



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2398

EMERGENCY TELEPHONE NUMBER(S)

See section 16, for Emergency Telephone Numbers.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO 2398**

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

EMERGENCY TELEPHONE NUMBER(S) : See section 16, for Emergency Telephone Numbers.

Date issued : 07.09.2004
Version Number : 1.2

COMPANY CONTACT TELEPHONE NUMBERS.

NALCO EUROPE B.V.	+31 71 5241 100		
IWC GmbH (A)	+43 (0)1 600 29 11	NALCO HELLAS S.A. (GR)	+30 210 238 9620
NALCO AB (SE)	+46 (0)8-50074000	NALCO ITALIA S.R.L. (I)	+39 06-542971
NALCO ANADOLU KIMYA (TR)	+90 216 5743464	NALCO Kft. (HU)	+36 (0)1 471 91 81
NALCO APPLIED SERVICES OF EUROPE BV	+31 (0)73 6456980	NALCO LIMITED	+44 (0)1606 74488
NALCO BELGIUM N.V./S.A. (B)	+32 (0)3-450 69 10	NALCO NETHERLANDS B.V.	+31 (0)13-5952200
NALCO DANMARK A/S	+45-48195800	NALCO NORGE AS (NO)	+47 51 96 36 00
NALCO DEUTSCHLAND GmbH (D)	+49 (0)69-79340	NALCO ÖSTERREICH Ges.m.b.H. (A)	+ 43(0)1 27026350
NALCO ESPAÑOLA S.A. (E)	+34 93-4095555	NALCO POLSKA Sp.z.o.o. (PL)	+48 (0)32-3262750
NALCO FINLAND OY (FI)	+358 (0)207 490 200	NALCO PORTUGUESA LDA. (P)	+351 214130996
NALCO FRANCE SAS	+33 (0)3 20 11 70 00	WYSS WASSERTECHNIK AG (CH)	+41 (0)52 235 38 38

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC.

Hazardous Substance(s)	EINECS / ELINCS NO	SYMBOL	R-PHRASES / NOTAS	% (w/w)
Piperazine	203-808-3	C	R34, R42/43, R52/53	1.0 - 5.0

Refer to Section 16 for descriptions of relevant risk phrases and Notas.

3. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION :

This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC.

May cause sensitization by inhalation and skin contact.

HUMAN HEALTH HAZARDS - ACUTE :

INHALATION :

Not a likely route of exposure. May cause irritation of mucous membranes.

SKIN CONTACT :

May cause irritation with prolonged contact. May cause sensitization by skin contact.



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EYE CONTACT :

May cause irritation with prolonged contact.

INGESTION :

Not a likely route of exposure. There may be irritation to the gastro-intestinal tract.

4. FIRST AID MEASURES

INHALATION :

Remove to fresh air, treat symptomatically. 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.

EYE CONTACT :

Immediately flush eye with water for at least 15 minutes while holding eyelids open. If symptoms develop, seek medical advice.

INGESTION :

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.

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 flammable

EXTINGUISHING MEDIA :

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

FIRE AND EXPLOSION HAZARD :

Not flammable or combustible.

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.



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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 labelled. Do not mix with acids.

STORAGE CONDITIONS :

Store in suitable labelled containers. Store the containers tightly closed. Store separately from acids.

For specific dosages and customized applications please contact your Nalco representative.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

This product contains amorphous, colloidal or fumed silica. Should the product become dried or misted such that inhalation of the material is possible, standard hygiene practices should be utilized to ensure that exposure to respirable particles is within the regulated limits.

Country/Source	Substance(s)	Category:	ppm	mg/m3
_____BELGIUM	Colloidal Silica (Respirable fraction.)	TWA		3
	Colloidal Silica (Inhalable fraction.)	TWA		10
	Piperazine	TWA STEL		0.1 0.3
DENMARK	Piperazine as piperazine	GV	0.003	0.1
	Piperazine	GV	0.003	
		TWA STEL		0.1 0.3
FINLAND	Piperazine	HTP 8H	0.028	0.1
		HTP 15MIN	0.084	0.3
		TWA		0.1
		STEL		0.3
FRANCE	Piperazine	TWA		0.1
		STEL		0.3
		VME		0.1
		VLE		0.3
GERMANY	Colloidal Silica (Inhalable fraction.)	MAK		4
	Piperazine	MAK		0.1
		TWA STEL		0.1 0.3
IRELAND	Colloidal Silica (Total inhalable dust.)	TWA		6
	Colloidal Silica (Respirable dust.)	TWA		2.4
	Piperazine	TWA		0.1
		STEL		0.3
		TWA		0.1
STEL			0.3	
ITALY	Colloidal Silica (Inhalable particulate.)	TWA		10
	Colloidal Silica (Respirable.)	TWA		3



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	Colloidal Silica (Respirable particles.)	TWA		3
	Piperazine	TWA		0.1
		STEL		0.3
		TWA		0.1
		STEL		0.3
NETHERLANDS	Piperazine	MAC TGG		0.1
		MAC-TGG		0.3
		15		
		TWA		0.1
		STEL		0.3
NORWAY	Colloidal Silica (Respirable dust)	ADM. NORM		1.5
	Piperazine	ADM. NORM	0.1	0.3
		TWA		0.1
		STEL		0.3
SPAIN	Colloidal Silica (Inhalable fraction.)	VLA-ED		10
	Colloidal Silica (Respirable fraction.)	VLA-ED		3
		VLA-ED		3
	Colloidal Silica (Inhalable fraction.)	VLA-ED		10
	Piperazine	VLA-ED		0.1
		VLA-EC		0.3
		TWA		0.1
		STEL		0.3
SWEDEN	Piperazine	NGV	0.1	0.3
		KTV	0.3	1
		TWA		0.1
		STEL		0.3
SWITZERLAND	Colloidal Silica (Inhalable dust)	TWA		4
	Piperazine	TWA		0.1
		STEL		0.3
GREAT BRITAIN	Colloidal Silica (Respirable dust)	TWA		2.4
	Colloidal Silica (Total inhalable dust.)	TWA		6
	Piperazine	TWA		0.1
		STEL		0.3
		TWA		0.1
		STEL		0.3

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

MONITORING MEASURES :

A small volume of air is drawn through an absorbant or barrier to trap the substance(s) which can then be desorbed or removed and analyzed as referenced below:

Substance(s)	Method	Analysis	Absorbant
Colloidal Silica	UK MDHS: 14	Gravimetry	Glass fibre filter
Piperazine	US OSHA: CIM	Gas chromatography	Glass fibre filter

ENGINEERING MEASURES :

General ventilation is recommended.



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PERSONAL PROTECTION

GENERAL ADVICE :

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields. The applicable European standard can be found in EN 166.

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. The applicable European standard can be found in EN 141, EN 143 and EN 371. Consider the use of filter type: A-B-E-K-P 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., The applicable European standard can be found in EN 374.

SKIN PROTECTION :

When handling this product, the use of a chemical resistant suit and rubber boots is recommended. The applicable European standard can be found in EN 467 and EN 345.

EYE PROTECTION :

Wear chemical splash goggles. The applicable European standard can be found in EN 166.

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	Translucent
ODOR	None
FLASH POINT :	Not flammable
SPECIFIC GRAVITY	1 (25 °C)
SOLUBILITY IN WATER	Complete
VAPOR PRESSURE	2.13 kPa (25 °C)

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



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10. STABILITY AND REACTIVITY

STABILITY :

Stable under normal conditions.

HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.

CONDITIONS TO AVOID :

None known

MATERIALS TO AVOID :

Strong acids Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION :

May cause sensitization by inhalation and skin contact.

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).

For additional information on the hazard of the preparation, please consult section 3 and 12.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this 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%	30 - 50%

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

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13. DISPOSAL CONSIDERATIONS

If this preparation becomes a waste, the final user must define and assign the appropriate European Waste Catalogue code. Use only authorized contractors. Ensure compliance with EC, national and local regulations.

This product is suitable for disposal in an approved landfill or by controlled incineration. This product will generate an ash if burned. It can be burned directly in appropriate equipment. This product is NOT suitable for disposal via municipal sewers, drains, natural streams or rivers.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

EUROPE WASTE CODE :

If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code.

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 :

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

CLASSIFICATION AND LABELLING :

GOVERNING DIRECTIVE(S): Dangerous Substances Directive 67/548/EEC and Dangerous Preparations Directive 1999/45/EC.

HAZARD SYMBOLS





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HARMFUL

Contains...Piperazine

RISK PHRASES

R42/43 - May cause sensitization by inhalation and skin contact.

SAFETY PHRASES

S23C - Do not breathe vapor.

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 - After contact with skin, wash immediately with plenty of water.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

NATIONAL REGULATIONS GERMANY

WGK 1

INTERNATIONAL CHEMICAL CONTROL LAWS

UNITED STATES

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

CANADA :

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.

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).

16. OTHER INFORMATION

RELEVANT RISK PHRASES AND NOTAS

R34 - Causes burns.

R42/43 - May cause sensitization by inhalation and skin contact.

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.

EMERGENCY TELEPHONE NUMBER(S)

Trans-European	+32-(0)3-575-5555
Belgium / Luxembourg	+32-(0)3-575-0330
Czech Republic	+420-602-669421
Denmark	+47-(0)22-33-69-99
Finland	+358-(0)9-4711

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France / French Switzerland	+33-(0)6-11-07-32-81
Germany / Austria / German Switzerland	+49-(0)6232-130128
Hungary	+36-30-9-506-447
Italy / Italian Switzerland	+39-333-210-7947
The Netherlands	+32-(0)3-575-0330
Norway	+47-(0)22-33-69-99
Poland	+48-(0)601-66-2626
Portugal	+351-91-911-1399
Russia / Belarus	+7-812-449-0474
Slovak Republic	+421-(0)905-585-938
Spain	+39-9-77-551577
Sweden	+47-(0)22-33-69-99
UAE	+44-(0)7071-223-738
UK and Republic of Ireland	+44-(0)7071-223-738
Nalfleet International	+32-(0)3-575-5555

POISON CONTROL CENTER TELEPHONE NUMBERS

Belgium	+32-70-245245
France	+33-(0)145-42-59-59 ORFILA

Prepared By : Product Safety Department

Date issued : 07.09.2004

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REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the MSDS.