



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : STABREX® ST70
APPLICATION : MICROORGANISM CONTROL CHEMICAL
CHEMICAL DESCRIPTION : Alkaline liquid bromine antimicrobial, in aqueous solution
COMPANY IDENTIFICATION : ONDEO Nalco Company
ONDEO Nalco Center
Naperville, Illinois
60563-1198
EMERGENCY TELEPHONE NUMBER : (800)424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH: 3/3 FLAMMABILITY: 0/0 REACTIVITY: 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 Hydroxide	1310-73-2	1.0 - 5.0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER

CORROSIVE. CAUSES SEVERE EYE AND SKIN INJURY. HARMFUL IF INHALED. HARMFUL IF SWALLOWED.

Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Remove and wash contaminated clothing before reuse. Wash thoroughly after handling.

May evolve hydrogen bromide and bromine under fire conditions. May evolve HCl under fire conditions. May evolve chlorine under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Corrosive. Will cause eye burns and permanent tissue damage.

ONDEO Nalco Company ONDEO Nalco Center • Naperville, Illinois 60563-1198

(630)305-1000

1 / 11



JUN 06 2002

MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

SKIN CONTACT :

May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered.

INGESTION :

Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach.

INHALATION :

Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.

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.

4. FIRST AID MEASURES

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Call a physician.

IF ON SKIN: Immediately wash with soap and plenty of water. Remove contaminated clothing and wash before reuse. Get medical attention if irritation persists.

IF SWALLOWED: Drink large quantities of water. Do not induce vomiting. Call a physician or poison control immediately.

^Take container, label or product name and Pest Control Product registration number with you when seeking medical attention.

NOTE TO PHYSICIAN :

Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

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 hydrogen bromide and bromine under fire conditions. May evolve HCl under fire conditions. May evolve chlorine under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

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: Contain and absorb with sand or vermiculite and mix well. Collect up and remove to a safe place until disposal. Wash site of spillage thoroughly with water. Assistance can be obtained from waste disposal companies. **LARGE SPILLS:** Dike to prevent further movement. Recover by pumping or by using a suitable absorbent. Reclaim into recovery or salvage drums. 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 :

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Apply this pesticide only as specified on the label.

7. HANDLING AND STORAGE

HANDLING :

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

STORAGE CONDITIONS :

Store the containers tightly closed. Store away from incompatible materials. Store in suitable labelled containers.

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.

ACGIH/TLV :

Substance(s)

Sodium Hydroxide

CEILING: 2 mg/m3



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

OSHA/PEL :

Substance(s)

Sodium Hydroxide

CEILING: 2 mg/m³

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. A dust, mist, fume 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 :

PVC gloves, Rubber gloves, Neoprene gloves, Nitrile gloves, Butyl gloves, Viton# gloves

SKIN PROTECTION :

Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. A full slicker suit is recommended if gross exposure is possible.

EYE PROTECTION :

Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :

Eye wash station and safety shower are necessary. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

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 Clear Light yellow

ODOR None

SPECIFIC GRAVITY 1.32 - 1.36 @ 77 °F / 25 °C

DENSITY 11.0 - 11.3 lb/gal

SOLUBILITY IN WATER Complete

pH (100 %) 13

FREEZING POINT 17 °F / -8.3 °C

VAPOR PRESSURE 7.7 mm Hg, 27 mm Hg @ 77 °F, 115 °F /

VOC CONTENT 0.00 %



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

10. STABILITY AND REACTIVITY

STABILITY :

Stable under normal conditions.

HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.

CONDITIONS TO AVOID :

Avoid storing in direct sunlight to prevent UV degradation of product and subsequent generation of N2.

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. Contact with organic materials (e.g. rags, sawdust, hydrocarbon oils or solvents) and avoid reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) which can generate heat, fires, explosions and the release of toxic fumes. Do not mix with any sodium hypochlorite or bleach product. Resulting mixture will result in a violent exothermic reaction releasing large amounts of nitrogen gas and liquid sulfuric acid.

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Chlorine gas, HCl, Bromine, Hydrogen bromide

11. TOXICOLOGICAL INFORMATION

The following results are for a similar product.

ACUTE ORAL TOXICITY :

Species	LD50	Tested Substance
Rat	< 5,000 mg/kg	Similar Product

PRIMARY SKIN IRRITATION :

Draize Score	Tested Substance
7.9 / 8.0	Similar Product

Rating : Extremely irritating (Corrosive)

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



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Tested Substance
Rainbow Trout	96 hrs	4.5 mg/l	Product
Sheepshead Minnow	96 hrs	16 mg/l	Product
Fathead Minnow	96 hrs	8.3 mg/l	Product

Rating : Toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Tested Substance
Daphnia magna	48 hrs		4.2 mg/l	Product
Mysid Shrimp (A. bahia)	96 hrs	27 mg/l		Product
Ceriodaphnia dubia	48 hrs	1.6 mg/l		Product

Rating : Toxic

CHRONIC INVERTEBRATE RESULTS :

Species	Test Type	IC25	End Point	Tested Substance
Ceriodaphnia dubia	3 Brood	15.6 mg/l	Survival	Product

PERSISTENCY AND DEGRADATION :

Biological Oxygen Demand (BOD) : This material is an oxidizing biocide and is not expected to persist in the environment.

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: Moderate

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

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.



JUN 06 2002

MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

METAL CONTAINERS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. PLASTIC CONTAINERS: Do not reuse empty container. Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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:

LAND TRANSPORT :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE, ALKALINE LIQUID BROMINE ANTIMICROBIAL
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	II
Flash Point :	None
DOT Reportable Quantity (per package) :	35,000 lbs
DOT RQ Component :	SODIUM HYDROXIDE

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	SODIUM HYDROXIDE, ALKALINE LIQUID BROMINE ANTIMICROBIAL
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	II
IATA Cargo Packing Instructions :	812
IATA Cargo Aircraft Limit :	30 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, ALKALINE LIQUID BROMINE ANTIMICROBIAL
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	II

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :



MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

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 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. 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

Sodium Hydroxide

RQ

35,000 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 EPA hazard categories:

- X Immediate (Acute) Health Hazard
- 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) :

This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :

When use situations necessitate compliance with FDA regulations, this product is acceptable under : the following use conditions.

This product may be employed in the treatment of papermill influent water systems in plants where paper or paperboard destined for food contact purposes is manufactured as long as the bromide ion concentration in the water is no greater than 22 ppm.



JUN 06 2002

MATERIAL SAFETY DATA SHEET

PRODUCT

STABREX® ST70

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

U.S. DEPARTMENT OF AGRICULTURE (USDA) :

USDA Inspection and Grading Programs - Food Safety and Inspection Service:

This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category : G5, G7

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :

EPA Reg. No. 1706-179, 1706-179

This product is registered for use as a microorganism control chemical used in: , Pulp and Papermill Systems, Brewery Pasteurizers, Air Washer Systems, Heat transfer systems, The active ingredients in this formulation (sodium hypochlorite and sodium bromide), react in situ to form a stabilized alkaline bromine antimicrobial. In all cases follow instructions on the product label.

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 / formerly Sec. 311 :

This product contains the following substances listed in the regulation:

<u>Substance(s)</u>	<u>Citations</u>
Sodium Hydroxide :	Sec. 311

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), 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 :

This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

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 :

Pesticide controlled products are not regulated under WHMIS.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

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

**MATERIAL SAFETY DATA SHEET**

PRODUCT

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

16. OTHER INFORMATION

Nalco: EHS2818, F105047/104688

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: 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

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.



MATERIAL SAFETY DATA SHEET

PRODUCT:

STABREX® ST70

JUN 06 2002

EMERGENCY TELEPHONE NUMBER

(800)424-9300 (24 Hours) CHEMTREC

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

Date issued : 09/13/1999

Replaces : 02/15/1999