

Yarberry, Katherine

From: Hurley, Jane
Sent: Wednesday, March 20, 2013 4:09 PM
To: Yarberry, Katherine
Cc: Barnett, Mary; Long, Robert
Subject: RE: ARC Visit and Follow-up

email 3/21 requesting
more information regarding
discharge concentration
of H-550. -kay

Robert,

Katherine,

The initial H-550 concentration of 280 PPM in the cooling tower is well above ecotoxicological effects of the LC 50 (lethal concentration to 50% of the population) of 10.8 PPM for Fathead minnow and the LC 50 of 24 ppm for Rainbow Trout. From the description of the dosing protocol, 280 PPM initial concentration upon dosing would only be that high on the one day a week that H-550 is dosed, and drop quickly thereafter. The caveat here would be to make sure that only a negligible amount of H-550 remained before there was any discharge to a receiving stream. The concentration at the effluent should be well below 10.0 ppm.

The 3D Trasar concentration of 50 PPM in the cooling tower is well below the LC 50 of 1875 PPM for Fathead Minnow and 2422 PPM for Rainbow Trout.

Jane Hurley
ADEQ QA Officer
(501)682-0938

From: Long, Robert
Sent: Monday, February 25, 2013 9:05 AM
To: Hurley, Jane
Subject: FW: ARC Visit and Followup

Ma'am,

Please let me know if you need any more information.

Respectfully
Robert A. Long
ADEQ Water Division
Oil and Gas Inspector
(501) 683-2789 Office
(501) 837-2093 Cell

From: Brad Larrimore [mailto:blarrimore@arkr.net]
Sent: Friday, February 22, 2013 1:53 PM
To: Long, Robert
Subject: RE: ARC Visit and Followup

Mr. Long,

NALCO is our water treatment contractor. They provide and maintain a cooling water quality control unit located next to the cooling tower basin. A continuous flow of cooling water is circulated through the controller. The treatment unit continuously analyses the cooling water and controls the quality of the cooling water in a few different ways. .

- Corrosion and Scale Control – The 3DT187 (3D Trasar) polymer is added to maintain 50 PPM concentration in the cooling water. The control unit continuously measures and controls the additive level of the 3DT in the water.
- Total Dissolved Solids – The control unit also continuously analyses and controls the water conductivity by controlling the operation of an open/closed blowdown valve that releases water from the system as the conductivity near the threshold setpoint. When, as a result of blowdown, the basin level drops, the basin level control valves open to replace the lost volume with fresh water from the municipality. This is the means by which the unit controls tower conductivity and thus, TDS. Blowdown volume is approximately 2,000 gallons per day on average.
- The H-550 is added on a 1x per week basis and is dosed at a rate of 1.4 gallons of product into the tower system. The operating volume of the cooling water system is approximately 5,000 Gallons. This yields an instantaneous concentration in the tower at the time of addition of 280 PPM after which the concentration will fall to nothing after approximately 2-3 days since our rate of replacement will totally replace the contents of the system that frequently with potable water. At the time of H550 addition the controller suspends the blowdown function and it remains suspended for 3 hours after the biocide is added to ensure it is properly dispersed in the cooling tower basin and piping/circulation system before the controller allows blowdown to become possible.

Please let me know if there are any further questions.

Thanks,

Brad Larrimore
Plant Manager
Arkansas Reclamation Company
Cell: 501.416.8280
Office: 501.882.2044
Fax: 501.882.2034

From: Long, Robert [mailto:long@adeq.state.ar.us]

Sent: Thursday, February 21, 2013 10:21 AM

To: Brad Larrimore

Subject: RE: ARC Visit and Followup

Sir,

The people I forwarded the MSDS's referenced in the email below to have a few questions. They want to know the concentration used for treatment in the system and a concentration at discharge into the receiving stream. Is there any type of treatment in-between? Are both chemicals used on a routine basis in the same cooling water? Are they used together?

Respectfully

Robert A. Long

ADEQ Water Division
Oil and Gas Inspector
(501) 683-2789 Office

(501) 837-2093 Cell

From: Brad Larrimore [<mailto:blarrimore@arkr.net>]

Sent: Wednesday, February 13, 2013 11:59 AM

To: Long, Robert

Cc: Tom Jones; Todd Watkins

Subject: ARC Visit and Followup

Mr. Long,

It was good to meet you during your site visit on Monday. I appreciate the respect and thoughtfulness you showed us by working to communicate and schedule the visit in such a way to accomplish your job with as little impact on our work schedule as possible. You did not have to approach us in that manner and I sincerely appreciate the fact that you did.

As a follow up to the visit I have attached the MSDS sheets for the chemicals we use in treatment of our cooling tower water. Please let me know if there is anything else I can do or if you have any questions that I may help answer.

Sincerely,

Brad Larrimore

Plant Manager

Arkansas Reclamation Company

Cell: 501.416.8280

Office: 501.882.2044

Fax: 501.882.2034

Yarberry, Katherine

From: Brad Larrimore <blarrimore@arkr.net>
Sent: Wednesday, March 27, 2013 11:56 AM
To: Yarberry, Katherine`
Cc: Long, Robert
Subject: RE: Cooling Water H-550 ARG250013 AFIN 73-00785

Ms. Yarberry,

We have elected to withdraw our request for approval to use NALCO H550 in our cooling tower. Please let me know if I need to do anything further with regard to this topic.

Can you provide any insight as to what the department would or has in the past approved for facilities, that are operating under a general non-contact cooling water permit, to use as a biological growth control chemical?

Sincerely,

Brad Larrimore
Plant Manager
Arkansas Reclamation Company
Cell: 501.416.8280
Office: 501.882.2044
Fax: 501.882.2034

From: Yarberry, Katherine [mailto:YARBERRYK@adeq.state.ar.us]
Sent: Thursday, March 21, 2013 9:23 AM
To: Brad Larrimore
Cc: Long, Robert
Subject: Cooling Water H-550 ARG250013 AFIN 73-00785

Mr. Larrimore—

Per our telephone conversation, I'm emailing you regarding the cooling water additive review that the Department is performing.

Previous correspondence provided during the Department's review revealed that the initial concentration of NALCO H-550 in the cooling water is 280 PPM. The ecotoxicological effects of the LC50 (lethal concentration to 50% of the population) of H-550 is 10.8 PPM for fathead minnow and 24 PPM for Rainbow Trout. The correspondence seemed to indicate the concentration of H-550 should be low at the time of discharge, but the Department needs to review the operating procedures and flow rates to determine a more exact number for the concentration at discharge.

Please provide detailed calculations showing the concentration of H-550 at the time of discharge. The Department also needs to know if it is possible for the cooling water to be discharged above 10.8 PPM and how the facility would prevent such an occurrence.

I would appreciate it if you were to send me this information by next Friday, March 29th.

If you have any questions, please call or email me.

Thanks,

Katherine Yarberry, PE

Engineer, General Permits
Water Division, ADEQ
501-682-0627

**SAFETY DATA SHEET****PRODUCT****3D TRASAR® 3DT187****EMERGENCY TELEPHONE NUMBER(S)**

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATIONPRODUCT NAME : **3D TRASAR® 3DT187**APPLICATION : **COOLING WATER TREATMENT**COMPANY IDENTIFICATION :
Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

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

NFPA 704M/HMIS RATINGHEALTH : 1 / 1 FLAMMABILITY : 1 / 1 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)
Phosphoric Acid	7664-38-2	5.0 - 10.0

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. 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 suitable protective clothing, gloves and eye/face protection.

Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :**EYE CONTACT :**

May cause irritation with prolonged contact.



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SKIN CONTACT :

May cause irritation with prolonged contact.

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.

HUMAN HEALTH HAZARDS - CHRONIC :

No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

EYE CONTACT :

Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.

SKIN CONTACT :

Flush with large amounts of water. Use soap if available. If symptoms develop, seek medical advice.

INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

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 : > 200 F/ > 93.3 °C

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. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions. May evolve oxides of phosphorus (POx) 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.



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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 :

Do not contaminate surface water.

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

SUITABLE CONSTRUCTION MATERIAL :

Buna-N, HDPE (high density polyethylene), Polypropylene, Epoxy phenolic resin, Polyethylene, PVC

UNSUITABLE CONSTRUCTION MATERIAL :

Stainless Steel 304, Neoprene, Polyurethane, Stainless Steel 316L, 100% phenolic resin liner, Brass, EPDM, Chlorosulfonated polyethylene rubber, Fluoroelastomer

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/m ³	Non-Standard Unit
Phosphoric Acid	ACGIH/TWA		1	
	ACGIH/STEL		3	
	OSHA Z1/PEL		1	

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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, aerosols, or dusts 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 :

When handling this product, the use of chemical gauntlets 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 standard protective clothing.

EYE PROTECTION :

Wear safety glasses with side-shields.

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	Yellow Dark brown
ODOR	None
SPECIFIC GRAVITY	1.29 @ 77.0 °F / 25.0 °C
DENSITY	10.7 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	2.7
VISCOSITY	95.0 cps @ 77.0 °F / 25.0 °C
FREEZING POINT	0.0 °F / -17.7 °C

Note: These physical properties are typical values for this product and are subject to change.



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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 :

Bases 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. Oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon, Oxides of sulfur, Oxides of phosphorus, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

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).

HUMAN HAZARD CHARACTERIZATION :

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

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	1,875 mg/l	Product
Rainbow Trout	96 hrs	2,422 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
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Daphnia magna	48 hrs		1,042 mg/l	Product
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PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 100,000 mg/l

Chemical Oxygen Demand (COD) : 330,000 mg/l

Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
5 d	14,400 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%	10 - 30%	70 - 90%

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

BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

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

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.

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.

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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 :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	PHOSPHORIC ACID
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
Flash Point :	> 200 F / > 93.3 °C
Reportable Quantity (per package) :	53,850 lbs
RQ Component :	PHOSPHORIC ACID

AIR TRANSPORT (ICAO/IATA) :

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.

Proper Shipping Name :	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name(s) :	PHOSPHORIC ACID
UN/ID No :	UN 3082
Hazard Class - Primary :	9
Packing Group :	III
IATA Cargo Packing Instructions :	914
IATA Cargo Aircraft Limit :	450 L (Max net quantity per package)
Reportable Quantity (per package) :	53,850 lbs
RQ Component :	PHOSPHORIC ACID

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
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PRODUCT

3D TRASAR® 3DT187

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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.

Phosphoric Acid : 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).

<u>RQ Substance</u>	<u>RQ</u>
Phosphoric Acid	53,850 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:

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) :

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

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

NSF Registration number for this product is : 140969

This product is acceptable for treating boilers, steam lines, and/or cooling systems where neither the treated water nor the steam produced may contact edible products in and around food processing areas, excluding such use in areas where meat and poultry are processed (G10). This product is acceptable for treatment of cooling and retort water in and around food processing areas, excluding such use in areas where meat and poultry are processed (G8).

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 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
• Phosphoric Acid	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) :

This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
• Methanol • Acrylic Acid • Acrylamide	Sec. 112

CALIFORNIA PROPOSITION 65 :

Substances known to the State of California to cause cancer and/or reproductive toxicity are present as an impurity or residue.

MICHIGAN CRITICAL MATERIALS :

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.

STATE RIGHT TO KNOW LAWS :

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

Phosphoric Acid 7664-38-2



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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).

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

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.

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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 : 07/09/2010

Version Number : 3.1

**SAFETY DATA SHEET****PRODUCT****H-550****EMERGENCY TELEPHONE NUMBER(S)**

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATIONPRODUCT NAME : **H-550**APPLICATION : **MICROBIOCIDE**COMPANY IDENTIFICATION :
Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

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

NFPA 704M/HMIS RATINGHEALTH : 3 / 3* FLAMMABILITY : 1 / 1 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)
Glutaraldehyde		111-30-8	30.0 - 60.0

3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW******DANGER**

Corrosive. Causes irreversible eye damage. Causes skin burns. Harmful if inhaled. May be fatal if swallowed. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes asthmatic signs and symptoms in hyper-reactive individuals. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing, and rubber gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Not flammable or combustible. May evolve oxides of carbon (CO_x) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :**EYE CONTACT :**

Corrosive. Will cause eye burns and permanent tissue damage.

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SKIN CONTACT :

May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if absorbed through skin.

INGESTION :

Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach. May be fatal if swallowed.

INHALATION :

Irritating, in high concentrations, to the eyes, nose, throat and lungs. Inhalation of product mist or vapors may cause respiratory allergy. Inhalation of vapors may cause headache, nausea, and vomiting.

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.

HUMAN HEALTH HAZARDS - CHRONIC :

Prolonged inhalation of product can increase lung injury in persons with emphysema, asthma, or other lung disorders.

4. FIRST AID MEASURES

If Swallowed: · Call a poison control center or a doctor immediately for treatment advice. · **DO NOT INDUCE VOMITING.** · Do not give anything to drink.

IF IN EYES: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Call a poison control center or a doctor immediately for treatment advice.

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN :

Aspiration may cause lung damage. 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.



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5. FIRE FIGHTING MEASURES

FLASH POINT : None

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. May evolve oxides of carbon (CO_x) 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. 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: 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. Wash site of spillage thoroughly with water. Dilute the glutaraldehyde to 5% or less with water. Add sodium bisulfite (2-3 parts by weight per part glutaraldehyde). This will typically reduce the glutaraldehyde concentration to 2 ppm or less in 5 minutes at room temperature. The remaining solution can be disposed of via appropriate means. 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. 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.

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. Wash thoroughly with soap and water after handling. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS :

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

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SUITABLE CONSTRUCTION MATERIAL :

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

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/m ³	Non-Standard Unit
Glutaraldehyde	ACGIH/Ceiling		0.05	

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, the use of a half face filter mask or air supplied breathing apparatus is recommended. If significant mists, vapors or aerosols are generated an approved respirator is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Organic 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 :

When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from Butyl gloves Nitrile 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 :

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Liquid

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APPEARANCE	Colorless
ODOR	Aldehyde
SPECIFIC GRAVITY	1.11 - 1.13 @ 77 °F / 25 °C
DENSITY	9.4 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	3.1 - 4.5
VISCOSITY	21 cps @ 68 °F / 20 °C
FREEZING POINT	-5.8 °F / -21 °C
BOILING POINT	213 °F / 100.5 °C
VAPOR PRESSURE	16 mm Hg
VAPOR DENSITY	1.1
VOC CONTENT	54 % EPA Method 24

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 :

High temperatures Avoid extremes of temperature.

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. Amines Strong Bases Strong acids

HAZARDOUS DECOMPOSITION PRODUCTS :

Under fire conditions: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

The following results are for the product along with results on the active substances.

ACUTE ORAL TOXICITY :

Species: Rat

LD50: 1.2 ml/kg

Test Descriptor: 45% Active Ingredient

Species: Rat

LD50: 1.54 -1.87 ml/kg

Test Descriptor: 25% Active Ingredient

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Species: Rat
LD50: 1.07 - 1.62 ml/kg
Test Descriptor: 10% Active Ingredient

Species: Rat
LD50: 1,468 mg/kg
Test Descriptor: Product

ACUTE DERMAL TOXICITY :

Species: Rabbit
LD50: 2.00 - 2.71 ml/kg
Test Descriptor: 45% Active Ingredient

Species: Rabbit
LD50: 8.0 - 12.8 ml/kg
Test Descriptor: 25% Active Ingredient

Species: Rabbit
LD50: 897 - 1,432 mg/kg
Test Descriptor: Product

ACUTE INHALATION TOXICITY :

Species: Rat
LD50: > 27 mg/l (4 hrs)
Test Descriptor: Product

PRIMARY SKIN IRRITATION :

Remarks: At 10% or greater, glutaraldehyde solutions may cause moderate to severe irritation, with possible necrosis after prolonged contact.

PRIMARY EYE IRRITATION :

Remarks: At levels of 0.2% and below of glutaraldehyde, no eye irritation was noted. Levels above 0.2% of glutaraldehyde produced moderate to severe irritation and corneal injury.

SENSITIZATION :

Levels of greater than 0.2% of glutaraldehyde produced allergic contact dermatitis in human studies. May cause sensitization by inhalation and skin contact.

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).

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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 along with results on the active substances.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Bluegill Sunfish	96 hrs	22.4 mg/l	Product
Fathead Minnow	96 hrs	10.8 mg/l	Product
Sheepshead Minnow	96 hrs	64 mg/l	Product
Rainbow Trout	96 hrs	24 mg/l	Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	11.5 mg/l		Product
Shore Crab	96 hrs	930 mg/l		Product
Grass Shrimp	96 hrs	82 mg/l		Product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	14.2 mg/l		Product
American Oyster	96 hrs		1.56 mg/l	Product
Acartia tonsa	48 hrs		0.22 mg/l	Product

AQUATIC PLANT RESULTS :

Species	Exposure	EC50/LC50	Test Descriptor
Marine Algae (Skeletonema costatum)	72 hrs	1.22 mg/l	Product
Algae (Scenedesmus subspicatus)	72 hrs	1.7 mg/l	Product

AQUATIC MICROORGANISM RESULTS :

Species	Exposure	EC50/LC50	Test Descriptor
Sewage Microorganisms	96 hrs	34 mg/l	Active Substance

AVIAN RESULTS :

Species	Exposure	LC50	Test Descriptor
Bobwhite Quail	8 Days	10,000 ppm	Active Substance
Mallard Duck	8 Days	10,000 ppm	Active Substance
Mallard Duck		933 mg/kg	50% Active Ingredient

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

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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.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard 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.

As a pesticide waste, consult the FIFRA label for any additional handling, treatment, or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

Metal Containers or Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or other procedures approved by state and local authorities. **Plastic Containers:** May be incinerated, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Metal Containers:** Must not be incinerated. Do not cut or weld on or near metal containers.

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, ORGANIC, N.O.S.
Technical Name(s) :	GLUTARALDEHYDE
UN/ID No :	UN 3265
Hazard Class - Primary :	8
Packing Group :	II
Flash Point :	None

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AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) : GLUTARALDEHYDE
UN/ID No : UN 3265
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, ACIDIC, ORGANIC, N.O.S.
Technical Name(s) : GLUTARALDEHYDE
UN/ID No : UN 3265
Hazard Class - Primary : 8
Packing Group : II

*Marine Pollutant : GLUTARALDEHYDE

*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.

Glutaraldehyde : Corrosive, Sensitizer

CERCLA/SUPERFUND, 40 CFR 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.

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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:

X	Immediate (Acute) Health Hazard
X	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 : 21 CFR 173.320 Chemicals for controlling microorganisms in cane-sugar and beet-sugar mills.

The following limitations apply:

<u>Maximum dosage</u>	<u>Limitation</u>
500 PPM	as product by weight of the raw cane or raw beets

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :

EPA Reg. No. 464-704-1706

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 116.4 / formerly Sec. 311 :

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.

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) :

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

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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).

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.

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.

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.

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Substance(s)	Citations
• Methanol	Sec. 112

CALIFORNIA PROPOSITION 65 :

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

MICHIGAN CRITICAL MATERIALS :

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.

STATE RIGHT TO KNOW LAWS :

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

Methanol	67-56-1
Glutaraldehyde	111-30-8

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) :

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

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).