



Sid Harvey item #'s 4126-34 & 4126-38 SDS # Z0391

BioFresh® cd

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Identifier:

Bio-Fresh® cd

Other means of Identification:

CAS No. 7758-19-2; 0.17% sodium chlorite solution

Recommended Use:

Bio-Fresh®cd is a registered antimicrobial pesticide (EPA Registration Number: 9804-3-65516). Bio-Fresh® cd is used to deodorize HVAC system ductwork as a Bacteriostat, Fungistat and deodorizer. Bio-Fresh® cd is used for microbial control of evaporator coils, drip pans and associated air conditioning parts and evaporative cooler excelsior mats. It is also used for residual control of odors with bacteria, mold, mildew, animals, smoke, etc. Consult the Bio-Fresh® cd label for a complete list of permitted uses.

Distributed by:

Nu-Calgon
2008 Altom Court
St. Louis MO 63146
Phone: 800-554-5499

Emergency Telephone Number:

Chemtrec for transportation emergencies in the United States, Canada, Puerto Rico, and Virgin Islands 1-800-424-9300; All other areas 1-703-527-3887
American Association of Poison Control Centers 1-800-222-1222
Chemtrec contract number 2749

SECTION 2: HAZARD(S) IDENTIFICATION

Bio-Fresh® cd is not classified as hazardous under 29 CFR 1910.1200 (d) and is not subject to GHS / SDS hazard statement requirements

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance:	0.17% sodium chlorite	≤ 99.99% water
Formula:	NaClO ₂	H ₂ O
CAS number:	7758-19-2	7732-18-5
EC number:	231-836-6	231-791-2

SECTION 4: FIRST-AID MEASURES

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.

Inhalation: Move person to fresh air. If person is not breathing, call 911 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.

Skin Contact: 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.

Eye Contact: 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.

If Swallowed: 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.

Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post inhalation.

SECTION 5: FIRE-FIGHTING MEASURES

Substance does not burn but supports the combustion of flammable substances through the liberation of oxygen. Water is the preferred extinguishing media when it is compatible with the burning substance. If water is not compatible, use dry powder extinguisher.

Burning will release hydrogen chloride gas (HCl) and oxides of sodium (NaO_x).

Firefighters should wear self-contained breathing apparatus (SCBA) if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURE

Spills 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. Do not discharge this product to storm drains or to any surface or groundwater source unless specifically allowed under a valid NPDES permit.

SECTION 7: HANDLING AND STORAGE

HANDLING:

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.

PRODUCT STORAGE:

Store in a cool, dark area in original container. Do not contaminate water, food, or feed by storage or disposal. Do not re-use container

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

No Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLV) have been established for this product.

Open air or good room ventilation is normally adequate for safe use of this product. Good manufacturing practice recommends use of chemical safety goggles, and at a minimum, rubber, neoprene, or other chemically impervious gloves be worn for all applications involving chemical handling. Respiratory protection none is required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- (a) **Appearance (physical state, color, etc.);** Clear to pale yellow liquid
- (b) **Odor;** Slight odor of chlorine
- (c) **Odor threshold;** Not determined
- (d) **pH;** 8.0 – 8.5
- (e) **Melting point/freezing point;** not determined
- (f) **Initial boiling point and boiling range;** 213°F (100.5°C)
- (g) **Flash point;** Not applicable
- (h) **Evaporation rate;** Comparable to water
- (i) **Flammability (solid, gas);** Not flammable
- (j) **Upper/lower flammability or explosive limits;** Not flammable
- (k) **Vapor pressure;** 23.7 mm Hg (25°C)
- (l) **Vapor density;** 0.02 kg/m³
- (m) **Relative density;** 1.01 g/ml (20°C)
- (n) **Solubility(ies);** Miscible (water)
- (o) **Partition coefficient: n-octanol/water;** Not applicable (not a mixture)
- (p) **Auto-ignition temperature;** Not applicable
- (q) **Decomposition temperature;** Not determined
- (r) **Viscosity;** 0.6409 mm²/ sec

SECTION 10: STABILITY AND REACTIVITY

- (a) **Reactivity;** Not reactive under normal temperatures and pressures.
- (b) **Chemical stability;** Stable at normal temperatures and pressures.
- (c) **Possibility of hazardous reactions;** Contact with acids or chlorine can result in the evolution of chlorine dioxide gas (ClO₂)
- (d) **Conditions to avoid:** Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.
- (e) **Incompatible materials;** Acids, Reducing agents, Combustible material, Oxidizing agents, Hypochlorite, Organic solvents and compounds, Garbage, Dirt, Organic materials, Household products, Chemicals, Soap products, Paint products, Vinegar, Beverages, Oils, Pine oil, Dirty rags, Sulfur-containing rubber, or any other foreign matter

SECTION 11: TOXICOLOGICAL INFORMATION

ANIMAL TOXICOLOGY

Inhalation LC ₅₀ :	>5.61 mg/l
Dermal LD ₅₀ :	>5,000 mg/kg (rabbit)
Oral LD ₅₀ :	>5,000 mg/kg (rat)

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.

MUTAGENICITY

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

REPRODUCTIVE/DEVELOPMENTAL TOXICITY

No known effects to date.

SECTION 12: ECOLOGICAL INFORMATION

Bio-Fresh® cd is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, rivers or streams. Do not discharge effluent containing this product to sewer systems without first notifying the sewage treatment plant.

Bio-Fresh® cd does not bio-accumulate and is biodegradable.

Bio-Fresh® cd does not migrate in soil.

SECTION 13: DISPOSAL CONSIDERATIONS

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

CONTAINER DISPOSAL: Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple rinse container, or equivalent, promptly after emptying.

Triple rinse as follows: Empty the remaining contents into applications equipment or a mix tank and drain for ten seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Pour rinsate into applications equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

SECTION 14: TRANSPORT INFORMATION

Not regulated in transport

Environmental Hazards: Toxic to fish and aquatic organisms. Not a marine pollutant. In case of spill, flush with copious amounts of water. Do not allow to dry to crystalline form.

SECTION 15: REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:

This material is not considered hazardous by the OSHA Hazard Communication standard (29CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not regulated.

SARA EHS Chemical (40 CFR 355.30):

Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):

Not regulated

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):

All components are listed or exempt.

TSCA 12(b):

This product is not subject to export notification.

Canadian Chemical Inventory:

All components of this product are listed on either the DSL or the NDSL

STATE REGULATIONS

California, Proposition 65:

Cancer WARNING: Not Listed

CRT List – Male reproductive toxin: Not Listed

CRT List – Female reproductive toxin: Not Listed

Massachusetts Right to Know Hazardous Substance List: Listed

New Jersey Right to Know Hazardous Substance List: listed 1689

New Jersey Special Health Hazards Substance List: Listed 1689

New Jersey Environmental Hazardous Substance List: Not Listed

Pennsylvania Right to Know Hazardous Substance List: Listed

Pennsylvania Right to Know Special Hazardous Substances: Not Listed

Pennsylvania Right to Know Environmental Hazard List: Not Listed

Rhode Island Right to Know Hazardous Substance List: Not Listed

WHMIS - Classifications of Substances:

Not classified

FIFRA Regulations:

Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA Reg. No. 9804-3-65516 (Bio-Fresh® cd)

FIFRA Labeling Requirements:

This chemical is a pesticide product registered by the United States Environmental Protection Agency and it subject to certain labeling requirement under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

FIFRA Signal Word – CAUTION

Corrosive

Harmful if swallowed

Avoid Breathing spray mist

Causes moderate eye irritation

Remove contaminated clothing and wash clothing before reuse

Wash thoroughly with soap and water after handling

Handlers applying chlorine dioxide must wear gloves

This pesticide is toxic to fish and aquatic invertebrates

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1 Flammability: 0 Reactivity: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard rating primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Product is used on site by mixing with a generally regarded as safe (GRASS) acid. There is the potential for release of chlorine dioxide gas (ClO₂). Appropriate personal protection equipment (PPE) should be employed. (see section 8)

NOTICE: Manufacturer believes the information contained herein is accurate; however we make no guarantees with respect to such accuracy and assume no liability in connection with the use of the information contained herein by any party. Any party using this product should review all such laws, rules or regulations prior to use.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED FOR A PARTICULAR PURPOSE OR OTHERWISE

Prepared: May 2015



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Name Nu-Calgon Wholesaler, Inc.	Phone Number (314) 469-7000 / (800) 554-5499	CHEMTREC (800) 424-9300		
Street Address 2008 Altom Court	City St. Louis	State MO	Postal Code 63146-4151	Last Update 2/8/07
Product Name Bio-Fresh cd	Product Number 4126-34	Product Use Bacteristat-Fungistat		EPA Registration # 9804-3-65516

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Sodium Chlorite	0.17	7758--19-2	No Data.	No Data.

SECTION 3 – 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 Toxicity Category IV rating as a mild irritant with minimal effects. 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: bio-fresh cd® normally has no respiratory effects. If exposure to chlorine dioxide produced from activation occurs, remove victim to fresh air. Consult a physician if respiratory distress continues.

Chronic Exposure: May cause localized irritation to areas exposed to product. SYSTEMS OF OVER EXPOSURE Skin and eye irritation

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.

SECTION 4 – 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 911 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. NOTES TO PHYSICIAN: Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post inhalation.

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: N/A°C/N/A°F

Autoignition Temp: N/A°C/N/A°F

Hazardous Products of Combustion: No Data.

Flammable Limits in Air: No Data.

Extinguishing Media: Water unless contraindicated by other materials involved in the fire.

Fire and Explosion Hazards: The sodium chlorite in dried bio-fresh® cd is a strong oxidizer, which supports combustion.

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.

SECTION 6 – 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 or which may contaminate U.S. coastal waterways 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. Do not discharge this product to storm drains or to any surface or groundwater source unless specifically allowed under a valid NPDES permit.

SECTION 7 – 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, dark area in original container. Do not contaminate water, food, or feed by storage or disposal. Do not re-use container.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: None required

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: No Data.

Specific Engineering Controls (such as ventilation, enclosed process): Open air or good room ventilation is normally adequate for safe use of this product

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid	Freezing Point: No Data.°C/No Data.°F	% Volatile by Weight: No Data.%
Color: Clear	Vapor Density [air =1]: 0.02 kg/m3	Evaporation Rate: Comparable to water
Odor: very faint chlorinous odor	Vapor Pressure: 23.7 mm Hg (25°C)	Specific Gravity: 1.01 g/ml (20°C)
Boiling Point: 100.5°C/213°F	Solubility in Water: Complete	pH (concentrate): 7.5 – 9.0

SECTION 10 – 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 may produce chlorine dioxide gas.

SECTION 11 – TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD 50 of Ingredient (Specify Species)	LC50 of Ingredient (Specify Species)
Sodium Chlorite	No Data.	No Data.	Inhalation LC50: >5.61 mg/l	Dermal LD50: >5,000 mg/kg (rabbit) Oral LD50: >5,000 mg/kg (rat)
			Though product active ingredient is a chemical oxidant, no evidence to date for mutagenicity from whole animal or in vitro studies.	

SECTION 12 – ECOLOGICAL INFORMATION

Hazardous Ingredients	Aquatic Toxicity Data
	This product is toxic to fish and aquatic organisms. 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 sewage treatment plant authority. For guidance, contact your State Water Board or Regional office of the EPA.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: CONTAINER DISPOSAL: Wrap container in newspaper and discard in trash. 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.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: Not DOT Regulated

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

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	Not regulated by WHMIS.
SARA Title III: (Superfund Amendments & Reauthorization Act)	Neither the product nor its constituent ingredients are listed under SARA reporting requirements. Chlorine dioxide produced from activation is listed under SARA 313.
OSHA: (Occupational Safety & Health Administration)	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: (Toxic Substance Control Act)	All product ingredients are in inventory
VOC: (volatile Organic Compounds)	<0.1% by weight
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	No Data.
CERCLA: (Comprehensive Response Compensation & Liability Act)	No Data.
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	Health: 1 Flammability: 0 Reactivity: 1 Special Hazards: None

SECTION 16 – OTHER INFORMATION

RCRA: Not considered a hazardous waste either categorically or by chemical listing.
FIFRA: Bio-fresh® cd is an EPA registered antimicrobial (EPA No. 9804-65516)
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. NOTE: Regulatory requirements are subject to change and may vary from one location to another. It is the user's responsibility to ensure compliance with all applicable federal, state and local regulations pertaining to the purchase, transport, storage, use and disposal of this product.
Product may bleach clothing and fabric materials, such as draperies and carpets.

The information contained herein is based on the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herein.