



SAFETY DATA SHEET

PRODUCT

NALCO® 8338

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO® 8338**

APPLICATION : CLOSED SYSTEM CORROSION INHIBITOR

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

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

NFPA 704M/HMIS RATING

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

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

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

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING

Contains sodium nitrite. May be harmful or fatal if swallowed. Substances in the product can lead to the formation of methemoglobin. Unborn children are particularly sensitive to methemoglobinemia. May cause skin and eye irritation. Do not get in eyes, on skin, on clothing. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. If swallowed, seek medical advice immediately and show this container or label. Protect product from freezing.

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

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

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin



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HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Can cause mild to moderate irritation.

SKIN CONTACT :

Can cause mild irritation.

INGESTION :

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

INHALATION :

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

SYMPTOMS OF EXPOSURE :

Acute :

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

Chronic :

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

AGGRAVATION OF EXISTING CONDITIONS :

Sodium Nitrite. Pregnant women are particularly sensitive to methemoglobinemia.

HUMAN HEALTH HAZARDS - CHRONIC :

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

4. FIRST AID MEASURES

EYE CONTACT :

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

SKIN CONTACT :

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

INGESTION :

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

INHALATION :

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

NOTE TO PHYSICIAN :

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



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5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :

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

FIRE AND EXPLOSION HAZARD :

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

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

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :

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

METHODS FOR CLEANING UP :

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

ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :

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

STORAGE CONDITIONS :

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :

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



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ENGINEERING MEASURES :

General ventilation is recommended.

RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

HAND PROTECTION :

Neoprene gloves Nitrile gloves Butyl gloves PVC gloves

SKIN PROTECTION :

Wear standard protective clothing.

EYE PROTECTION :

Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :

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

HUMAN EXPOSURE CHARACTERIZATION :

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

9. PHYSICAL AND CHEMICAL PROPERTIES

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

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

10. STABILITY AND REACTIVITY

STABILITY :

Stable under normal conditions.

HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.



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CONDITIONS TO AVOID :

Freezing temperatures.

MATERIALS TO AVOID :

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

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

The following results are for the active components.

ACUTE ORAL TOXICITY :

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

CARCINOGENICITY :

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

TERATOGENICITY AND EMBRYOTOXICITY :

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

HUMAN HAZARD CHARACTERIZATION :

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

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

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

ACUTE INVERTEBRATE RESULTS :

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

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For additional copies of an MSDS visit www.nalco.com and request access



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Ceriodaphnia dubia	48 hrs	138 mg/l	Product
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PERSISTENCY AND DEGRADATION :

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

Biological Oxygen Demand (BOD) :

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

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.

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.



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

AIR TRANSPORT (ICAO/IATA) :

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

MARINE TRANSPORT (IMDG/IMO) :

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

15. REGULATORY INFORMATION

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.



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

CERCLA/SUPERFUND, 40 CFR 117, 302 :

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

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

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

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

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

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

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

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

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

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

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

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

TOXIC SUBSTANCES CONTROL ACT (TSCA) :

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

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

NSF Registration number for this product is : 141519

This product is acceptable for treating boilers, steam lines, and/or cooling systems where neither the treated water nor the steam produced may contact edible products in and around food processing areas, excluding such use in areas where meat and poultry are processed (G10).



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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. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Sodium Nitrite	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) :

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :

Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :

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

Sodium Nitrate	7631-99-4
Sodium Nitrite	7632-00-0
Sodium Tolyltriazole	64665-57-2
Sodium Hydroxide	1310-73-2
Water	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 :

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

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

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



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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 Provisions on the Environmental Administration of New Chemical Substances 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 Existing and New Chemical Substances list (ENCS).

KOREA

This product contains substance(s) which are not in compliance with the Toxic Chemical Control Law (TCCL) and may require additional review.

NEW ZEALAND

All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

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:

* 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



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

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

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

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

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

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

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

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

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

Prepared By : Product Safety Department

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