

**PALOMAR ENERGY PROJECT**

ATTACHMENT 40-1

MATERIAL SAFETY DATA SHEET



**Appearance/Odor:** COLORLESS LIQUID / PH (AT 1%): 6.7, ASTM E-70 /  
DENSITY: 8.5 - 8.6 LBS/GAL.

**Physical State:** Liquid

**Hazard Rating A:** HMIS Internal Rating: Health = 1 Flammability = 0  
Reactivity = 0

**Personal Protective Equipment:** Goggles, CR Gloves (Depends on Use)

**Target Organs** According to Consultant

**Target Organ 1:** EYES

**Target Organ 2:** SKIN

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## Fire and DOT Data

**Flash Point Closed:** NOTE: NONE (PMCC), ASTM D-93.

**Preparer Information:** WILLIAM S. UTLEY, PH.D., DABT, MANAGER,  
PRODUCT SAFETY

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## Component Data

**Component:** CARBOHYDRAZIDE

**Cas No:** 497187

**Component:** WATER

**Cas No:** 7732185

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## SECTION 01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** ELIMIN-OX OXYGEN SCAVENGER

**TRADE NAME:** ELIMIN-OX OXYGEN SCAVENGER

**DESCRIPTION:** An aqueous solution of a modified amino compound

**NFPA 704M/HMIS RATING:**

**HEALTH:** 1/1

**FLAMMABILITY:** 0/0

**REACTIVITY:** 0/0

**OTHER:** 0

0=INSIGNIFICANT 1=SLIGHT 2=MODERATE 3=HIGH 4=EXTREME

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

MANUFACTURER'S NAME AND ADDRESS:

NALCO CHEMICAL COMPANY  
ONE NALCO CENTER  
NAPERVILLE, ILLINOIS 60563-1198  
(630) 305-1000

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## SECTION 02 COMPOSITION AND INFORMATION ON INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

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## SECTION 03 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

**CAUTION:** May cause skin irritation. Avoid contact with skin and clothing. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Non-irritating

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

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

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## SECTION 04 FIRST AID INFORMATION

**EYES:** Flush with water for 15 minutes.

**SKIN:** Flush with water for 15 minutes.

**INGESTION:** Induce vomiting. Give water. Call a physician.

**INHALATION:** Remove to fresh air. Treat symptoms. Call a physician.

**NOTE TO PHYSICIAN:** Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

**CAUTION:** If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

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## SECTION 05 FIRE FIGHTING MEASURES

**FLASH POINT:** None (PMCC) ASTM D-93

**EXTINGUISHING MEDIA:** Not applicable

**UNUSUAL FIRE AND EXPLOSION HAZARD:** May evolve NO<sub>x</sub> under fire conditions. Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to a rupture.

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## SECTION 06 ACCIDENTAL RELEASE MEASURES

**IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT or (800) 462-5378.**

**SPILL CONTROL AND RECOVERY:**

**SMALL LIQUID SPILLS:** Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.

**LARGE LIQUID SPILLS:** Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8.

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## SECTION 07 HANDLING AND STORAGE

**STORAGE:** Keep container closed when not in use.

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## SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

**RESPIRATORY PROTECTION:** Respiratory protection is not normally needed since the volatility and toxicity are low. If significant vapors, mists or aerosols are generated, wear a NIOSH approved or equivalent respirator.

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

**VENTILATION:** General ventilation is recommended.

**PROTECTIVE EQUIPMENT:** Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

The availability of an eye wash fountain and safety shower is recommended.

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

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

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## SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

FLASH POINT: None (PMCC) ASTM D-93

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

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## SECTION 10 STABILITY AND REACTIVITY

INCOMPATIBILITY: Avoid mineral acids and nitrites.

Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

STORAGE: Store at temperatures below 120 Degrees F and above 40 Degrees F. At temperatures below 40 Degrees F, this product loses its stability and form precipitates. Once formed, the precipitate cannot be resolubilized and loss of product activity will occur.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO<sub>2</sub>, NO<sub>x</sub> may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

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## SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have been conducted on this product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD<sub>50</sub> = Greater than 5 g/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD<sub>50</sub> = Greater than 2 g/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING: 0.23/8.0 Minimal irritation

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: 0.33/110.0 Practically non-irritating

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

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## SECTION 12 ECOLOGICAL INFORMATION

**AQUATIC DATA:** Results below are based on the product.

96 hour static acute LC50 to Bluegill Sunfish = 190 ppm

96 hour static acute LC50 to Rainbow Trout = 360 ppm

96 hour static acute LC50 to Fathead Minnow = 400 mg/L

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

48 hour static acute LC50 to Daphnia magna = 96 mg/L

48 hour no observed effect concentration is 20 mg/L based on no mortality or abnormal effects.

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

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:

Based on our Hazard Characterization, the potential environmental hazard is: **MODERATE.**

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

**LOW.**

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## SECTION 13 DISPOSAL INFORMATION

**DISPOSAL:** If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D).

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with local, state and

federal regulations.

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## SECTION 14 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

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## SECTION 15 REGULATORY INFORMATION

The following regulations apply to this product.

### FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: Based on our hazard evaluation, this product is not hazardous.

CERCLA, 40 CFR 117, 302: Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) -

SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

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

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

not contain ingredients on the List of Toxic Chemicals.

**TOXIC SUBSTANCES CONTROL ACT (TSCA):** The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

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

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:**  
Consult Section 13 for RCRA Classification.

**FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (FORMERLY SEC. 307) 40 CFR 116 (FORMERLY SEC. 311):** None of the ingredients are specifically listed.

**CLEAN AIR ACT, SEC. 111 (40 CFR 60), SEC. 112 (40 CFR 61, 1990 AMENDMENTS), SEC. 611 (40 CFR 82, CLASS I AND II OZONE DEPLETING SUBSTANCES):** This product does not contain ingredients covered by the Clean Air Act.

**STATE REGULATIONS:**

**CALIFORNIA PROPOSITION 65:** Hydrazine is known to the State of California to cause cancer. This product contains levels of hydrazine as an impurity at less than 0.01%.

**MICHIGAN CRITICAL MATERIALS:** This product does not contain ingredients listed on the Michigan Critical Materials Register.

**STATE RIGHT TO KNOW LAWS:** The following ingredient(s) are disclosed for compliance with State Right To Know Laws:

Carbohydrazide 497-18-7  
Water 7732-18-5

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

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## SECTION 16 OTHER INFORMATION

None

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## SECTION 17 RISK CHARACTERIZATION

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

The human risk is: LOW.  
The environmental risk is: LOW

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

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

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## SECTION 18 REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (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.  
(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).

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety  
and Health, Cincinnati, Ohio  
(CD-ROM version), Micromedex, Inc., Englewood, CO.

Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood,  
CO.

Suspect Chemicals Sourcebook (a guide to industrial chemicals covered under major regulatory  
and advisory programs),  
Roytech Publications (a Division of Arici Corporation), Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM  
version), Micromedex, Inc.,  
Englewood, CO.

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DATE CHANGED: 08/12/1997

DATE PRINTED: 03/28/1999

HAZMIN Version: 3 / Last Edited on 03/15/2002 4:04:34 PM

Report: 03/28/2002 4:50:47 PM

**HAZMIN**

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