

PRODUCT

NALCO® 7384

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

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : NALCO® 7384

APPLICATION: CORROSION INHIBITOR

COMPANY IDENTIFICATION : Nalco Company

1601 W. Diehl Road Naperville, Illinois 60563-1198

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NFPA 704M/HMIS RATING

HEALTH: 3/3 FLAMMABILITY: 0/0 INSTABILITY: 0/0 OTHER: 0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Hazard

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) 7646-85-7 60.0 - 100.0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER

Zinc Chloride

Corrosive. May cause tissue damage. Harmful if swallowed.

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. Use a mild soap if available.

Wear a face shield. Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots. Not flammable or combustible. May evolve HCl under fire conditions. May evolve toxic gases or fumes 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.



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SKIN CONTACT:

Corrosive; causes permanent skin damage.

INGESTION:

Corrosive; causes chemical burns to the mouth, throat and stomach. Harmful if swallowed.

INHALATION

Elevated temperatures or mechanical action may form vapors, mists or fumes which may be irritating to the eyes, nose, throat and lungs.

AGGRAVATION OF EXISTING CONDITIONS:

A review of available data does not identify any worsening of existing conditions.

HUMAN HEALTH HAZARDS - CHRONIC:

No adverse effects expected other than those mentioned above.

4. | FIRST AID MEASURES

EYE CONTACT:

Immediately flush eye with water for at least 15 minutes while holding eyelids open. PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Get immediate medical attention.

SKIN CONTACT:

Immediately flush with plenty of water for at least 15 minutes. Use a mild soap if available. For a large splash, flood body under a shower. 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. If conscious, washout mouth and give water to drink.

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 applicable

EXTINGUISHING MEDIA:

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

FIRE AND EXPLOSION HAZARD:

Not flammable or combustible. May evolve HCl under fire conditions. May evolve toxic gases or fumes under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.



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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. Keep people away from and upwind of spill/leak. 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:

Very toxic 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.

STORAGE CONDITIONS:

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

SUITABLE CONSTRUCTION MATERIAL:

Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

UNSUITABLE CONSTRUCTION MATERIAL:

Metals

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.

Substance(s) Category: ppm mg/m3 Non-Standard Unit

Zinc Chloride Fume (Fume) ACGIH/TWA 1



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ACGIH/STEL OSHA Z1/PEL 2 1

ENGINEERING MEASURES:

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

RESPIRATORY PROTECTION:

Where concentrations in air may exceed the limits given in this section or when significant mists, vapors or aerosols are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended. Consult the respirator / cartridge manufacturer data to verify the suitability of specific devices. 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:

Impervious gloves When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

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. 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. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

HUMAN EXPOSURE CHARACTERIZATION:

Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Liquid

APPEARANCE Colorless

ODOR None

SPECIFIC GRAVITY 1.785 - 1.8 @ 60 °F / 15.6 °C

DENSITY 14.9 - 15 lb/gal SOLUBILITY IN WATER Complete



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pH (100 %) < 2

FREEZING POINT < -20 °F / < -29 °C BOILING POINT 275 °F / 135 °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:

Extremes of temperature

MATERIALS TO AVOID:

Contact with strong alkalies (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. Gives off hydrogen by reaction with metals.

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions: HCI, May evolve toxic fumes.

11. TOXICOLOGICAL INFORMATION

The following results are for the active components.

ACUTE ORAL TOXICITY:

Species: Rat

LD50: 350 mg/kg

Test Descriptor: Active Substance Zinc Chloride

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).

HUMAN HAZARD CHARACTERIZATION:

Based on our hazard characterization, the potential human hazard is: High



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12. **ECOLOGICAL INFORMATION**

ECOTOXICOLOGICAL EFFECTS:

Results below (expressed as product) extrapolated from Ambient Quality Criteria Document for Zinc. The following results are for the product.

ACUTE FISH RESULTS:

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	1.13 mg/l	Tested in Soft Water (40-48 mg/L as CaC03)
Fathead Minnow	96 hrs	1.83 mg/l	Tested in Soft Water (40-48 mg/L as CaC03)
Rainbow Trout	96 hrs	5.78 mg/l	Tested in Hard Water (160-180 mg/L as CaC03)
Fathead Minnow	96 hrs	24.96 mg/l	Tested in Hard Water (160-180 mg/L as CaC03)
Bluegill Sunfish	96 hrs	5 - 18.5 mg/l	Product
Rainbow Trout	96 hrs	0.8 - 1.8 mg/l	Product

ACUTE INVERTEBRATE RESULTS:

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	2.43 mg/l		Tested in Hard Water (160-180 mg/L as CaC03)
Daphnia magna	48 hrs	0.85 mg/l		Tested in Soft Water (40-48 mg/L as CaC03)
Daphnia magna	48 hrs	0.15 - 0.9 mg/l		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%	50 - 70%

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

BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.



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ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

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

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

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: ZINC CHLORIDE, SOLUTION

Technical Name(s):

UN/ID No: UN 1840

Hazard Class - Primary : 8
Packing Group : III

Flash Point: Not applicable

DOT Reportable Quantity (per package): 1,600 lbs

DOT RQ Component: ZINC CHLORIDE

AIR TRANSPORT (ICAO/IATA):

Proper Shipping Name: ZINC CHLORIDE, SOLUTION

Technical Name(s):

UN/ID No: UN 1840

Hazard Class - Primary : 8



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Packing Group: III IATA Cargo Packing Instructions: 820

IATA Cargo Aircraft Limit: 60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO):

Proper Shipping Name: ZINC CHLORIDE, SOLUTION

Technical Name(s):

UN/ID No: UN 1840

Hazard Class - Primary : 8
Packing Group : III

*Marine Pollutant : ZINC CHLORIDE

*Note: This product is regulated as a Marine Pollutant when shipped by Rail, Highway, or Air in bulk quantities (greater than 119 gallons) and when shipped by water in all quantities.

15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this 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.

Zinc Chloride: Corrosive

CERCLA/SUPERFUND, 40 CFR 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 RQ Zinc Chloride 1,600 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:



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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 contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

 Hazardous Substance(s)
 CAS NO
 % (w/w)

 Zinc Chloride
 7646-85-7
 60.0 - 100.0

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 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods.

Limitations: no more than required to produce intended technical effect.

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

NSF Registration number for this product is: 062424

This product is acceptable as a compound for the treatment of entire potable water systems (G1) in official establishments in and around food processing areas. 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.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

NSF INTERNATIONAL:

This product has received NSF/International certification under NSF/ANSI Standard 60 in the corrosion and scale control category. The official name is "Zinc Chloride." Maximum product application dosage is: 6.0 mg/l.

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. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations



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Zinc Chloride	Sec. 307, Sec. 311

CLEAN AIR ACT, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances):

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65:

Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS:

This product contains the following substances listed in the regulation. Additional components may be unintentionally present at trace levels.

Zinc Compound

STATE RIGHT TO KNOW LAWS:

The following substances are disclosed for compliance with State Right to Know Laws:

Zinc Chloride 7646-85-7 Water 7732-18-5

INTERNATIONAL CHEMICAL CONTROL LAWS:

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

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

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 Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

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 Existing and New Chemical Substances list (ENCS).

KOREA

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



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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.

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).

16. OTHER INFORMATION

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: Moderate

* 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.



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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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