

50-440



Perry Nuclear Power Plant
10 Center Road
Perry, Ohio 44081

James R. Hayes
Manager – Radwaste, Environmental, Chemistry

440-280-7519
Fax: 440-280-5681

December 11, 2002
PY-CEI/OEPA-0388L

Ohio Environmental Protection Agency
Division of Surface Water
P. O. Box 1049
Columbus, OH 43216-1049

Ladies and Gentlemen,

The Perry Nuclear Power Plant (PNPP) has enlisted Nalco Chemical Company to provide a replacement for the scale inhibitor product currently in use in the plant Circulating Water (CW) system. The product currently in use for calcium scale control is Nalco DYNACOOOL 1385, which was approved for use under Director's Final Findings and Orders on March 20, 1998. PNPP intends to replace the DYNACOOOL 1385 with NALCO 23283 scale inhibitor/dispersant.

The chemical will be injected continuously into the suction forebay of the CW system to achieve a maximum concentration of 15 ppm NALCO 23283 and a 1.5 ppm active organic phosphate in the CW system. The discharge flow rate from the CW system is approximately 12,000 gpm. This combined with the minimum 24,000 gpm service water discharge flow rate at the plant discharge results in a discharge concentration of 5 ppm whole product and 0.5 ppm active phosphate residual.

Attachments 1 and 2 contain the information requested by Mr. Eric Nygaard of the Ohio Environmental Protection Agency during a telephone conversation on November 25, 2002. PNPP hopes to initiate this change in March and would appreciate a timely response to meet this goal. If you have any questions or require additional information, please contact Mr. Leo Harte at (440) 280-5514.

Very Truly Yours,

Attachments

cc: OEPA Northeast District Office
NRC Region III
NRC Resident Inspector
NRC Project Manager
NRC Document Control Desk (Docket No. 50-440)

IE 25

Information for Obtaining Approval for Cooling Water Additive

- 1. The name of the additive to be used and general product information.**
 - a. The Material Safety Data Sheet (MSDS) is attached.
 - b. NALCO 23283 is a liquid phosphonate scale inhibitor and polymeric dispersant designed for scale inhibition and silt dispersion. The product is an aqueous solution of potassium phosphonate (11%) and acrylic polymer (11%).
 - c. 1-hydroxyethylidene-1, 1-diphosphonic acid (HEDP).
 - d. Calcium carbonate scale inhibitor.
 - e. No FIFRA or EPA ID number is applicable.

- 2. The concentration of the additive to be used (mg/l).**
 - a. To be applied to the suction forebay of the Circulating Water (CW) pumps continuously.
 - b. To be applied to the suction forebay of the Circulating Water (CW) pumps continuously.
 - c. The application and feed system begins with a 3000 gallon bulk storage tank, constructed of high density cross linked polyethylene, and is in accordance with ASTM D1998-96. Flexible, reinforced tubing will connect the tank to a metered chemical feed pump system. The product will be fed through the tubing via floor penetrations into the suction forebay and a dilution water header. The circulating water system will be maintained at 15 ppm (mg/l) product and 1.5 ppm (mg/l) active phosphate. The system tank level, online concentration and a pump visual inspection are performed daily. A grab sample analysis and pump calibration check are performed weekly.

- 3. The expected concentration of the additive contained in the discharge or blowdown immediately prior to entering state surface waters.**
 - a. Blowdown from CW system maximum – 12,000 gpm.
Service Water (SW) flow to the discharge average – 36,000 gpm, minimum – 24,000 gpm.
Dilution ratio 2:1 minimum, 3:1 average.
Effluent whole product concentration average – 3.75 ppm, maximum – 5 ppm.
Effluent active phosphonate concentration average – 0.38 ppm, maximum – 0.5 ppm.
Analytical limit for quantification for P = .01 ppm.
 - b. There will be no detoxification.

- 4. The average flowrate (MGD) and the outfall number of each outfall containing the additive.**
 - a. The average flowrate from the discharge structure is 70 MGD (SW flow combined with CW flow) from outfall 3IB00016004.

- 5. Name of the state surface water that receives the discharge.**
 - a. Lake Erie receives the combined discharge.

- 6. Toxicity and environmental information.**
 - a. 96-hour static acute LC50 to Rainbow Trout = >1000 mg/l.
48-hour static acute LC50 to Daphnia Magna = >1000 mg/l.
 - b. The n-octanol partitioning coefficient is not applicable for this product.
In the environment, the phosphonate ingredient reverts to orthophosphate and carbon dioxide and the acrylic polymer ingredient is absorbed to solids.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : NALCO 23283 ..
APPLICATION : COOLING WATER INHIBITOR
COMPANY IDENTIFICATION : Ondeo Nalco Company
Ondeo Nalco Center
Naperville, Illinois
60563-1198
EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC
NFPA 704M/HMIS RATING
HEALTH: 0/1 FLAMMABILITY: 1/1 REACTIVITY: 0/0 OTHER:
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION

May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.
May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Can cause mild, short-lasting irritation.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. No adverse effects expected.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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

EYE CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

INHALATION :

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

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 : > 212 °F / > 100 °C (PMCC)

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 :

May evolve oxides of carbon (COx) 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 :

Do not touch spilled material. 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.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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. 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 :

Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :

Avoid eye and skin contact. Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use.

STORAGE CONDITIONS :

Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :

General ventilation is recommended.

RESPIRATORY PROTECTION :

Respiratory protection is not normally needed. **FULL FACE RESPIRATOR MASK - YELLOW CARTRIDGE AND PREFILTER**

HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves **NEOPRENE, NITRILE, NATURAL RUBBER OR PVC GLOVES, SLICKER SUIT, RUBBER BOOTS**

SKIN PROTECTION :

Wear standard protective clothing.

EYE PROTECTION :

SAFETY GLASSES Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :

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.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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	Light brown
ODOR	None
SPECIFIC GRAVITY	1.18 @ 77 °F / 25 °C
SOLUBILITY IN WATER	Complete
pH (100 %)	4.5
FREEZING POINT	20 °F / -6.6 °C

10. STABILITY AND REACTIVITY

STABILITY :

Stable under normal conditions.

HAZARDOUS POLYMERIZATION :

Hazardous polymerization will not occur.

CONDITIONS TO AVOID :

Freezing temperatures.

MATERIALS TO AVOID :

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

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

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: Low

**MATERIAL SAFETY DATA SHEET**

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	> 1,000 mg/l	Product
Sheepshead Minnow	96 hrs	> 1,000 mg/l	Product

Rating : Essentially non-toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	> 1,000 mg/l		Product

Rating : Essentially non-toxic

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

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

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 is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

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 :

PRODUCT IS NOT REGULATED DURING
TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING
TRANSPORTATION



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :

**PRODUCT IS NOT REGULATED DURING
TRANSPORTATION**

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, none of the substances in this product are hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302 :

Notification of spills of this product is not required.

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 that this product is not hazardous under 29 CFR 1910.1200.

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) :

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

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :

None of the substances are specifically listed in the regulation.

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.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

STATE RIGHT TO KNOW LAWS :

None of the substances are specifically listed in the regulation.

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 :

Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

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.

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: Low

* The environmental risk is: Low

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.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 23283

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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.

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 : 08/08/2001