l	Product
Rainbow Trout	96 hrs	1,830 mg/l	Product

**ACUTE INVERTEBRATE RESULTS :**

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs		1,908 mg/l	Product
Ceriodaphnia dubia	48 hrs	1,875 mg/l		Product

**PERSISTENCY AND DEGRADATION :**

Total Organic Carbon (TOC) : 62,000 mg/l

Chemical Oxygen Demand (COD) : 190,000 mg/l

**Biological Oxygen Demand (BOD) :**

Incubation Period	Value	Test Descriptor
5 d	9,240 mg/l	Product

The organic portion of this preparation is expected to be readily biodegradable.

**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%

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

**BIOACCUMULATION POTENTIAL**

This preparation or material is not expected to bioaccumulate.

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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.

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

**LAND TRANSPORT :**

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s) :	PHOSPHORIC ACID, SULFURIC ACID
UN/ID No :	UN 3264
Hazard Class - Primary :	8
Packing Group :	III

Flash Point :	Not applicable
---------------	----------------

DOT Reportable Quantity (per package) :	71,530 lbs
DOT RQ Component :	Sulfuric Acid

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

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s) :	PHOSPHORIC ACID, SULFURIC ACID
UN/ID No :	UN 3264
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

IATA Cargo Aircraft Limit :

60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical Name(s) :

PHOSPHORIC ACID, SULFURIC ACID

UN/ID No :

UN 3264

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.

Substituted aromatic amine : Eye irritant

Phosphoric Acid : Corrosive

Sulfuric 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).

RQ Substance

Sulfuric Acid

RQ

71,530 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 contains the following substance(s) which is listed in Appendix A and B as an Extremely Hazardous Substance. Listed below are the statutory Threshold Planning Quantity (TPQ) for the substance(s) and the Reportable Quantity (RQ) of the product. If a reportable quantity of product is released, it requires notification to your State Emergency Response Commission. You may also be required to notify the National Response Center - See CERCLA/SUPERFUND, above.

Extremely Hazardous Substance

Sulfuric Acid

TPQ

1,000 lbs

RQ

71,530 lbs

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

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

8 / 11

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

- 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 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>
Sulfuric Acid	7664-93-9	1.0 - 5.0

**TOXIC SUBSTANCES CONTROL ACT (TSCA) :**

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

**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>
<ul style="list-style-type: none"><li>• Phosphoric Acid</li><li>• Sulfuric Acid</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) :**

This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation:

<u>Substance(s)</u>	<u>Citations</u>
<ul style="list-style-type: none"><li>• Methanol</li></ul>	Sec. 112, Sec. 111

**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:

Other ingredients determined not to be hazardous, including water	Proprietary
Phosphoric Acid	7664-38-2

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**Sulfuric Acid  
Substituted aromatic amine7664-93-9  
Proprietary**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, D2A - Materials Causing Other Toxic Effects - Very Toxic Material

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

This product contains substance(s) which are found on the Non-Domestic Substances List (NDSL).

**INTERNATIONAL CHEMICAL CONTROL LAWS****AUSTRALIA**

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

**EUROPE**

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

**KOREA**

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

**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.

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT189****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

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 : 02/14/2007

Version Number : 1.6

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME :** TOWERBROM® 960**APPLICATION :** BIOCIDEBIOCID**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 :** 1 / 1 **INSTABILITY :** 2 / 2 **OTHER :** OXIDIZER

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 Dichloroisocyanurate	2893-78-9	60.0 - 100.0
Sodium Bromide	7647-15-6	5.0 - 10.0

**3. HAZARDS IDENTIFICATION****\*\*EMERGENCY OVERVIEW\*\*****DANGER****CORROSIVE. CAUSES EYE AND SKIN DAMAGE. IRRITATING TO NOSE AND THROAT. HARMFUL OR FATAL IF SWALLOWED.** Prolonged ingestion of large amounts may cause adverse central nervous system effects.**Strong Oxidizer.**

Do not get in eyes, on skin, on clothing. Remove contaminated clothing and wash before reuse.

Wear goggles and face shield and rubber gloves when handling.

Not flammable but can act as an oxidizing agent, enhancing the burning rate of other materials. Water Reactive; material will react with water and may release a flammable or toxic gas. In addition, nitrogen trichloride, which can present an explosion hazard, can be generated slowly by the reaction of small quantities of water with a high concentration of this product. Decomposes; flammable and/or toxic gases will form at elevated temperatures (thermal decomposition).

**PRIMARY ROUTES OF EXPOSURE :**

Eye, Skin



**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****HUMAN HEALTH HAZARDS - ACUTE :****EYE CONTACT :**

Corrosive. Will cause eye burns and permanent tissue damage.

**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. Can cause central nervous system depression, nausea, dizziness, vomiting, or unconsciousness.

**INHALATION :**

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

**SYMPTOMS OF EXPOSURE :****Acute :**

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

**Chronic :**

Excessive exposure may cause central nervous system effects, nausea, vomiting, anesthetic or narcotic effects.

**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 :**

Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention.

**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.

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****5. FIRE FIGHTING MEASURES****FLASH POINT :** None**EXTINGUISHING MEDIA :**

Use water spray to cool containers exposed to fire and massive quantities of water to dilute material involved in a fire or spilled from containers. Do not use ABC or other dry chemical fire extinguishers since there is the potential for a violent reaction.

**FIRE AND EXPLOSION HAZARD :**

Not flammable but can act as an oxidizing agent, enhancing the burning rate of other materials. Water Reactive; material will react with water and may release a flammable or toxic gas. In addition, nitrogen trichloride, which can present an explosion hazard, can be generated slowly by the reaction of small quantities of water with a high concentration of this product. Decomposes; flammable and/or toxic gases will form at elevated temperatures (thermal decomposition).

**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. Ensure adequate ventilation. Do not touch spilled material. 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 :**

Sweep up and shovel. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations). DO NOT allow water to come into contact with this material.

**ENVIRONMENTAL PRECAUTIONS :**

This product is toxic to fish. Do not discharge effluent containing this active ingredient into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**7. HANDLING AND STORAGE****HANDLING :**

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating dusts. Keep the containers closed when not in use.

**STORAGE CONDITIONS :**

Store the containers tightly closed. Store in suitable labelled containers. Store separately from bases. Keep in dry place. Store away from organic chemicals and other oxidizable materials, reducing agents, acids and alkalis. DO NOT allow water to come into contact with this material.

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****SUITABLE CONSTRUCTION MATERIAL :**

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. Local exhaust ventilation may be necessary when dusts or mists are generated.

**RESPIRATORY PROTECTION :**

If dusts are generated, use an approved air-purifying respirator. 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 :**

Neoprene gloves, PVC gloves, Butyl 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	Crystalline, Granular
APPEARANCE	White
ODOR	Slight Pungent
SOLUBILITY IN WATER	Moderate
pH (1 %)	6 - 7
MELTING POINT	Decomposes 460 - 480 °F / 240 - 250 °C

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****VOC CONTENT** 0.0 % EPA Method 24

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 :**

Moisture

Avoid temperatures greater than 400 °F

**MATERIALS TO AVOID :**

Do not bring in contact with organic materials and reducing agents. DO NOT allow water to come into contact with this material.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Oxides of nitrogen (NO<sub>x</sub>), disodium oxide, bromine, and traces of phosgene (under fire conditions); chlorine (released in presence of moisture) and other chlorine containing compounds; hypobromous acid, hypochlorous acid, and cyanuric acid (released when dissolved in water); nitrogen trichloride, an explosion hazard (generated slowly by the reaction of small quantities of water with high concentration of this product).

**11. TOXICOLOGICAL INFORMATION**

The following results are for the product.

**ACUTE ORAL TOXICITY :**

Species	LD50	Test Descriptor
Rat	710 mg/kg	

**ACUTE DERMAL TOXICITY :**

Species	LD50	Test Descriptor
Rabbit	> 2g/kg	

**ACUTE INHALATION TOXICITY :**

Species	LC50	Test Descriptor
Rat	0.6 mg/l (4 hrs)	

**PRIMARY SKIN IRRITATION :**

Draize Score	Test Descriptor
7.2 / 8.0	

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****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: Moderate

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product along with results on the active substances.

**ACUTE FISH RESULTS :**

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	0.7 mg/l	50% Active Ingredient
Sheepshead Minnow	96 hrs	3.42 mg/l	
Inland Silverside	96 hrs	2.7 mg/l	50% Active Ingredient

**ACUTE INVERTEBRATE RESULTS :**

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	2.5 mg/l		50% Active Ingredient
Mysid Shrimp (Mysidopsis bahia)	48 hrs	3.54 mg/l		
Mysid Shrimp (Mysidopsis bahia)	96 hrs	4.4 mg/l		50% Active Ingredient
Ceriodaphnia dubia	48 hrs	1.02 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%	50 - 70%	30 - 50%

The portion in water is expected to float on the surface.

**BIOACCUMULATION POTENTIAL**

This preparation or material is not expected to bioaccumulate.

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION**

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

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

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: D001, D003

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**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 :	DICHLOROISOCYANURIC ACID, SALTS, MIXTURE
Technical Name(s) :	Sodium Dichloroisocyanurate
UN/ID No :	UN 2465
Hazard Class - Primary :	5.1
Packing Group :	II
Flash Point :	None

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

Proper Shipping Name :	DICHLOROISOCYANURIC ACID, SALTS, MIXTURE
Technical Name(s) :	Sodium Dichloroisocyanurate
UN/ID No :	UN 2465
Hazard Class - Primary :	5.1
Packing Group :	II
IATA Cargo Packing Instructions :	511
IATA Cargo Aircraft Limit :	25 KG (Max net quantity per package)

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

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

Proper Shipping Name :

DICHLOROISOCYANURIC ACID, SALTS, MIXTURE

Technical Name(s) :

Sodium Dichloroisocyanurate

UN/ID No :

UN 2465

Hazard Class - Primary :

5.1

Packing Group :

II

**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 Dichloroisocyanurate : Oxidizer, Irritant

Sodium Bromide : 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:

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

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances &amp; Non-Food Compounds) :

NSF Registration number for this product is : 121816

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****TOWERBROM® 960****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas.

**FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :**

EPA Reg. No. 935-71-1706

In all cases follow instructions on the product label.

**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 :**

This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

Heterocyclic salt

Proprietary

**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 :**

Pesticide controlled products are not regulated under WHMIS.

**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****EUROPE**

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

**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





## MATERIAL SAFETY DATA SHEET

PRODUCT

**TOWERBROM® 960**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

\* The human risk is: Low

\* The environmental risk is: Moderate

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.

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.



## MATERIAL SAFETY DATA SHEET

### PRODUCT

**TOWERBROM® 960**

### EMERGENCY TELEPHONE NUMBER(S)

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

general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

\* The human risk is: Low

\* The environmental risk is: Moderate

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.

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.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT189**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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 : 02/14/2007

Version Number : 1.6

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

11 / 11

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME :** **NALCO® 7408****APPLICATION :** **CHLORINE SCAVENGER****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 Bisulfite	7631-90-5	30.0 - 60.0

**3. HAZARDS IDENTIFICATION****\*\*EMERGENCY OVERVIEW\*\*****WARNING**

Harmful if swallowed. Contains Sulfite. Causes asthmatic signs and symptoms in hyper-reactive individuals. 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 sulfur (SOx) under fire conditions.

**PRIMARY ROUTES OF EXPOSURE :**

Skin, Eye, Inhalation

**HUMAN HEALTH HAZARDS - ACUTE :****EYE CONTACT :**

Can cause mild irritation.

**SKIN CONTACT :**

Can cause mild irritation.

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****INGESTION :**

Not a likely route of exposure. May cause asthmatic-like attack.

**INHALATION :**

Irritant to respiratory system. Causes asthmatic signs and symptoms in hyper-reactive individuals.

**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 :**

Ingestion of sulfite can cause a severe allergic reaction in asthmatics and some sulfite sensitive individuals. The resulting symptoms can include difficulty in breathing, flushed skin and a rash. Chronic exposure to sulfites may cause symptoms of upper respiratory disease and affect sense of taste and smell.

**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 medical attention.

**INHALATION :**

Remove to fresh air, treat symptomatically. If breathing is difficult, administer oxygen. 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 :**

None

**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.

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****FIRE AND EXPLOSION HAZARD :**

May evolve oxides of sulfur (SOx) 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. Ensure adequate ventilation. 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 separately from acids. Store in suitable labelled containers. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles.

**SUITABLE CONSTRUCTION MATERIAL :**

HDPE (high density polyethylene), Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., Brass, Neoprene, Polyurethane, Viton, Hypalon, EPDM, Polypropylene, Polyethylene, PVC

**UNSUITABLE CONSTRUCTION MATERIAL :**

Stainless Steel 304, Buna-N, Epoxy phenolic resin, 100% phenolic resin liner

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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. Exposure limits are listed for sulfur dioxide (SO<sub>2</sub>) since this product evolves SO<sub>2</sub> when open to the atmosphere.

**ACGIH/TLV :****Substance(s)**

Sodium Bisulfite

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

Sulfur Dioxide

TWA: 2 ppm , 5.2 mg/m<sup>3</sup>STEL: 5 ppm , 13 mg/m<sup>3</sup>**OSHA/PEL :****Substance(s)**

Sodium Bisulfite

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

Sulfur Dioxide

TWA: 2 ppm , 5 mg/m<sup>3</sup>STEL: 5 ppm , 13 mg/m<sup>3</sup>**ENGINEERING MEASURES :**

General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

**RESPIRATORY PROTECTION :**

If significant mists, vapors or aerosols are generated an approved respirator is recommended. An approved respirator must be worn if the occupational exposure limit is likely to be exceeded.

**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: Low

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****9. PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE	Liquid
APPEARANCE	Yellow
ODOR	Pungent
SPECIFIC GRAVITY	1.37 @ 77 °F / 25 °C
DENSITY	11.4 lb/gal
BULK DENSITY	11.4 lb/ft <sup>3</sup>
SOLUBILITY IN WATER	Complete
pH (1 %)	4.1
VISCOSITY	2.8 cps @ 77 °F / 25 °C
FREEZING POINT	34 °F / 1.1 °C
BOILING POINT	219 °F / 104 °C
VAPOR PRESSURE	32 mm Hg @ 77 °F / 25 °C 76 mm Hg @ 99.9 °F / 37.7 °C
VAPOR DENSITY	2.2 (Air = 1)
VOC CONTENT	0.00 % EPA Method 24

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. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. SO<sub>2</sub> may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of sulfur

**11. TOXICOLOGICAL INFORMATION**

The following results are for a similar product.



**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****ACUTE ORAL TOXICITY :**

Species LD50  
Rat 4.1 g/kg  
Rating : Non-Hazardous

Test Descriptor  
Similar Product

**ACUTE DERMAL TOXICITY :**

Species LD50  
Rabbit 3 g/kg  
Rating : Non-Hazardous

Test Descriptor  
Similar Product

**PRIMARY SKIN IRRITATION :**

Draize Score  
1.0 / 8.0  
Rating : Slightly irritating

Test Descriptor  
Similar Product

**PRIMARY EYE IRRITATION :**

Draize Score  
9.4 / 110.0  
Rating : Practically non-irritating

Test Descriptor  
Similar Product

**SENSITIZATION :**

Sulfites can cause an allergic reaction in sensitive individuals.

**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

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product and a similar product.

**ACUTE FISH RESULTS :**

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	> 100 mg/l	Product
Fathead Minnow	96 hrs	382 mg/l	Similar Product

**ACUTE INVERTEBRATE RESULTS :**

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	275 mg/l		Product
Daphnia magna	48 hrs	728 mg/l		Similar Product

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****CHRONIC FISH RESULTS :**

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

**CHRONIC INVERTEBRATE RESULTS :**

Species	Test Type	NOEC / LOEC	End Point	Test Descriptor
Ceriodaphnia dubia	3 Brood	250 mg/l / 500 mg/l	Reproduction	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%

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

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 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.

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****LAND TRANSPORT :**

Proper Shipping Name :	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical Name(s) :	SODIUM BISULPHITE
UN/ID No :	UN 2693
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	None
DOT Reportable Quantity (per package) :	12,500 lbs
DOT RQ Component :	SODIUM BISULFITE

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

Proper Shipping Name :	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical Name(s) :	SODIUM BISULPHITE
UN/ID No :	UN 2693
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 :	BISULPHITES, AQUEOUS SOLUTION, N.O.S.
Technical Name(s) :	SODIUM BISULPHITE
UN/ID No :	UN 2693
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 Bisulfite : Respiratory irritant

**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 Bisulfite	12,000 lbs

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

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.

**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, 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

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

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:

Substance(s)	Citations
• Sodium Bisulfite	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.

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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 Bisulfite  
Water

7631-90-5  
7732-18-5

**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).

**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)

**NEW ZEALAND**

This product complies with Parts XI - XV of the HSNO Act (1996).

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****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**

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.

**Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000**

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access

**MATERIAL SAFETY DATA SHEET****PRODUCT****NALCO® 7408****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

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 : 05/03/2006  
Version Number : 1.13