



# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO® 2548**

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

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO® 2548**

APPLICATION : OXYGEN SCAVENGER

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

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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	10.0 - 30.0
	Potassium Bisulfite	7773-03-7	1.0 - 5.0

## 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. May evolve hydrogen sulfide (H2S) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :  
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :  
Can cause mild irritation.

SKIN CONTACT :  
Can cause mild irritation.



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### 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 :

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 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 :

Not expected to burn. Use extinguishing media appropriate for surrounding fire. Keep containers cool by spraying with water.



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### FIRE AND EXPLOSION HAZARD :

May evolve oxides of sulfur (SO<sub>x</sub>) under fire conditions. May evolve hydrogen sulfide (H<sub>2</sub>S) 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 :

Store the containers tightly closed. Store in suitable labelled containers. Store separately from acids. Store separately from oxidizers. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles.

### SUITABLE CONSTRUCTION MATERIAL :

Polypropylene, Buna-N, EPDM, Polyethylene, Polyurethane, PVC, Neoprene, Hypalon, Viton

### UNSUITABLE CONSTRUCTION MATERIAL :

Brass, Mild steel, Stainless Steel 304, Stainless Steel 316L, 100% phenolic resin liner, Epoxy phenolic resin



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### 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. 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. An acid gas cartridge may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

#### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, 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



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Clear Pink
ODOR	Pungent
SPECIFIC GRAVITY	1.22 - 1.28 @ 60 °F / 15.6 °C
DENSITY	10.1 - 10.7 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	3.5 - 4.1
VISCOSITY	5 cps @ 60 °F / 15 °C
FREEZING POINT	11 °F / -11 °C
BOILING POINT	205 °F / 96 °C
VOC CONTENT	0 % Calculated

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

### 10. STABILITY AND REACTIVITY

**STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. 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, Hydrogen sulfide (H<sub>2</sub>S)

### 11. TOXICOLOGICAL INFORMATION

The following results are for a similar product.

**ACUTE ORAL TOXICITY :**

Species	LD50	Test Descriptor
Rat	4,112 mg/kg	Similar Product
Rating :	Non-Hazardous	





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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

The product will not 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: 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 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 :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	SODIUM BISULFITE
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
Flash Point :	None



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DOT Reportable Quantity (per package) : 18,350 lbs  
DOT RQ Component : SODIUM BISULFITE

## AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
Technical Name(s) : SODIUM BISULFITE  
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

## 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  
Potassium Bisulfite : 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	18,000 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



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- 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

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.

**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	7631-90-5
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**NATIONAL REGULATIONS, CANADA :**



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WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

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

WHMIS CLASSIFICATION :

D2B - Materials Causing Other Toxic Effects - Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

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

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).

This product's trade name is registered with the Chemical Registration Center (CRC) , Beijing.

EUROPE

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

JAPAN

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

KOREA

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

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

NEW ZEALAND

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

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

F100777

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:



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\* 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.

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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