



## MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO ELIMIN-OX®**

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

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO ELIMIN-OX®**

APPLICATION : OXYGEN SCAVENGER

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

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NFPA 704M/HMIS RATING

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

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

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

Hazardous Substance(s)	CAS NO	% (w/w)
Carbohydrazide	497-18-7	5.0 - 10.0

### 3. HAZARDS IDENTIFICATION

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

#### WARNING

May cause sensitization by skin contact.

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. Protect product from freezing.

Wear suitable protective clothing.

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

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

May cause irritation with prolonged contact.

SKIN CONTACT :

May cause irritation with prolonged contact. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.



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### INGESTION :

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

### INHALATION :

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

### AGGRAVATION OF EXISTING CONDITIONS :

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

### HUMAN HEALTH HAZARDS - CHRONIC :

Repeated or prolonged contact may cause sensitization in some individuals.

## 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 :

Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.

### INGESTION :

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

### INHALATION :

Remove to fresh air, treat symptomatically. 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 : None

### EXTINGUISHING MEDIA :

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

### FIRE AND EXPLOSION HAZARD :

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



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### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Ensure clean-up is conducted by trained personnel only. 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. 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. Ensure all containers are labeled. Keep the containers closed when not in use. Do not breathe vapors/gases/dust. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

#### STORAGE CONDITIONS :

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

#### 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.

#### 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: Particulate filter - HEPA. with a Particulate pre-filter. 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.



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### 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 :

When handling this product, the use of a chemical resistant suit and rubber boots is recommended.

### EYE PROTECTION :

Wear chemical splash goggles.

### 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.

### HUMAN EXPOSURE CHARACTERIZATION :

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	None
SPECIFIC GRAVITY	1.02 @ 68 °F / 20 °C
DENSITY	8.5 - 8.6 lb/gal
SOLUBILITY IN WATER	Complete
pH (1 %)	6.7
VISCOSITY	3.0 cps @ 60 °F / 15.6 °C
FREEZING POINT	28 °F / -2 °C
VAPOR PRESSURE	12 mm Hg @ 68 °F / 20 °C
VOC CONTENT	0.17 % 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 will not occur.



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### CONDITIONS TO AVOID :

At temperatures below 4 °C (40 °F), this product loses its stability and forms precipitates. Once formed, the precipitate cannot be resolubilized and loss of product activity will occur.

### 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. Nitrites

### HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of nitrogen

## 11. TOXICOLOGICAL INFORMATION

The following results are for the product.

### ACUTE ORAL TOXICITY :

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

### ACUTE DERMAL TOXICITY :

Species	LD50	Test Descriptor
Rabbit	> 2,000 mg/kg	Product
Rating : Non-Hazardous		

### PRIMARY SKIN IRRITATION :

Draize Score	Test Descriptor
0.2 / 8.0	Product
Rating : Minimally irritating	

### PRIMARY EYE IRRITATION :

Draize Score	Test Descriptor
0.3 / 110.0	Product
Rating : Practically non-irritating	

### 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



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### 12. ECOLOGICAL INFORMATION

#### ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

#### ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	360 mg/l	Product
Bluegill Sunfish	96 hrs	190 mg/l	Product
Fathead Minnow	96 hrs	400 mg/l	Product

#### ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	96 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.

#### 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: Moderate

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

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

### 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it 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.



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### 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 :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	HYDRAZINE
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
Flash Point :	None
DOT Reportable Quantity (per package) :	30,670 lbs
DOT RQ Component :	HYDRAZINE

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

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	HYDRAZINE
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
IATA Cargo Packing Instructions :	914
IATA Cargo Aircraft Limit :	NO LIMIT (Max net quantity per package)

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

Proper Shipping Name :	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
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### 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.

Carbohydrazide : Dermal Sensitizer



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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  
Hydrazine

RQ  
30,670 lbs

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :

This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

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

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 :

None of the substances are specifically listed in the regulation.

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:

Substance(s)	Citations
• Hydrazine	Sec. 112





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### CALIFORNIA PROPOSITION 65 :

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

Substance(s)	Concentration	EFFECTS
• Hydrazine	<= .01 %	Causes Cancer

### MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

### STATE RIGHT TO KNOW LAWS :

None of the substances are specifically listed in the regulation.

### NATIONAL REGULATIONS, CANADA :

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

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

#### WHMIS CLASSIFICATION :

D2B - Materials Causing Other Toxic Effects - Toxic Material

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

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

#### 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.

##### 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)

##### 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).



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### 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.

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.



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

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Prepared By : Product Safety Department  
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