

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATIONPRODUCT NAME : **STABREX® ST70**APPLICATION : **MICROORGANISM CONTROL CHEMICAL**

COMPANY IDENTIFICATION :

CHINA :	NALCO INDUSTRIAL SERVICES (SUZHOU) CO LTD	TEL: 86-512-68255001	FAX: 86-512-68250130
INDIA :	NLC NALCO INDIA LIMITED	TEL: 9133 2674 0395	FAX: 91-33-22296858
INDONESIA :	PT. NALCO INDONESIA	TEL: 62-21-8753175	FAX: 62-21-8753167
MALAYSIA :	NALCO INDUSTRIAL SERVICES MALAYSIA SDN BHD	TEL: 603-5569 4118	FAX: 603-5569 5955
PHILIPPINES :	NALCO PHILIPPINES INC.	TEL: 63-49-5451550	FAX: 63-49-5453442
SINGAPORE :	NALCO PACIFIC PTE LTD	TEL: 65- 6505-6868	FAX: 65-6862 0850
THAILAND :	NALCO INDUSTRIAL SERVICES (THAILAND) CO LTD	TEL: 66-38-955-160	FAX: 66-38-955-166

Date issued : 29.10.2009

Version Number : 1.3

See Section 16 for address information.

EMERGENCY TELEPHONE NUMBER(S) : For local telephone numbers, refer to Section 16.
International Emergency Number: + 65 6542 9595**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).

CHEMICAL NAME	CAS NO	% (w/w)
Sodium Hypochlorite	7681-52-9	5 - 10
Sodium Hydroxide	1310-73-2	1 - 5

The balance of the substances in this product are not classified as hazardous or are present below hazard cut-off limits

3. HAZARDS IDENTIFICATION

HUMAN HEALTH HAZARDS - ACUTE

EYE CONTACT

Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT

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

INGESTION

Corrosive, causes burns to gastro-intestinal tract. Nausea, vomiting and stomach pain may occur. In severe cases blood may be vomited.

INHALATION

Corrosive to respiratory system.

HUMAN HEALTH HAZARDS - CHRONIC :

No adverse effects expected other than those mentioned above.

ENVIRONMENTAL HAZARDS :

This product may pose a risk to the aquatic ecosystem if released.

PHYSICAL AND CHEMICAL HAZARDS :

Contact with acids liberates toxic gas.

4. FIRST AID MEASURES**EYE CONTACT :**

PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open. If only one eye is affected be sure to use care not to contaminate the other eye with the run-off. Get immediate medical attention.

SKIN CONTACT :

PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use.

INGESTION :

Get immediate medical attention. DO NOT INDUCE VOMITING. Do not give anything to drink.

INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :

Probable mucosal damage may contraindicate the use of gastric lavage. 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 :

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) and sulfur (SOx) under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

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

SENSITIVITY TO STATIC DISCHARGE :

Not expected to be sensitive to static discharge.

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). Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. 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. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations). Do not clean up spills with sawdust, cotton waste or other combustible absorbent materials.

ENVIRONMENTAL PRECAUTIONS :

This product is toxic to fish and other water organisms. Do not discharge directly into lakes, ponds, streams, waterways or public water supplies., If drains, streams, soil or sewers become contaminated, notify local authority.

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 upright. Containers require venting bungs to avoid over pressure. Store the containers tightly closed. Store separately from acids. Store in a cool well ventilated area away from direct sunlight.

SUITABLE CONSTRUCTION MATERIAL :

Polyethylene, Polypropylene, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., HDPE (high density polyethylene), Neoprene, PVC, Polyurethane, Hypalon, Viton

UNSUITABLE CONSTRUCTION MATERIAL :

Brass, Buna-N, EPDM, Stainless Steel 316L, Stainless Steel 304, Mild steel, 100% phenolic resin liner, Epoxy phenolic resin

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.

Country/Source	Substance(s)	Category:	ppm	mg/m3
CHINA	Sodium Hydroxide	MAC		2

HONG KONG	Sodium Hydroxide	CEILING	2
INDIA	Sodium Hydroxide	CEILING	2
INDONESIA	Sodium Hydroxide	Ceiling	2
JAPAN	Sodium Hydroxide	CEILING	2
MALAYSIA	Sodium Hydroxide	CEILING	2
PHILIPPINES	Sodium Hydroxide	TWA	2
SINGAPORE	Sodium Hydroxide	STEL	2
THAILAND	Sodium Hydroxide	TWA	2
USA	Sodium Hydroxide	ACGIH/Ceiling OSHA Z1/PEL	2 2

* 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
Sodium Hydroxide	US NIOSH: 7401	Titration	PTFE filter

ENGINEERING MEASURES :

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

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.

RESPIRATORY PROTECTION :

If significant mists, vapors or aerosols are generated an approved respirator is recommended. Consider the use of filter type: inorganic vapor cartridge with a Particulate pre-filter. 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 Nitrile Natural rubber PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

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 :

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	Clear Light yellow
ODOR	None
pH (100.0 %)	13.0
VAPOR PRESSURE	No data available.
VAPOR DENSITY	No data available.
SPECIFIC GRAVITY	1.32 - 1.36 (25.0 °C)
DENSITY	No data available.
SOLUBILITY IN WATER	Complete
FREEZING POINT	-8.2 °C
BOILING POINT	No data available.
FLASH POINT	Not flammable
LOWER EXPLOSION LIMIT	No data available.
UPPER EXPLOSION LIMIT	No data available.
AUTOIGNITION TEMPERATURE	No data available.

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 :

Extremes of temperature Heat and light which can accelerate decomposition. 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. 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. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Chlorine gas, HCl, Bromine, Hydrogen bromide, Oxides of nitrogen, Oxides of sulfur

11. TOXICOLOGICAL INFORMATION
ACUTE TOXICITY DATA :

No toxicity studies have been conducted on this product.

SENSITIZATION :

This product is not expected to be a sensitizer.

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 2 and 12.

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	4.5 mg/l	Product
Fathead Minnow	96 hrs	8.3 mg/l	Product
Sheepshead Minnow	96 hrs	16 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	4.3 mg/l	4.2 mg/l	Product
Ceriodaphnia dubia	48 hrs	1.6 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	27 mg/l		Product

AQUATIC PLANT RESULTS :

Species	Exposure	EC50/LC50	NOEC	Test Descriptor
Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum)	72 hrs	3.66 mg/l	2.5 mg/l	Product

CHRONIC FISH RESULTS :

Species	Exposure	EC25 / IC25	LOEC	Test Descriptor
Fathead Minnow	7 Days	3.34 mg/l	5 mg/l	Product

CHRONIC INVERTEBRATE RESULTS :

Species	Test Type	EC25 / IC25	End Point	Test Descriptor
Ceriodaphnia dubia	3 Brood	15.6 mg/l	Reproduction	Product

ADDITIONAL ECOLOGICAL DATA

AOX information: Product contains no organic halogens.

MOBILITY AND BIOACCUMULATION POTENTIAL :

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.

This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

13.	DISPOSAL CONSIDERATIONS
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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.

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

NATIONAL REGULATIONS, CHINA

Comply with local regulations.

NATIONAL REGULATIONS, INDIA

Dispose of unused product in accordance with the "Hazardous Wastes (Management and Handling) Rules 1989" and local and State legislation, as applicable.

NATIONAL REGULATIONS, INDONESIA

Dispose of unused product in accordance with "Government Regulation No.85/1999 on Amendment of Government Regulation No. 18/1999 regarding Hazardous and Toxic Waste Management", which also replaces Government Regulation No. 19/1994 and No.12/1995, (and amendments) as applicable.

NATIONAL REGULATIONS, MALAYSIA

Dispose of in accordance with the Environmental Quality (Scheduled Wastes) Regulation 1989 and other guidelines issued by DOE and/or local authorities.

NATIONAL REGULATIONS, PHILIPPINES

Dispose of in accordance with Presidential Decree No. 984-1976 ("The Pollution Control Law"); DENR Department Administrative Order No.29-92 ("The Implementing Rules or Regulations of RA6969") and Presidential Decree No.825.

NATIONAL REGULATIONS, SINGAPORE

Dispose of waste in accordance with the Environmental Health Act (Chapter 95, Rg 11), Environmental Public Health (Toxic Industrial Waste) Regulations 1990 Ed.

NATIONAL REGULATIONS, THAILAND

Dispose of hazardous waste in accordance with the " The Notification of the Ministry of Industry B.E. 2548, subject : Disposal of Wastes or Unusable Materials".

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, Sodium Hypochlorite
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	II
HAZCHEM CODE :	2X

NATIONAL REGULATIONS, CHINA

Comply with local regulations.

NATIONAL REGULATIONS, INDIA

Transport in accordance with the Central Motor Vehicles Rules 1989.

NATIONAL REGULATIONS, INDONESIA

Transport in accordance with all government regulations, including "Regulation of the Minister of Transportation No. 69/1993 on Land Transportation".

NATIONAL REGULATIONS, MALAYSIA

There are no regulations specifically governing the transport of chemicals. Use best practice.

NATIONAL REGULATIONS, PHILIPPINES

Transport in accordance with the following legislation (as applicable): Presidential Decree No. 1185, 1977 ("Fire Code of the Philippines") and implementing rules and regulations; Presidential Decree No. 856, 1975 ("Code of Sanitation"); Republic Act No 6969, 1990 ("Toxic Substances and Hazardous and Nuclear Wastes Control Act") and implementing rules and regulations.

NATIONAL REGULATIONS, SINGAPORE

Land Transport complies with the Environmental Pollution Control (Hazardous Substances) Regulations 1999, which follows the "Specification for Caution Labelling for Hazardous Substances" - Singapore Standard 286 (1984).

NATIONAL REGULATIONS, THAILAND

The product should be transported in accordance with "Hazardous Substances Acts B.E.2535", "Notification of Ministry of Public Health Re: Label and Level of Toxicity of Dangerous Articles Which are Under the Responsibility of Food and Drug Administration 2534 (If applicable)" and "Notification of Land Transportation Department, Subject : Label of truck which contain hazardous material, Notification date : 14 November B.E.2543 (14 November 2000)".

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	Sodium Hydroxide, Sodium Hypochlorite
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)
IATA Passenger Packing Instructions :	Y808 / 808
IATA Passenger Aircraft Limit :	0.5 L / 1 L

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name :	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical Name(s) :	Sodium Hydroxide, Sodium Hypochlorite
UN/ID No :	UN 3266
Hazard Class - Primary :	8
Packing Group :	II
EmS-Nr. :	F-A, S-B

15. REGULATORY INFORMATION
NATIONAL REGULATIONS EUROPE :
HAZARD SYMBOLS

CORROSIVE

Contains...Sodium Hydroxide Sodium Hypochlorite

RISK PHRASES

R31 - Contact with acids liberates toxic gas.

R34 - Causes burns.

NATIONAL REGULATIONS, MALAYSIA :

HAZARD SYMBOLS



CORROSIVE

Contains:..Sodium Hydroxide Sodium Hypochlorite

RISK PHRASES

R31 - Contact with acids liberates toxic gas.

R34 - Causes burns.

SAFETY PHRASES

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.

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

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

INTERNATIONAL REGULATIONS

NFPA RATING

HEALTH : 3 FLAMMABILITY : 0 INSTABILITY : 0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

INTERNATIONAL CHEMICAL CONTROL LAWS

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

UNITED STATES :

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

CANADA :

Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

EUROPE

The substance(s) in this preparation are included in or exempted from 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).

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).

KOREA

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

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).

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.

16. OTHER INFORMATION

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.

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SAFETY DATA SHEET

PRODUCT

STABREX® ST70

PHILIPPINES : 1800 10 8421250
SINGAPORE : 6542 9595
THAILAND : 02-104-0545

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

Prepared By: Nalco Asia Pacific, Safety, Health and Environment (SHE) Specialist