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2973

PRODUCT: **Oxine®**

CHM000044
CHM000045

MATERIAL SAFETY DATA SHEET

TRANSPORTATION EMERGENCY 24 HOUR TELEPHONE: (800) 424-9300 (CHEMTREC)

SECTION I: PRODUCT IDENTIFICATION

PRODUCT NAME: **Oxine®**

CHEMICAL FAMILY: Mixture of Oxychlorine Compounds

SYNONYMS: N/A **CAS #:** None (Mixture)

NFPA RATING: [with 0 for no hazard to 4 for life threatening]
Fire: 0 **Health:** 1 **Reactivity:** 1 **Special:** None

WARNING STATEMENT: Product may cause eye and skin irritation

EPA REGISTRATION NUMBER: 9804-1

EFFECTIVE DATE: January 1998
SUPERSEDES: July 1995

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT [CAS #]	PERCENT	OSHA PEL	ACGIH TLV	ACGIH STEL	OTHER
Sodium Chlorite [7758-19-2]	3.35 Minimum	NE	NE	NE	Irritant
Chlorine Dioxide [10049-04-4]	Trace	0.1 PPM	0.1 PPM	0.3 PPM	SARA 313
TOTAL	3.35				

NE = NOT ESTABLISHED NL = NOT LISTED
(C) = IDENTIFIED AS A CARCINOGEN BY OSHA, IARC, NTP, OR ROTECS

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not classified as "Hazardous" per this OSHA Standard may be listed. The identity of other ingredients will be made available as provided in this standard.

SECTION III: PHYSICAL/CHEMICAL DATA

APPEARANCE AND ODOR: Clear liquid with very faint chlorinous odor

BOILING POINT: 213°F (100.5°C)
MELTING POINT: N/A

VAPOR PRESSURE: 23.7 mm Hg (25°C)
VAPOR DENSITY: 0.02 kg/m^3

SPECIFIC GRAVITY: 1.03 g/ml (20°C)

VOLATILE ORGANIC COMPOUNDS: <0.1% by weight

OCTANOL/WATER PARTITION COEFFICIENT: NE

EVAPORATION RATE: Comparable to Water
SOLUBILITY IN WATER: Complete
pH, CONCENTRATE: 8.0 to 8.5

OTHER DISTINGUISHING CHARACTERISTICS: N/A

SECTION IV: FIRE AND EXPLOSIVE HAZARD INFORMATION

FLASH POINT: None to solution boiling point.
Method: N/A

FLAMMABLE LIMITS (% By Volume):
Lower: N/A **Upper:** N/A

AUTOIGNITION TEMPERATURE: N/E

DECOMPOSITION TEMPERATURE: N/E (For dry sodium chlorite: 180 - 200°C)

FIRE EXTINGUISHING MEDIA: Water unless contraindicated by other material involved in fire.

FIRE-FIGHTING EQUIPMENT: Standard protective gear with self-contained breathing apparatus.

SPECIAL FIRE-FIGHTING PROCEDURES: Do not allow **Oxine®** solutions to evaporate to dryness. If chlorine dioxide gas is produced, vent to atmosphere. Open or vent any large containers of **Oxine®**.

UNUSUAL FIRE OR EXPLOSIVE HAZARDS: The sodium chlorite in dried **Oxine®** is a strong oxidizer, which supports combustion. Chlorine dioxide, which may evolve from **Oxine®** solutions, is explosive in the gaseous phase at concentrations greater than 10% by volume. Do not allow chlorine dioxide gas to accumulate within a confined space.

SECTION V: REACTIVITY DATA

STABILITY: Product is stable.

CONDITIONS TO AVOID: Avoid storing product under conditions in which it could evaporate to crystalline salt.

INCOMPATIBLE MATERIALS: Avoid accidental contact with acids, chlorine compounds, hypochlorites (bleach), sulfur and sulfite compounds, phosphorus, organic solvents, and combustible/flammable materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Exposure to acids or chlorine compounds can produce uncontrolled generation of chlorine dioxide gas.

HAZARDOUS POLYMERIZATION: Does not occur.

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SECTION VI: HEALTH HAZARD DATA

INGESTION: Rat Oral LD 50: 4,360 mg/kg. Ingestion may produce gastric discomfort, nausea, vomiting, and diarrhea. Intake of large quantities may produce methemoglobinemia.

EYE CONTACT: Based on rabbit studies, **Oxine®** has been given an EPA Category III rating as a mild irritant. Exposure can produce slight irritation of conjunctiva, cornea, and eyelid.

SKIN CONTACT: Based on rabbit studies, **Oxine®** is listed as "practically not an irritant". Prolonged exposure may produce localized irritation, contact dermatitis, mild erythema, and edema.

SKIN ABSORPTION: Highly unlikely to be absorbed through skin in toxic amounts. Rabbit Acute Dermal LD 50 > 2,020 mg/kg.

INHALATION: Acute Inhalation: LC 50 > 5.61 mg/l. Prolonged inhalation of fog or mist containing **Oxine®** may be irritating to nose and throat.

SYSTEMIC AND OTHER EFFECTS: None known.

CHRONIC EXPOSURE EFFECTS: May cause localized irritation to areas exposed to product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disorders, such as dermal allergies and dermatitis. Exposure to chlorine dioxide produced by activation can aggravate pulmonary disorders, such as emphysema.

CARCINOGENICITY: Active ingredients are not listed by ROTECS, OSHA, IARC, or NTP. No evidence to date implicating product as carcinogen or tumor promoter.

MUTAGENICITY: Though product active ingredient is a chemical oxidant, no evidence to date for mutagenicity from whole animal or in vitro studies.

REPRODUCTIVE EFFECTS: No known effects to date.

OTHER HEALTH HAZARDS/HEALTH EFFECTS: None known.

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SECTION VII: FIRST AID

TARGET ORGANS: Skin, eyes. For chlorine dioxide produced from activation: respiratory tract and exposed mucous membranes.

SYMPTOMS OF OVER-EXPOSURE: Skin and eye irritation. Exposure to chlorine dioxide from activation can produce coughing, sore throat, headache, and dizziness.

FIRST AID

SKIN CONTACT: Wash affected area thoroughly with soap and water. Remove contaminated clothing and rinse thoroughly with water before laundering or discard. If irritation occurs, seek medical attention.

EYE CONTACT: Flush eyes thoroughly with water, making certain eyelids are held open. If irritation or burning persist, seek medical attention.

INHALATION: Unactivated **Oxine®** normally has no respiratory effects. If exposure to chlorine dioxide produced from activation occurs, remove victim to fresh air. Contact a physician if respiratory distress continues.

INGESTION: DO NOT INDUCE VOMITING. Contact a physician or Poison Control Center immediately.

PLEASE NOTE: Above procedures are recommended as emergency first aid precautions only. They are not intended to replace or supplant the treatment advice of a physician or other authorized health care specialist.

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SECTION VIII: CONTROL MEASURES/PERSONAL PROTECTION EQUIPMENT

VENTILATION: Open air or good room ventilation is normally adequate for safe use of this product. Avoid breathing any vapors or fumes resulting from acid activation.

RESPIRATORY PROTECTION: In accordance with OSHA regulations (29 CFR 1910.134 and 29 CFR 1910.1000), fogging or spraying applications may require worker respiratory protection, such as: (1) NIOSH/MSHA approved air-purifying respirators, or (2) NIOSH/MSHA approved canister/cartridge facial respirators rated for chlorine/acid vapors or specified for chlorine dioxide.

EYE PROTECTION: Good manufacturing practice recommends use of chemical safety goggles for all applications involving chemical handling.

PROTECTIVE CLOTHING: Good manufacturing practice recommends that, at a minimum, rubber, neoprene, or other chemically impervious gloves be worn for all applications involving chemical handling.

OTHER PROTECTIVE MEASURES: Product should be stored and applied in close proximity to a safety shower, chemical eyewash station, or other fresh water source.

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SECTION IX: SPILL, LEAK, AND DISPOSAL PROCEDURES

ENVIRONMENTAL NOTIFICATION: All spills and leaks involving more than 10 gallons should be reported to the nearest regional EPA office or designated state emergency response office within 24 hours. Spills from ocean vessels or which may contaminate U.S. coastal waterways should be reported to the nearest Coast Guard office within 24 hours.

SPILL OR LEAK PROCEDURE: Small spills, involving less than 10 gallons, may be flushed to a designated and permitted sewer system with copious amounts of water. Larger spills should be contained and neutralized with sodium bisulfite or sodium thiosulfate (1.2 lbs neutralizer per each estimated lb. of spilled material) or disposed of as chemical waste in the manner indicated below. The vicinity of the spill should be thoroughly flushed with water after clean-up. At no time should the spilled material be allowed to dry to a crystalline salt. Do not discharge this product to storm drains or to any surface or groundwater source unless specifically allowed under a valid NPDES permit.

DISPOSAL PROCEDURE: Small quantities, less than 10 gallons, may be flushed to an authorized and permitted sewer with copious amounts of water. Larger volumes should be taken to an authorized chemical disposal site (Class I or landfill) in accordance with all federal, state, and local regulations. Consult with selected facility regarding the need for prior neutralization of waste.

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SECTION X: SPECIAL PRECAUTIONS

PRODUCT STORAGE: Store in a cool, dry, well-ventilated location away from acids, chlorine and chlorine compounds, hypochlorites (bleach), organic solvents, sulfur and sulfite compounds, phosphorus, combustible/flammable materials, and direct sunlight. Keep containers tightly closed when not in use and open carefully to prevent spillage. Storage on wooden floors and pallets is not recommended.

PRODUCT HANDLING: Use product only as directed by the label or by your authorized Bio-Cide representative. Avoid contact with skin and eyes; avoid breathing any vapors or fumes resulting from product activation. Wash thoroughly after handling. Thoroughly rinse all protective gear and handling equipment, such as transfer pumps and lines, with water prior to reuse or storage. Keep away from children, animals, and unauthorized personnel.

OTHER PRECAUTIONS: Product may bleach clothing and fabric materials, such as draperies and carpets.

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SECTION XI: REGULATORY STATUS

Federal EPA Regulations

TSCA: All product ingredients are on inventory.

SARA TITLE 312/313: Neither the product nor its constituent ingredients are listed under SARA reporting requirements. Chlorine dioxide produced from activation is listed under SARA 313.

FIFRA: Oxine® is an EPA registered sanitizer (EPA No. 9804-1)

RCRA: Not considered a hazardous waste either categorically or by chemical listing.

CLEAN WATER ACT: Neither product nor constituent ingredients is listed as priority pollutant.

CLEAN AIR ACT: Neither product nor constituent ingredients is listed as priority pollutant.

Federal OSHA Regulations

Neither product nor constituent ingredients is classified as an acute or chronic health hazard by OSHA. Chlorine dioxide produced by activation is regulated with an air exposure limit of 0.1 ppm TLV and 0.3 ppm STEL.

Federal Department of Transportation

Not regulated.

State Laws

CALIFORNIA: Not regulated under the provisions of Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986).

NEW JERSEY: Sodium Chlorite is listed under New Jersey's Chemical Inventory Notification Requirement (NJAC 7:1Z). Estimated release notification, however, is not required.

PLEASE NOTE: Regulatory requirements are subject to change and may vary from one location to another. It is the users responsibility to ensure compliance with all applicable federal, state, and local regulations pertaining to the purchase, transport, storage, use, and disposal of this product.

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The information contained in this Material Safety Data Sheet has been assembled by the manufacturer, based on its own studies and on research accomplished by others. The manufacturer gives this information without warranty, expressed or implied. The information contained herein is accurate as of the date posted, to the best knowledge of the manufacturer.

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