



GORICH
TECHNOLOGY
LIMITED

Oxine

**MATERIAL
SAFETY DATA
SHEET**

1. Product: Oxine HVAC Sanitiser

2. Registration No:

3. Manufacturer

Bio-Cide International, Inc.

4. Emergency Contact

Gorich Technology Limited
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5. Chemical Product Identification

Product Number : 4295-12
Product Use : Sanitize and Deodorize
EPA Registration # : 9804-1

6. Composition / Information on ingredients

Hazardous Ingredients	% By Wt.	CAS #	TLV	PEL
Sodium Chlorite	3.35%	7758-19-2	--	--
Chlorine Dioxide	0.1%	10049-04-4	0.1	PEL : 0.1 STEL : 0.3

7. Hazard Identification

Emergency Overview: Clear liquid with very faint chlorinous odor. May cause skin reaction. May cause eye irritation.

Potential Health Effects

Eyes : Based on rabbit studies, product has been given an EPA Category III rating as mild irritant. Exposure can produce slight irritation of conjunctiva, cornea and eyelid.
Skin : Based on rabbit studies, product is listed as "practically not an irritant". Prolonged exposure may produce localized irritation, contact dermatitis, mild erythema and edema.
Ingestion : Ingestion may produce gastric discomfort, nausea, vomiting and diarrhea. Intake of large quantities may produce methemoglobinemia.
Inhalation : Prolonged inhalation of fog or mist may be irritating to nose and throat.

Chronic Exposure:

May cause localized irritation to areas exposed to product. SYSTEMS OF OVER EXPOSURE: skin and eye irritation. Exposures to chlorine dioxide from activation can produce coughing.

Carcinogenicity:

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

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.

8. First Aid Measures

Eyes : The following procedures are recommended as emergency first aid only. They are not intended to replace or supplant the treatment advice of a physician or other authorized health care specialist. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
Ingestion : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Inhalation : Move person to fresh air. If person is not breathing, call 999 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice. Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. NOTES TO PHYSICIAN: If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post inhalation.

9. Firefighting Measures

Flash Point: N/A°C / N/A°F

Autoignition Temp : N/A°C / N/A°F

Hazardous Products of Combustion : N/A

Flammable Limits in Air : N/A

Extinguishing Media:

Water unless contraindicated by other materials involved in the fire.

Fire and Explosion 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.

Special Firefighting Procedures:

Standard protective gear with self-contained breathing apparatus. Do not allow product to evaporate to dryness. If chlorine dioxide gas is produced, vent to atmosphere. Open or vent any large containers.

10. Accidental Release Measures

Spill or Leak: All spills and leaks involving more than 10 gallons should be reported to the nearest regional EPA office or designated state emergency response office with 24 hours. Spills from ocean vessels should be reported to the nearest Coast Guard office within 24 hours. Small spills, involving less than 10 gallons, may be flushed to a designated and permitted sewer system with the amount of water that is about 10 times the amount of the spill. Large spills, involving more than 10 gallons, should be contained and neutralized using any one of the three neutralizers: i) sodium sulfite, ii) sodium bisulfite, or iii) sodium thiosulfate. The neutralization reaction can be extremely exothermic, and therefore, care should be taken to add the neutralizer in small increments. Sodium sulfite is the most preferred (least exothermic) neutralizer that can be used in the ratio of 1 lb per gallon of spilled material. Sodium thiosulfate can be used in the ratio of 2 lbs of anhydrous salt or 3 lbs of pentahydrate salt per estimated gallon of the spilled material. The neutralized solution can then be flushed to a designated and permitted sewer system with double the amount of water. The product that is not neutralized may be 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. If the neutralizer is not available, volumes larger than 10 gallons should be carefully transferred into a container and 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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11. Handling and Storage

Handling Procedures and Equipment:

Use product only as directed by the label. 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.

Storage Requirements:

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. Do not contaminate water, food or feed by storage or disposal.

12. Exposure Controls / Personal Protection

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.

Exposure Guidelines:

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

Specific Engineering Controls (such as ventilation, enclosed process): 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.

13. Physical and Chemical Properties

Physical Form : Liquid
Color : Clear
Odor : very faint chlorinous odor
Boiling Point : 100.5°C / 213°F
Freezing Point : No Data. °C / No Data. °F
Vapor Density (air=1) : 0.02 kg/m3
Vapor Pressure : 23.7 mm Hg (25°C)
Solubility in Water : Complete
% Volatile by Weight : No data. %
Evaporation Rate : Comparable to water
Specific Gravity : 1.03 g/ml (20°C)
pH (concentrate) : 8.0 – 8.5

14. Stability and Reactivity

Chemical Stability : Stable
Hazardous Polymerization : Hazardous polymerization will not occur
Incompatibilities : No Data

Reactive Conditions to avoid:

Avoid storing product under conditions in which it could evaporate to crystalline salt. Avoid accidental contact of concentrate with acids, chlorine compounds, hypochlorites (bleach), sulfur and sulfite compounds, phosphorous, organic solvents and combustible / flammable material.

Decomposition Products :

Exposure to acids or chlorine compounds and produce uncontrolled generation of chlorine dioxide gas.

15. Toxicological Information

Hazardous Ingredients : Sodium Chlorite
CAS # : No Data
EINECS # : No Data
LD₅₀ of Ingredient : Dermal: >2,020mg/kg (rabbit)
Oral: 4,360 mg/kg (rat)
LC₅₀ of Ingredient : Inhalation: >5.61 mg/l

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

16. Ecological Information

Aquatic Toxicity Data

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, stream, 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 sewage treatment plant authority. For guidance, contact your State Water Board or Regional office of the EPA.

17. Disposal Considerations

Waste Disposal:

CONTAINER DISPOSAL: Triple rinse. Then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill; or by incineration; or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

DISPOSAL PROCEDURE: Small quantities, less than 10 gallons, may be flushed to an authorized and permitted sewer with copious amounts of water.

Large 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.

18. Regulatory Information

WHMIS Classification: Not Regulated by WHMIS

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

OSHA: 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 TL V and 0.3 ppm STEL.

TSCA: All product ingredients are in inventory

VOC: <0.1% by weight.

CPR: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.

EINECS : No Data. DSL / NDSL : No Data

CERCLA : No Data IDL : No Data

NFPA (HMIS) Rating: Health: 1 Flammability: 0 Reactivity: 1 Special Hazards: None

19. Transportation Information

Special Shipping Information: No Data.

<u>Purview</u>	<u>Proper Shipping Name</u>	<u>UN #</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT (land)	Not Regulated			
IMO (Water)	No Data.			
ICAO (Air)	No Data.			

20. Other Information

RCRA: Not considered a hazardous waste either categorically or by chemical listing. FIFRA: Oxine® is an EPA registered sanitizer (EPA No. 9804-1). 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. Product may bleach clothing and fabric materials, such as draperies and carpets.