

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATIONPRODUCT NAME : **3D TRASAR® 3DT222**APPLICATION : **COOLING WATER INHIBITOR**

COMPANY IDENTIFICATION :

CHINA :	NALCO (CHINA) ENVIRONMENTAL SOLUTIONS CO LTD.	TEL:	(86-21) 6183 2500	FAX:	(86-21) 6183 2400
INDIA :	NALCO WATER INDIA LIMITED	TEL:	+91 2039394000	FAX:	+91 2039394380
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 : 07.11.2011

Version Number : 1.8

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)
Hydrochloric Acid	7647-01-0	1 - 5
Phosphoric Acid	7664-38-2	1 - 5
Zinc Chloride	7646-85-7	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

Irritating, and may injure eye tissue if not removed promptly.

SKIN CONTACT

Can cause moderate irritation.

INGESTION

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

INHALATION

Not a likely route of exposure. Elevated temperatures or mechanical action may form vapors, mists or fumes which may be irritating to the eyes, nose, throat and lungs.

ENVIRONMENTAL HAZARDS :

Keep out of waterways. This product may pose a risk to the aquatic ecosystem if released.

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 :

DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water. Get immediate medical attention.

INHALATION :

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

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 :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :

Not flammable or combustible. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve HCl 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. 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. 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).

ENVIRONMENTAL PRECAUTIONS :

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment., Prevent material from entering sewers or waterways., 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. 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 labeled. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

STORAGE CONDITIONS :

Store in suitable labeled containers. Store the containers tightly closed. Store separately from bases.

SUITABLE CONSTRUCTION MATERIAL :

The following compatibility data is suggested based on similar product data and/or industry experience:
 , Nitrile, EPDM, Polyethylene, Polypropylene, CPVC (rigid), Plasite 4300

UNSUITABLE CONSTRUCTION MATERIAL :

The following compatibility data is suggested based on similar product data and/or industry experience:
 , Stainless Steel 304, Brass, Neoprene, Fluoroelastomer, Polyurethane, Plasite 7122

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	Hydrochloric Acid	MAC		7.5
	Phosphoric Acid	TWA STEL		1 3
HONG KONG	Hydrochloric Acid	CEILING	5	7.5
	Phosphoric Acid	TWA STEL		1 3

INDIA	Hydrochloric Acid	CEILING	5	7
	Phosphoric Acid	TWA STEL		1 3
INDONESIA	Hydrochloric Acid	Ceiling	5	7.5
	Phosphoric Acid	TWA		1
JAPAN	Hydrochloric Acid	CEILING	5	7.5
	Phosphoric Acid	TWA		1
MALAYSIA	Hydrochloric Acid	CEILING	5	7.5
	Phosphoric Acid	TWA		1
PHILIPPINES	Hydrochloric Acid	CEILING	5	7
	Phosphoric Acid	TWA		1
SINGAPORE	Hydrochloric Acid	STEL	5	7.5
	Phosphoric Acid	TWA STEL		1 3
THAILAND	Hydrochloric Acid	CEILING	5	7
	Phosphoric Acid	TWA		1
USA	Hydrochloric Acid	ACGIH/Ceiling OSHA Z1/Ceiling	2 5	7
	Phosphoric Acid	ACGIH/TWA		1
		ACGIH/STEL OSHA Z1/PEL		3 1

* 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
Hydrochloric Acid	US NIOSH: 7903	Ion chromatography	Silica gel
Phosphoric Acid	US NIOSH: 7903	Ion chromatography	Silica gel

ENGINEERING MEASURES :

General ventilation is recommended. Use general ventilation with local exhaust ventilation.

PERSONAL PROTECTION

RESPIRATORY PROTECTION :

An approved respirator must be worn if the occupational exposure limit is likely to be exceeded. An organic vapor/acid gas cartridge with dust/mist prefilter 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 OR NITRILE GLOVES Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION :

Wear protective overalls, chemical splash goggles and impervious gloves. 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.

ENVIRONMENTAL EXPOSURE CONTROL PRECAUTIONS :

Consider the provision of containment around storage vessels.

9.	PHYSICAL AND CHEMICAL PROPERTIES
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PHYSICAL STATE	Liquid
APPEARANCE	Light yellow
ODOR	None
pH (100.0 %)	0.4
VAPOR PRESSURE	No data available.
VAPOR DENSITY	No data available.
SPECIFIC GRAVITY	1.114 (25.0 °C)
DENSITY	No data available.
SOLUBILITY IN WATER	Complete
VISCOSITY	20.0 cps (25.0 °C)
FREEZING POINT	-11.67 °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
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STABILITY :

Stable under normal conditions.

HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.

CONDITIONS TO AVOID :

Avoid extremes of temperature.

MATERIALS TO AVOID :

Contact with strong alkalis (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Strong oxidizing agents Metals

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of phosphorus, Oxides of nitrogen, HCl, Gives off hydrogen by reaction with metals.

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).

REPRODUCTIVE EFFECTS :

No reproductive toxic effects expected.

MUTAGENICITY :

Not expected to be a mutagen.

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	Test Type	Value	Test Descriptor
Rainbow Trout	96 hrs	LC50	10.21 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	Test Type	Value	Test Descriptor
Ceriodaphnia dubia	48 hrs	EC50	12.94 mg/l	Product

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%	50 - 70%

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

This preparation or material is not expected to bioaccumulate.

PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 40,000 mg/l

Chemical Oxygen Demand (COD) : 430,000 mg/l

ENVIRONMENTAL HAZARD CHARACTERIZATION

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

13. DISPOSAL CONSIDERATIONS

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 2005 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, ACIDIC, INORGANIC, N.O.S.
Technical Name(s) :	Zinc Chloride, Hydrochloric Acid, Phosphoric Acid
UN/ID No :	UN 3264
Hazard Class - Primary :	8
Packing Group :	III
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, ACIDIC, INORGANIC, N.O.S.
Technical Name(s) :	Zinc Chloride, Hydrochloric Acid, Phosphoric Acid
UN/ID No :	UN 3264
Hazard Class - Primary :	8
Packing Group :	III

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name :	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical Name(s) :	Zinc Chloride, Hydrochloric Acid, Phosphoric Acid
UN/ID No :	UN 3264
Hazard Class - Primary :	8
Packing Group :	III
EmS-Nr. :	F-A, S-B
*Marine Pollutant :	Zinc Chloride

15.	REGULATORY INFORMATION
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NATIONAL REGULATIONS EUROPE :
HAZARD SYMBOLS

IRRITANT

**DANGEROUS FOR
THE
ENVIRONMENT**

Contains:..Zinc Chloride Phosphoric Acid Hydrochloric Acid

RISK PHRASES

R36/38 - Irritating to eyes and skin.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NATIONAL REGULATIONS, MALAYSIA :

HAZARD SYMBOLS



IRRITANT

RISK PHRASES

R36/38 - Irritating to eyes and skin.

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.

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, SINGAPORE :

ENVIRONMENTAL POLLUTION CONTROL ACT :This product contains controlled hazardous substances. A Poison permit is required under the 'Environmental Pollution Control Act'.

Regulated substance:

Hydrochloric Acid

INTERNATIONAL REGULATIONS

NFPA RATING

HEALTH : 2 FLAMMABILITY : 0 INSTABILITY : 0 OTHER : -
 0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

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.

Nalco's 3D Trasar 3DT222 has been found to be GRAS (Generally Recognized as Safe) under the US Food and Drug Administration's food additive regulations and the Federal Food, Drug, and Cosmetic Act, when used only as a corrosion inhibitor in cooling and retort water applications in the canning industry at levels of up to 250 ppm as product in the hot or cold water.

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

NSF Registration number for this product is : 137489

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas. This product is acceptable for treating boilers, steam lines, and/or cooling systems (G7) where neither the treated water nor the steam produced may contact edible products in and around food processing areas.

INTERNATIONAL CHEMICAL CONTROL LAWS

AUSTRALIA

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

UNITED STATES :

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

CANADA :

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

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).

TAIWAN

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

16.	OTHER INFORMATION
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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.

NALCO (CHINA) ENVIRONMENTAL SOLUTIONS CO LTD.; 18 Waterfront Place, 168 Daduhe Road, Shanghai, 200062, P.R. China

NALCO WATER INDIA LIMITED; S. No. 238/239, 3rd Floor, Quadra 1, Panchshil, Magarpatta Road, Sade Satra Nali, Pune 411028 India

PT. NALCO INDONESIA; Jl. Pahlawan, Desa Karang Asem Timur, Citeureup, Bogor, Indonesia

NALCO INDUSTRIAL SERVICES MALAYSIA SDN BHD; No 1, Jalan Jururancang U1/21, Seksyen U1, Hicom-Glenmarie Industrial Park, 40150 Shah Alam, Selangor Darul Ehsan, Malaysia

NALCO PHILIPPINES INC.; Barrio Real, Calamba, Laguna, Philippines

NALCO PACIFIC PTE LTD; 21 Gul Lane, Singapore 629416

NALCO INDUSTRIAL SERVICES (THAILAND) CO LTD; Rayong Plant, 109/19 M00 4, Eastern Seaboard Industrial Estate, Soi ESIE 6, T. Pluakdaeng, A. Pluakdaeng Rayong 21140 Thailand

EMERGENCY TELEPHONE NUMBER(S) :

CHINA :	+86-21-61832800
INDIA :	+65 6542 9595
INDONESIA :	+65 6542 9595
MALAYSIA :	03 5569 4054
PHILIPPINES :	1800 10 8421250
SINGAPORE :	+65 6542 9595 or +800 2537 8747 (International free call)
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