

COUNTY OF ROCKLAND
Department of General Services
Purchasing Division

Contract Award Notification

Title: **Cleaning and Disinfecting Services**

Contract Period: April 20, 2020 through April 19, 2021 with 2 one-year options,
Extend through April 19, 2022 with a one-year option
Extended Through April 19, 2023

Original Date of Issue: April 20, 2020

Date of Revision: **March 2, 2022**

BID No.: RFB-RC-2020-040

PRC No.: 2020900425 (article 9)

Catalog: Facilities Maintenance

Authorized Users: Non-Profit Agencies

Address Inquiries To:

Name: Michele Phillips
Title: Purchaser I
Phone: 845-364-2984
Fax: 845-364-3809
E-mail: phillipm@co.rockland.ny.us

Description

This contract is for cleaning and disinfecting services.

Contract #	Vendor Number	Contractor & Address	Telephone No.
BID 20-040-A	0000025731	Belfor USA Group 75 Virginia Road North White Plains, NY 10603 Contact: Stephen Delillo stephen.delillo@us.belfor.com (PRIMARY VENDOR)	914-798-1440 Fax: 914-798-3890
RFB-RC-20-040-B NOT RENEWED	0000026702	Advanced Disaster Recovery 2713 Route 17M New Hampton, NY 10958 Contact: Angelo Ferrante angelo@advanceddri.com (SECONDARY VENDOR)	845-294-8919 Fax: 845-259-1810

Please note: a secondary vendor has been added to this award. Secondary vendor to be used only when Primary Vendor is not available. The Secondary vendor does not have a people soft contract. If used, please enter in a special request.

**COUNTY OF ROCKLAND
DGS – PURCHASING DEPARTMENT
BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
POMONA, NY 10970
TELEPHONE NO.: 845-364-3820
FAX NO.: 845-364-3809**

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	<u>UNIT PRICE</u> BELFOR	<u>UNIT PRICE</u> ADVANCED DISASTER RECOVERY
1	Pricing per Square Foot to provide all material, equipment and supplies to clean and disinfect County Facilities as spefied.	94884000001	250	S/F	\$0.15	\$0.38
2	Project Manager - Hourly Rate - Monday thru Friday 7:00 AM thru 5:00 PM	94884000002	8	Hour	\$108.00	\$95.00
3	Project Manager - Hourly Rate - Monday thru Friday after 5:00 PM	94884000003	8	Hour	\$108.00	\$95.00
4	Project Manager - Hourly Rate - Weekends & Holidays	94884000004	8	Hour	\$108.00	\$95.00
5	Hazmat Lead Technician - Hourly Rate - Monday thru Friday 7:00 AM thru 5:00 PM	94884000005	8	Hour	\$78.00	\$125.00
6	Hazmat Lead Technician - Hourly Rate - Monday thru Friday After 5:00 PM	94884000006	8	Hour	\$117.00	\$185.00
7	Hazmat Lead Technician - Hourly Rate - Weekends and Holidays	94884000007	8	Hour	\$117.00	\$185.00
8	Hazmat Technician - Hourly Rate - Monday thru Friday 7:00 AM thru 5:00 PM	94884000008	8	Hour	\$70.00	\$125.00

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LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	<u>UNIT PRICE</u> BELFOR	<u>UNIT PRICE</u> ADVANCED DISASTER RECOVERY
9	Hazmat Technician - Hourly Rate - Monday thru Friday After 5:00 PM	94884000009	8	Hour	\$105.00	\$185.00
10	Hazmat Technician - Hourly Rate - Weekends and Holiday	94884000010	8	Hour	\$105.00	\$185.00
11	Test Fee to perform Biomass Testing - a minimum of three (3) tests will be required per project. Unit pricing shall be submitted per test.	94884000011	1	Test	\$110.00	\$150.00
12	Service Fee to clean/disinfect Vehicles - Compact Passenger Vehicle	94884000012	1	Each	\$75.00	\$50.00
13	Service Fee to clean/disinfect Vehicles - Mid Size Sedan	94884000013	1	Each	\$80.00	\$50.00
14	Service Fee to clean/disinfect Vehicles - Full Size Sedan	84884000014	1	Each	\$85.00	\$50.00
15	Service Fee to clean/disinfect Vehicles - Large Pickup Truck	94884000015	1	Each	\$90.00	\$50.00
16	Service Fee to clean/disinfect Vehicles Compact SUV	94884000016	1	Each	\$75.00	\$70.00
17	Service Fee to clean/disinfect Vehicles Mid Size SUV	94884000017	1	Each	\$80.00	\$70.00

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LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	<u>UNIT PRICE</u> BELFOR	<u>UNIT PRICE</u> ADVANCED DISASTER RECOVERY
18	Service Fee to clean/disinfect Vehicles - Full Size SUV	94884000018	1	Each	\$85.00	\$70.00
19	Service Fee to clean/disinfect Vehicles - Full Size Van	94884000019	1	Each	\$90.00	\$80.00
20	Service Fee to clean/disinfect Vehicles Passenger Van	94884000020	1	Each	\$90.00	\$85.00
21	% Markup not to exceed 10% , for services, equipment and supplies not covered under the Basic Scope of Work specified . All work performed under this line shall require a detailed itemized proposal and prior written approval by the authorized County representative. Labor charges are not subject to % Markup. The % Markup offered shall be entered as a whole number e.g. 10% = 0.10	94884000021	1	Each	7%	10%
22	TOTAL				\$8,226.57	\$11,021.10

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CLEANING AND DISINFECTING SERVICES

RFB-RC-2020-040

PURCHASES BY NON PROFIT AGENCIES

As per Rockland County Procurement Policy, Non Profit Agencies approved to participate in New York State's Contract Extension Program are authorized to make purchases through the resulting contract(s).

1. The County of Rockland shall make all contract award information available to non profit agencies through our website: www.rcpurchasing.com
2. Any Rockland County non profit agency will issue purchase orders directly to vendors within the specified contract period referencing the County's contract and shall be liable for any payments due on such purchase orders; and shall accept sole responsibility for any payment due.
3. All purchases shall be subject to audit and inspection by the other non-profit agency for which the purchase was made.
4. All Bidders shall be on notice that as a condition of the award of a County contract, the successful bidder shall accept the award of a similar contract with any Rockland County non-profit agency authorized to use New York State's contracts, if called upon to do so. A listing of approved Rockland County non-profit agencies is available on the Purchasing Division's website at www.rcpurchasing.com. The County, however, will not be responsible for any debts incurred by the participants pursuant to this or any other agreement.
5. Necessary deviations from the County's specifications in the award of a participant contract, whether such deviations relate to quantities, or delivery points shall be resolved between the successful bidder and the political subdivisions or Rockland County non profit agencies.

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CLEANING AND DISINFECTING SERVICES

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SPECIFICATIONS

1. Provide all labor, supervision, equipment and supplies to perform cleaning and disinfection services for workspaces after persons suspected/confirmed to have COVID-19 or other infectious virus within County of Rockland facilities. Work shall be performed on an as needed basis and as authorized by the Director of Facilities Management, Robert H. Gruffi, P.E or designee.
 - 1.1. It is anticipated that 90% of the services will be performed in employee workspaces located throughout the County, however, services may be requested for other spaces e.g. Medical Examiner's space, Correctional facility, Family Shelter etc. At the time of request for service the County of Rockland will provide an estimated square footage of space for each location to be serviced at which time the Contractor shall provide an estimate of cost in accordance with the pricing awarded by contract. Typical workspaces within the County are low to medium density spaces.
 - 1.2. Contractor shall provide services using TSN, STERAMIST Binary Ionization Technology system approved equal disinfectant solution.
 - 1.2.1. Bidders shall provide, with their bid, detailed information of the application services to be utilized, SDS sheets for the application shall be included.
 - 1.3. All services are to follow the guidelines and requirements set fourth by the CDC for this type of exposure. The URL link to CDC guidelines and requirements is as follows:
 - 1.3.1. <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html#Cleaning>.
 - 1.4. At a minimum, service shall include, but not limited, disinfect the high touch surface areas and electrostatically spray disinfectant, wipe down all "high touch" surface areas with a disinfectant (desk/table tops, desk/table sides, desk/table bottoms, desk/table legs, entire chairs, handrails, light switches, elevator buttons, cabinet handles, thermostats, etc. basically anything someone would touch). Electrostatically spray the entire space with disinfectant. All disinfectants used shall be approved by the CDC to treat and kill the coronavirus (COVID19). Scope of services may vary depending on the space being cleaned.

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CLEANING AND DISINFECTING SERVICES

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- 1.5. Contractor to perform "before and after testing" on specific surfaces for noting biomass decrease effect done by the cleaning services, biomass testing is to be done on a minimum of 3 surfaces of typical high traffic touch areas with the County having the option to require more.
- 1.6. NOTE – All work performed under this contract is subject to NYS Labor Law Section 220 Article 9.

2. PRICING

- 2.1. Pricing to be provided in accordance with the BidTable/Proposal Pages:

2.1.1. Pricing per S/F to provide all equipment, application system and material to provide specified services.

2.1.2. Hourly Labor rates to provide supervision, technical support and labor to perform the specified services (excluding vehicle services).

2.1.3. Testing Fee to perform the Biomass testing as specified.

2.1.4. Cleaning and disinfecting rate for vehicles within the County fleet, pricing to be provided per vehicle size listed and shall include all labor, supervision, material and equipment to perform the specified service.

2.1.5. % Markup – Work performed under this line shall be for equipment and material (excluding labor) not specifically covered under the scope of work specified.

- 2.1.5.1. Payment for work under this line shall be made only with the submission of invoices showing the Contractor's cost for equipment and material being billed. – Any additional services required under this line shall be billed in accordance with the awarded hourly rate and not subject to the % Markup awarded.

2.1.5.1.1. The % Markup offered shall not exceed 10%.

2.1.5.1.2. No work shall be performed under this line without prior written approval by the authorized County representative.

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3. TESTING

- 3.1. Contractor shall provide "before and after testing" on specific surface for noting biomass decrease effect done by the cleaning services, biomass testing is to be done on a minimum of 3 surfaces of typical high traffic touch areas with the owner having the option to require more.

4. ENVIRONMENTAL HEALTH AND SAFETY COMPLIANCE

- 4.1. The Contractor shall verify that all work performed meets or exceeds all applicable local, state and federal laws and regulations, including, but not limited to, environmental protection and occupational safety regulations.
- 4.2. The Contractor shall assume full and independent responsibility for the occupational safety and health of its employees and county employees while performing on-site services.

5. INITIATION OF SERVICES; COMMUNICATION/COORDINATION OF RESPONSE

- 5.1. When services are required under this contract, an authorized representative of the County will notify the contractor by means of a pre-arranged system of communication. As a minimum requirement for a system of communication, the contractor shall maintain a 24/7, including weekends and holidays, dedicated toll free phone line staffed by personnel qualified to receive and respond to calls for service. Contractor shall respond immediately by phone/email within (2) hours from the date and time of notification by the County.
- 5.2. Upon notification of request and issuance of a Purchase Order, the contractor shall respond on site with the necessary response personnel and equipment to begin services within 24 hours of such notification unless alternate schedule is agreed to by an authorized representative of the County.
- 5.3. If additional on-site services are identified by the contractor and require changes in scope, budget or time, the contractor shall contact the authorized County representative to receive written approval before proceeding with change order.
- 5.4. Any additional work authorized shall be billed in accordance with the unit pricing awarded in resulting contract.
- 5.5. All work shall meet the approval of the authorized representative of the County.

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6. WORK HOURS

- 6.1. Work shall be performed between the hours of 7:00 AM and 5:00 PM, Monday through Friday. No work is to be performed outside of these hours without written approval from the authorized representative of the County.

7. QUALIFICATIONS AND EXPERIENCE OF CONTRACTOR

- 7.1. The bidder shall show that he has available under his direct employment and supervision the necessary organization and facilities to properly fulfill all the services and conditions required under these specifications. The contractor shall show that he has maintained an organization capable of performing the work specified herein, and that said organization has been in continuous operation for at least the past five (5) years. Contractor shall submit the following information with bid:
 - 7.1.1. Years of operation.
 - 7.1.1.1.1. The names of the employees in the area responsible for this contract, their function in the company, title, and number of years of service with the contractor's firm. The present address of the main operating office of this organization.
 - 7.1.2. Documentation indicating technical personnel experience (3) years minimum).
 - 7.1.3. All bidders must submit a list of references demonstrating at least five (5) years of experience performing the specified work. Certificate of Experience form shall be submitted with the bid response.
 - 7.1.4. Bidders shall submit a completed Certificate of Equipment with the bid response.
- 7.2. Sub-contracting for any of the services or labor required to perform these services shall not be permitted without the written approval of the authorized County of Rockland representative.

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8. AWARD

- 8.1. This bid shall be awarded to a primary vendor who is the lowest responsible bidder meeting the stated specifications and requirements.
- 8.2. A secondary vendor will be awarded to provide services as may be required under this bid when the primary is unable to provide the required service.
- 8.3. Payment to a secondary vendor is based on his bid submission.
- 8.4. Does your firm wish to be considered as a **secondary vendor**?

YES NO

SDS Sheets for Belfor

Binary Ionization Technology® (BIT™) Solution SDS - EPA Reg. No. 90150-2 EPA

AP-B

Safety Data Sheet (SDS)

TOMI Environmental Solutions, Inc.'s SteraMist™ Binary Ionization Technology (BIT) Solution

1. Identification

Binary Ionization Technology® (BIT™) Solution SDS

Also known as:

Binary Ionization Technology®
BIT™ Solution Ready-To-Use Hydrogen Peroxide
Steramist™ BIT™

Intended Use

For use as a hospital-healthcare disinfectant: use sites include hospitals, industrial, commercial, hospitality, and institutional settings (including production operations in pharmaceutical manufacturing including clean rooms, tissue labs, laboratories, animal research facilities, hotel rooms, cruise ships, and recreational facilities.

Have the product container or label with you when calling a Poison Control Center, or doctor, or going for treatment.

For general information on product use, etc., call the National Pesticides Information Center at:
1-800-858-7378

For emergencies, call the poison control center:
1-800-222-1222

For non-US Emergencies, please contact TOMI for emergency contacts for your country.

Distributed by: TOMI™ Environmental Solutions, Inc.
5111 Pegasus Court, Suite A,
Frederick, MD 21704
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infotailorinimist.com
Proudly Made in the USA

2. Hazard(s) Identification

OSHA Regulatory Status

GHS Label Element:



Irritant to skin and eye

Hazard Statements:

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Cause serious eye damage if protective gear is not worn

Precautionary Statements (For full list, see Section 16):

P264	Wash hands, forearms and face thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301 + P310	If SWALLOWED: Immediately call a POISON CENTRE or doctor/physician
P302 + P352	If on skin: Wash with plenty of water
P305 + P351 + P338	IF IN EYES: Remove contact lenses if present and easy to do. Continue rinsing.

This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statement and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. Composition/Information on Ingredients 1111

Substance name	CAS number	Function	%	EINECS	EU Classifications/ EU Risk Phrases
Hydrogen peroxide	7722-84-1	Active substance	<8	231-765-0	Xi, R36
Inert Ingredients	Trade Secret	Trade Secret	<5	Trade Secret	Xi, R36
Deionized water	7732-18-5	Solvent	>87.5	231-791-2	Not Classified

4. First Aid Measures 11111

- **Eyes:**
 - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
 - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Call a Poison Control Center or doctor for treatment advice.
- **Skin:**
 - In case of a tear in glove or protective clothing, 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.
- **Ingestion:**
 - Rinse mouth with water.
 - Dilute by giving 1 or 2 glasses of water. Do not induce vomiting.
 - See a medical doctor immediately.
- **Inhalation:**
 - Remove to fresh air.
 - Consult doctor in case of symptoms.
- **Notes to Medical Doctor:**
 - Direct contact may be minimally irritating.
 - Treatment is by dilution and is symptomatic and supportive.

5. Fire Fighting Measures

- Suitable Extinguishing Media: Flood with plenty of water; use with extinguishing circumstances appropriate with local surrounding environment.
- « Advice to Firefighters:
 - Exercise caution while fighting any chemical fire.
 - Wear MSHA/NIOSH compliant breathing equipment.

6. Accidental Release Measures

- * Person-related Safety Precautions: Wear protective equipment. Keep unprotected persons away when applying.
- * Measures for Cleaning/Collecting: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust) or wipe with towel.
- * Additional Information: No dangerous materials are released.

7. Handling and Storage

Read EPA Registered BIT™ Solution Label before use.

Handling

- Information for safe handling: No special measures required.
- Information about protection against explosions and fires: No special measures required.

Storage

- Requirements to be met by storerooms and containers: No special requirements.
- Information about storage in one common storage facility: Store away from edible food items.
- Further information about storage conditions: Do not store in direct sunlight.

8. Exposure Controls/Personal Protection Equipment (PPE)

PPE should be selected upon the conditions this product is normally used. Refer to EPA Registered BIT™ Solution Label.

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be adhered to.

For applicators and handlers of the SteraMist™ Surface Unit Hand Held equipment and for early re-entry for the SteraMist™ Environment System, the following PPE must be worn:

1. Protective eyewear such as goggles or face shield, or safety glasses.
2. R95 Respirator, Powered Air Purifying Respirator with organic vapor filter, or equivalent, depending on environment.
3. Long-sleeved shirt and long pants; socks and chemical resistant footwear; goggles safety or glasses with side shields, or face shield; chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride, or Viton.

Final selection of additional PPE must be done in accordance with site guidelines and take into consideration the use of the product as well as any infection or exposure hazards related to the environment to be disinfected.

Exposure Limits/ Components with Limit Values that Require Monitoring at the Workplace

Chemical Name	CAS Number	ACGIH (TLV)	OSHA (PEL)	NIOSH (IDLH)
Hydrogen peroxide	7722-84-1	TWA 1 ppm	TWA 1 ppm	75 ppm

ACGIH: American Conference for Governmental Industrial Hygienists
 OSHA: Occupational Safety and Health Administration
 NIOSH: National Institute for Occupational Safety and Health

TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 IDLH: Immediately Dangerous to Life or Health

Hygiene Measures:

- Handle in accordance to good hygiene and safety practices.
- Avoid contact with skin, eyes, and clothing. Wear suitable glove, eye, and face protection.
- Do not eat, drink, or smoke while using this product.
- Remove all contaminated clothing and wash before reusing.
- Do not remove clothing from the work site.
- If on skin, rinse with water immediately.
- Wash hands after SteraMist™ use.
- Remove and wash contaminated equipment before use.



9. Physical and Chemical Properties

Appearance:	Clear, colorless liquid
Odor:	Odorless
pH:	2.0 to 4.
Freezing Point:	No data available
Boiling Point:	No data available
Flash Point and Method:	No data available
Flammable Limits:	No data available
Fire/Explosion Hazards:	No data available
Vapor Pressure:	No data available
Vapor Density:	No data available
Solubility in Water:	No data available
Evaporation Rate:	No data available.
Specific Gravity:	No data available
% Volatile:	No data available
Auto-ignition Temperature:	No data available
Hazardous Decomposition Products:	No data available
Sensitivity to Static Discharge:	No data available
Sensitivity to Impact:	No data available

10. Stability and Reactivity

Chemical Stability:	Stable under recommended conditions.
Possibility of Hazardous Reaction:	None under normal processing.
Hazardous Polymerization:	Does not occur.
Decomposition Products:	Oxygen.

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Eye Effects:	Mild Irritant (rabbit)
Skin Effects:	No perceptible reaction (guinea pig), slight irritant
Dermal LD50:	> 2,000 mg/kg (rabbit)
Oral LD50:	> 5,000 mg/kg (rat)
Inhalation LC50:	> 2.77 g/m ³ (rat), may cause irritation in respiratory track
Acute Effects from Overexposure:	Minimally irritating to the eyes, skin, nose, throat, and lungs.
Chronic Effects from Overexposure:	The international Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans). The American Conference of Governmental Industrial Hygienists (ACGIH) has concluded that hydrogen peroxide is a 'Confirmed Animal Carcinogen with Unknown Relevance to Humans' (A3).
Carcinogenicity:	IARC Group 3, Not classifiable as to its carcinogenicity to humans, ACGIH Listed (A3, Animal carcinogen)
Reproductive Toxicity:	No information is available.
Mutation:	No information is available.

MEcological Information

Channel catfish 96—hour LC50	= 37.4 mg/L
Fathead minnow 96—hour LC50	= 16.4 mg/L
Daphnia magna 24—hour EC50	= 7.7 mg/L
Daphnia pulex 48—hour LC50	= 2.4 mg/L
Freshwater snail 96—hour LC50	= 17.7 mg/L

For more information, refer to ECETOC "Joint Assessment of Commodity Chemicals No. 22, Hydrogen Peroxide." ISSN-0773-6339, January 1993

CHEMICAL FATE INFORMATION: Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Degrades in the atmosphere within the light spectrum with hydroxyl radicals in the gas phase and subsequent photolysis.

13. Disposal Considerations

STORAGE AND DISPOSAL: Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Keep out of direct sunlight and away from heat. Do not freeze. Store in original closed plastic container in cool, dry area, at average/normal room temperature, away from small children and pets.

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

Container Disposal: Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration. If product is leaking or spills should occur, please dilute with water and dry with absorbent material, or dilute with water as it is flushed into waste water drain.

14. Transport Information

The following refers to all modes of transportation unless specified below:

DOT NOT REGULATED
 TDG NOT REGULATED
 ICAO NOT REGULATED
 IATA NOT REGULATED
 IMDG/IMO NOT REGULATED
 EUADR NOT REGULATED

15. Regulatory Information

Toxic Substances Control Act (TSCA) Section 8B Inventory:	Compliant
Canadian Domestic Substance List (DSL) & Non-DSL:	All active components are listed and compliant.
US Federal Regulations:	US EPA 90150-2
SARA 311/312 Hazard Categories:	
Acute:	Yes
Chronic:	No
Fire:	No
Sudden Release of Pressure:	No
Reactive:	No
CWA (Clean Water Act):	Meets all requirements.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):	Non-reportable.
<u>US State Regulations:</u>	
California Prop 65:	This product does not contain any Prop 65 Chemicals

US State Right to Know Regulations:

	NJ	MA	PA	RI	IL
Trade Secret	X	X	X	X	
Hydrogen Peroxide	X	X	X	X	

Chemical Name	CAS Number	ACGIHTLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide	7722-64-1	TWA 1 ppm	TWA 1 ppm	75 ppm

International Occupation Exposure limits:

- Mexico National Occupation Exposure Limits:
 - o 1 ppm TWA LMPE PPT
 - o 1.5 mg/m3 TWA LMPE-PPT
 - o 2 ppm STEL [LMPE-CT]
 - o 3 mg/m3 STEL [LMPE-CT]

16. Other Information

HMIS = Hazardous Materials Identification System (During Application)

Health 0 = Minimal
 Flammability 0 = Minimal
 Physical Hazard 0 = Minimal
 Personal Protection (PPE) H

Protection = H (Safety goggles, gloves, the use of a PAPR or SCBA respirator is required in lieu of an organic R95 /carbon vapor cartridge respirator)

NFPA = National Fire Protection Association (During Application)

Health 0 = Insignificant
 Flammability 0 = insignificant
 Reactivity 0 = Insignificant
 Special None No special requirements

Revision Summary:

The above data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. TOMI™ Environmental, Inc. believes that the information contained in this Safety Data Sheet is accurate, and, while it is provided in good faith, it is without a warranty of any kind, expressed or implied. The contents of this SDS are believed to be correct but do not purport to be all-inclusive and should only be used as a guide.

SAFETY DATA SHEET

SECTION I : PRODUCT IDENTIFICATION



Product Name : Bioesque Botanical Disinfectant Solution

Product Use : Surface Disinfectant

Scent: Lemongrass Grapefruit

Supplier: Natureal, LLC

Address: 150 East Palmetto Park Road, Suite 150, Boca Raton, FL 33432

Telephone: 954-895-7867

Emergency phone: (866) 898-0697

E-Mail: info@bioesquesolutions.com

Web site: www.bioesquesolutions.com

SECTION 2 : HAZARD IDENTIFICATION

WHMIS Class : Exempt

TSCA: All the ingredients are listed or exempt from listing on the Chemical Substance Inventory.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	<u>CAS#</u>	<u>wt %</u>	<u>TLV</u>	LQo	<u>LD₅₀</u>
Thymol	89-83-8	0.23	N/A	N/A	980 rag/Kg (oral, rat)

SECTION 4 : FIRST AID MEASURES

Eye: Remove contact lenses. Rinse with plenty of water for several minutes, keeping eyelids open.

Skin: Rinse with water. Remove spoiled clothes and wash before wearing.

Inhalation : N/A

Ingestion: Seek medical attention if large quantities are ingested.

SECTION 5 : FIRE FIGHTING MEASURES

Flammability : No

Flash Point (ASTM D-93, °C) : >100

Hazardous Combustion Products: Carbon oxides, sulfur oxides.

Suitable extinguishing media: As per surrounding fire.

Special Fire Fighting Procedure: As per surrounding fire.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedure: Stop leak, Rinse to drain or absorb with non-reactive adsorbent and dispose according to existing federal, state, provincial and municipal regulations. Resume cleaning by rinsing with water.

SECTION 7 : HANDLING AND STORAGE

Handling: Follow standard safe handling of materials. Keep out of reach of children.

Storage Requirements: Keep in original tightly closed containers, in a room below 30 °C.

SECTION 8 \EXPOSURE CONTROLS/PERSONAL PROTECTION

Follow standard safe handling of materials.

SECTION 9 : PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point (°C) : 100
Vapor Pressure (mm Hg) : N/A
Vapor Density (Air = 1) : N/A
Solubility in water : complete
Physical State : liquid
Appearance: transparent to translucent
Odour: spicy scent

Density (g/mL): 0.999 at 23 °C
VOC (Wt %) : calculated approx. <1%
Evaporation Rate (Water + 1) : water like
pH (as supplied) : 7.0 to 8.5
Viscosity : water like
Odour Threshold (ppm) : N/A

SECTION 10 : STABILITY AND REACTIVITY DATA

Conditions for Chemical Instability: This product is stable under normal conditions. It does not polymerize.

Conditions to Avoid: Excessive heat.

Incompatible Materials: Strong oxidizing agents; strong alkalis, strong acids.

Hazardous Decomposition Products: The thermal decomposition can produce carbon and sulfur oxides and other organic substances.

SECTION 11 : TOXICOLOGICAL INFORMATION

Routes of **Entry:** Eyes, skin, ingestion, inhalation.

EFFECTS OF ACUTE EXPOSURE :

Acute Oral Toxicity: LD50:>5000 mg/Kg (EPA Category IV).

Acute Dermal Toxicity: LD50:>5000 rag/Kg (EPA Category IV).

Acute Inhalation Toxicity: LC50:>2.01 mg/L (EPA Category IV).

Acute Eye Irritation: Minimal, all effects cleared in 24 hours (EPA Category IV).

Acute Dermal Irritation: Slight, no erythema or edema at 72 hours (EPA Category IV).

Skin Sensitization: Not a sensitizer (EPA Category IV).

Classified as a Category IV by the U.S. Environmental Protection Agency (EPA) per toxicity profile Review for all routes of exposure: no signal words, no precautionary statements or first aid statements required on product label.

EFFECTS OF CHRONIC EXPOSURE :

Irritancy: Frequent prolonged contact may result in dry skin, redness and dermatitis.

Carcinogenicity/Mutagenicity: No, not predictable.

SECTION 12 : ECOLOGICAL INFORMATION

Biodegradability: Readily Biodegradable (OECD 30IE)

Aquatic toxicity: Not toxic to aquatic life (IC50 > 100 mg/L, report EPS 1 / RM / 24)

Method: Microtox® Acute Toxicity Test

Test organism: *Vibrio fischeri*

Results: Cl 50-5 min 560mg/l
IC 95 %-5 min 500-600 mg/L
Cl 50-15 min 660 mg/L
IC 95 %-15 min 540-780 mg/L

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose according to existing federal, state/provincial and municipal regulations. This product is biodegradable.

SECTION 14 : TRANSPORT INFORMATION

D.O.T. Not regulated as dangerous goods.
Not regulated for **IATA**.

SECTION 15 : REGULATORY INFORMATION

U.S. EPA registration: 87742-1-92595

California Proposition 65: No chemicals in this material are subject to the reporting requirements.

NSF Registration No. 157263

SECTION 16 : OTHER INFORMATION

SDS Date of preparation/revision: 2018-08-15

Prepared by: LABORATOIRE M2 Inc.

Phone : 1-866-898-0697

THYMCM
TECHNOLOGY

Disclaimer

Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of WHMIS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from result from the use of or reliance on any information contained in this form. If user requires independent information on ingredients in this or any other material, we recommend contact with the Canadian Center for Occupational Health and Safety (CCOHS) in Hamilton, Ontario (1-800-263-8276) or CSST in Montreal (514-873-3990).

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

Date of issue: 06/19/2015

Revision date: 05/12/2017

Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product name : Benefect Botanical Disinfectant
Product code : 21275, 20475, 20275, 22075, 51275, 50475, 50275, 52075 & 51275
EPA Registration Number : 84683-1-74771
Heath Canada (DIN) : 02242474

1.2. Relevant Identified uses of the substance of mixture and uses advised against

Use of the substance/mixture : Disinfectant

1.3. Details of the supplier of the safety data sheet

Sensible Life Products (div of Benefect Corp)
555 Bay Street North
Hamilton, Ontario L8L1H1 - Canada
T (905) 528-7474

1.4. Emergency telephone number

Emergency number : (905) 528-7474

SECTION 2: Hazards identification

▲ GHS Classification of the substance or mixture

GHS classification

Not classified.

2.2. Label elements

GHS labelling

No labelling applicable.

2.3. Other hazards

No additional information available.

U Unk It Sw h ? cu >> toxic A (3H) f >> M K A A A W M A A A A A A

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name / V	Product Identifier	%
Oils, thyme	(CAS No) 8007-46-3	0.1 - 1
Oils, lemongrass	(CAS No) 8007-02-1	0.1 - 1

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (f) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.
First-aid measures after eye contact : In case of contact, flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.
First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : None under normal use. May cause slight irritation.
Symptoms/injuries after skin contact : None under normal use. May cause an allergic skin reaction in sensitive individuals.
Symptoms/injuries after eye contact : None under normal use. May cause slight irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/injuries after ingestion : None under normal use.

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Treat for surrounding material.
 Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : None known.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Keep unnecessary personnel away from the release.

6.2. Methods and material for containment and cleaning up

For containment : Contain and/or absorb spill, then place in a suitable container.
 Methods for cleaning up : Thoroughly wash the area with water after a spill or leak.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal. ★

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with eyes. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.
 Hygiene measures : Wash hands with water as a precaution.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store at room temperature. PfmIS

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Oils, thyme (8007-46-3)	
ACGIH	Not applicable
OSHA	Not applicable
Oils, lemongrass (8007-02-1)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls : No special precautions.
 Hand protection : None necessary under normal conditions of use.
 Eye protection : None necessary under normal conditions of use.
 Skin and body protection : None necessary under normal conditions of use.
 Respiratory protection : None necessary under normal conditions of Use.
 Environmental exposure controls : Maintain levels below Community environmental protection thresholds.
 Other information : Handle according to established industrial hygiene and safety practices.

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Hazy
Colour	: Light tan
Odour	: Lemon/Spice
Odour threshold	: No data available
pH	: 4.0-5.0
Melting point	: As per water
Freezing point	: As per water
Boiling point	: As per water
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: As per water
Flammability (solid, gas)	: Not flammable
Explosive limits	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: Not applicable
Relative density	: 1.00-1.02
Relative vapour density at 20 °C	: Not applicable
Solubility	: Soluble in water :
Partition coefficient: n-octanol/water	No data available :
Log Kow	No data available :
Auto-ignition temperature	Not combustible :
Decomposition temperature	No data available :
Viscosity	As per water

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

tmm

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

WYY

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Benefect Botanical Disinfectant	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 20 mg/l/4h

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

Oils, thyme (8007-46-3)	
LD50 oral rat	2840 mg/kg
LD50 dermal rabbit	> 5 g/kg

Oils, lemongrass (8007-02-1)	
LD50 oral rat	> 5 g/kg
LD50 dermal rabbit	> 5 g/kg

Skin corrosion/irritation	: Based on available data, the classification criteria are not met.
Serious eye damage/irritation	: Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	: Based on available data, the classification criteria are not met.
Germ cell mutagenicity	: Based on available data, the classification criteria are not met.
Carcinogenicity	: Based on available data, the classification criteria are not met.
Reproductive toxicity	: Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure)	: Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	: Based on available data, the classification criteria are not met.
Aspiration hazard	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: None under normal use. May cause slight irritation.
Symptoms/injuries after skin contact	: None under normal use. May cause an allergic skin reaction in sensitive individuals.
Symptoms/injuries after eye contact	: None under normal use. May cause slight irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/injuries after ingestion	: None under normal use.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: No known significant effects or critical hazards.
Aquatic Toxicity	: Not toxic to aquatic life (IC50 >100 mg/L, Protocol EPS 1/RM/24)

12.2. Persistence and degradability

Benefect Botanical Disinfectant	
Persistence and degradability	Readily Biodegradable (85% in 28 days, OECD 301D Method)

12.3. Bioaccumulative potential

Benefect Botanical Disinfectant	
Bioaccumulative potential	None.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming	: No known ecological damage caused by this product.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not reuse container. Recycle empty containers where allowed.
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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport.

Additional information

Other information	: No supplementary information available.
Special transport precautions	: Do not handle until all safety precautions have been read and understood.

Benefect Botanical Disinfectant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 WHMIS 2015

SECTION 15: Regulatory information

15.1. US regulations

All components of this product are not listed or are excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

EPA labelling

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

This product has no assigned hazard information according to the Environmental Protection Agency.

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

15.2. Canada regulations

V -

0, 1, 2, 3, 4, 5, 6, 7

V, V

WHMIS : Exempt DIN # 02242474

This product has no assigned hazard information according to Health Canada

SECTION 16: Other information:

HMIS

Health Hazard: 0
Flammability: 0
Reactivity: 0

Date of Revision : 05/12/2017

Other information : None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

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tip - A**ProKure****SAFETY DATA SHEET**

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS, OSHA 29CFR 1910.1200

Section 1: Chemical Product and Company identification

PRODUCT NAME: ProKure® V Ready to Use Solution
FORMULA: Preparation/Mixture
PRODUCT USE: Disinfectant/ Sanitizer/ Tuberculocide/ Virocide*/ Fungicide/
 Algaecide/Slimicide/ Deodorizer
 See product label for detail.

MANUFACTURER'S NAME: ProKure Solutions
ADDRESS: 5013 E. Washington Street, STE 100
 Phoenix, AZ 85034
Safety Data Sheet Competent Person: bemie.lorenz@prokurel.com

SUPPLIER'S NAME: ProKure Solutions
ADDRESS: 5013 E. Washington Street, STE 100
 Phoenix, AZ 85034
TELEPHONE NUMBER: 866-206-1301
TOLL FREE:
FAX: 480-304-3327

EMERGENCY TELEPHONE NUMBER: Chemtrec 24 hrs: 1-800-424-9300

DATE PREPARED: March 26, 2018
DATE REVIEWED: April 06, 2018

Section 2: Hazards Identification

GHS Hazard Class: Not classified

GHS Label elements, including precautionary statements:

Pictograms: None.
Signal word: None.
Hazard Statements: None.
Other Hazards: Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Under normal conditions of use, when fully reacted and in solution, the solution is not considered hazardous. However, if the ProKure® V product is altered, or directions for use are not properly followed, the solution may evolve chlorine dioxide gas. At high concentrations chlorine dioxide gas can be explosive and may be fatal if inhaled. If chlorine dioxide concentrations in solution reach $\geq 3\%$ w/w this product may be irritating to the eyes, skin, and respiratory tract. At concentrations of 1-5% it will cause skin irritation and eye damage, and at concentrations $> 5\%$ it will cause skin burns.

Unknown Acute Toxicity (GHS-US): Not available

Section 3: Composition / Information on Ingredients

Product Composition	CAS NO.	Approx. %	Classification (GHS)
Chlorine dioxide	i0049-04-4	0.05	Ox. Gas 1, H270 Compressed gas, H280 Acute Tox. I (Inhalation: gas), H330 Skin Cor 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
		0.01	
		0.005	
		0.002	
		0.0005	
		0.000025	

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Full text of H-phrases: see Section 16. *Reference product labeling to achieve desired weight percent based on dilution.

Section 4: First Aid Measures

Description of First Aid Measures

General:	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
Inhalation:	When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
Skin Contact:	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.
Eye Contact:	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.
Ingestion:	Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

General:	Not expected to present a significant hazard under anticipated conditions of normal use
Symptoms/Injuries After Inhalation:	Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact:	Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact:	May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion:	Ingestion may cause adverse effects.
Chronic Symptoms:	None known.

Indication of any immediate medical attention and special treatment needed

Symptoms may be delayed. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

Section 5: Fire-fighting Measures

Extinguishing Media

Suitable extinguishing media:	Use extinguishing media appropriate for surrounding fire. Water spray.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire

Special hazards arising from the substance or mixture

Fire Hazard:	Not considered flammable but may burn at high temperatures. Contains an oxidizing material which in high concentration may accelerate fire.
Explosion Hazard:	Product is not explosive. Product is not explosive but may evolve explosive chlorine dioxide gas when pressurized

Advice for Firefighter

Precautionary Measures Fire:	Exercise caution when fighting any chemical fire.
Firefighter Instructions:	Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.
Protective actions fire-fighters	Do not enter fire area without proper protective equipment, including respiratory protection
Hazard Combustion Products:	Chlorine dioxide, chlorine gas.
Further information	Risk of explosion if heated under confinement.

Reference to Other Sections

Reference to Section 9 for flammability properties.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

For Non-Emergency Personnel

Protective Equipment:	Use appropriate personal protection equipment (PPE).
Emergency Procedures:	Evacuate unnecessary personnel.

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For Emergency Personnel

Protective Equipment:

Use appropriate personal protection equipment (PPE).

Emergency Procedures:

Evacuate unnecessary personnel.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and materials for containment and cleaning up

For containment:

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up:

Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Reference to other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

Section 7: Handling and Storage

Precautions for safe handling:

Precautions for Safe Handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, and spray.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety procedures.

Conditions for safe storage, including any incompatibilities

Technical Measures:

Comply with applicable regulations.

Storage Conditions:

Keep container closed when not in use. Store in dry, cool and well-ventilated place. Keep/store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials:

Strong acids, strong bases, strong oxidizers. Reducing agents. Organic materials

Specific Uses:

Disinfectant/Sanitizer/Tuberculocide/Virucide/Fungicide/Algaecide/Slimicide/Deodorizer

Section 8: Exposure Controls/Personal Protection

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government

Chlorine dioxide (CAS#10049-04-4)

Mexico	OEL TWA (mg/m ³)	0.3 mg/m ³
Mexico	OEL TWA (ppm)	0.1 ppm
Mexico	OEL STEL (mg/m ³)	0.9 mg/m ³
Mexico	OEL STEL (ppm)	0.3 ppm
USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
USA ACGIH	ACGIH STEL (ppm)	0.3 pp
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.3 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.3 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	0.9 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	0.3 ppm
USA IDLH	US IDLH (ppm)	5 ppm

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Alberta	OEL STEL (mg/m ⁵)	0.8 mg/m ¹
Alberta	OEL STEL (ppm)	0.3 ppm
Alberta	OEL TWA (mg/m ⁵)	0.3 mg/m ⁵
Alberta	OEL TWA (ppm)	0.1 ppm
British Columbia	OEL STEL (ppm)	0.3 ppm
British Columbia	OEL TWA (ppm)	0.1 ppm
Manitoba	OEL STEL (ppm)	0.3 ppm
Manitoba	OEL TWA (ppm)	0.1 ppm
New Brunswick	OEL STEL (mg/m ⁵)	0.83 mg/m ⁵
New Brunswick	OEL STEL (ppm)	0.3 ppm
New Brunswick	OEL TWA (mg/m ³)	0.28 mg/m ⁵
New Brunswick	OEL TWA (ppm)	0.1 ppm
Newfoundland & Labrador	OEL STEL (ppm)	0.3 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.1 ppm
Nova Scotia	OEL STEL (ppm)	0.3 ppm
Nova Scotia	OEL TWA (ppm)	0.1 ppm
Nunavut	OEL STEL (mg/m ⁵)	0.82 mg/m ⁵
Nunavut	OEL STEL (ppm)	0.3 ppm
Nunavut	OEL TWA (mg/m ⁵)	0.27 mg/m ⁵
Nunavut	OEL TWA (ppm)	0.1 ppm
Northwest Territories	OEL STEL (ppm)	0.3 ppm
Northwest Territories	OEL TWA (ppm)	0.1 ppm
Ontario	OEL STEL (ppm)	0.3 ppm
Ontario	OEL TWA (ppm)	0.1 ppm
Prince Edward Island	OEL STEL (ppm)	0.3 ppm
Prince Edward Island	OEL TWA (ppm)	0.1 ppm
Quebec	VECD (mg/m ⁵)	0.83 mg/m ⁵
Quebec	VECD (ppm)	0.3 ppm
Quebec	VEMP (mg/m ⁵)	0.28 mg/m ⁵
Quebec	VEMP (ppm)	0.1 ppm
Saskatchewan	OEL STEL (ppm)	0.3 ppm
Saskatchewan	OEL TWA (ppm)	0.1 ppm
Yukon	OEL STEL (mg/m ⁵)	0.9 mg/m ⁵
Yukon	OEL STEL (ppm)	0.3 ppm
Yukon	OEL TWA (mg/m ⁵)	0.3 mg/m ⁵
Yukon	OEL TWA (ppm)	0.1 ppm

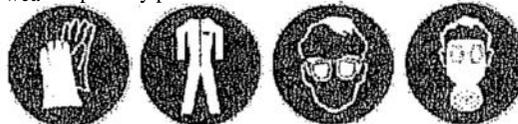
Exposure Controls

Appropriate Engineering Controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment:

Gloves, protective clothing, protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing:

Chemically resistant materials and fabrics.

Hand Protection:

Wear protective gloves.

Eye Protection:

Chemical safety goggles.

Skin and Body Protection:

Wear suitable protective clothing.

Respiratory Protection:

In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental Exposure Controls:

Avoid release to the environment.

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Other Information:

Recommended to wear NIOSH/MHSA-approved respirator for chlorine dioxide when working with stock (500 ppm) solution in open container. When using, do not eat, drink or smoke.

Section 9: Physical and Chemical Properties

Appearance – Color:	Light clear yellow
Physical State:	Liquid
Odor:	Chlorine
pH:	Not available
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability (Solid, gas):	Not available
Upper/Lower Flammability or Explosive Limits:	Not available
Vapor Pressure:	Not available
Vapor Density	Not available
Relative Density (@ 25C)	Not available
Solubility	Not available
Oxidizing Properties	Not available
Partition Coefficient: n-octanol/water:	Not available
Auto Ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity:	Not available
Explosive Property	Risk of explosion if heated under confinement.
Explosion Data – Sensitivity to Mechanical Impact:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge:	Not expected to present an explosion hazard due to static discharge.

Section 10: Stability and Reactivity

Reactivity:	Hazardous reactions will not occur under normal conditions
Chemical Stability:	Stable under recommended handling and storage conditions (see section 7).
Conditions to Avoid:	Direct sunlight, extremely high or low temperatures, and incompatible materials.
Incompatibility (Materials to avoid):	Strong acids, strong bases, strong oxidizers. Reducing agents. Organic materials.
Hazardous Decomposition Products:	Thermal decomposition generates: Chlorine dioxide. Chlorine gas. Oxygen
Hazardous Polymerization:	Will not occur

Section 11: Toxicological Information

GHS Required Criteria	Toxicity Criteria	Data	Comments	Chemical Constituent
Acute Toxicity	LD ₅₀ Oral Rat LC ₅₀ Inhalation Rat	Not available 93.86 mg/kg 32ppm/4hr	Not classified	Product Chlorine dioxide Chlorine dioxide
Skin Corrosion/Irritation		Not available	Not classified	Product
Serious Eye Damage / Eye Irritation		Not available	Not classified	Product
Respiratory or Skin Sensitization		Not available	Not classified	Product
Germ Cell Mutagenicity		Not available	Not classified	Product
Carcinogenicity		Not available	Not classified	Product
STOST – Single Exposure		Not available	Not classified	Product
STOST – Repeated Exposure		Not available	Not classified	Product
Aspiration Hazard		Not available	Not classified	Product

STOST = Specific Target Organ Systemic Toxicity

OTHER INFORMATION:

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

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Symptoms/Injuries After Eye Contact:
Symptoms/Injuries After Ingestion:
Chronic Symptoms:

May cause slight irritation to eyes.
May cause adverse effects.
None known.

Section 12: Ecological Information

Toxicity

Ecology – General: Not classified.

	Environmental Impacts	Chemical Constituents
Toxicity	LC ₅₀ Fish 1: 0.021 mg/l (Brachydanio rerio or Danio rerio)	Chlorine dioxide
Bioaccumulative potential	Not available	Product
Persistence and degradability:	Not available	Product
Mobility in soil:	Not available	Product
PBT and vPvB assessment:	Not available	Product
Other adverse effects:	Avoid release to the environment	Product

Section 13: Disposal Considerations

Waste Disposal Recommendations:

Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations

Additional Information:

Contaminated packaging material should be disposed of as stated above for residues and unused product.

Ecology – waste materials:

Avoid release to the environment

Section 14: Transport Information

In accordance with ICAO/IATA/DOT/TDG/IMDG

ON Number:	Not regulated for transport.
UN Proper Shipping Name:	Not regulated for transport.
Transport Hazard Class(es):	Not regulated for transport.
Additional Information:	Not available
Transport by sea:	Not regulated for transport.
Air Transport:	Not regulated for transport.
In accordance with LATA/ICAO:	Not regulated for transport.
In accordance with TDG:	Not regulated for transport.

Section 15: Regulatory Information

US Federal Regulations

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:
Chlorine dioxide is listed on TSCA.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) Section 313
Chlorine dioxide is subject to Emission Reporting at 1.0%

US State Regulations:

Chlorine dioxide (CAS#10049-04-4)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic

U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)

U.S. - Colorado - Primary Drinking Water Regulations - Maximum Residual Disinfectant Level Goals (MRDLGs)

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U.S. - Colorado - Primary Drinking Water Regulations - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Georgia - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Drinking Water - Maximum Contaminant Levels (MCLs)
U.S. - Massachusetts - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - Missouri - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Nebraska - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - New Hampshire - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - Pennsylvania - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

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U.S. - Utah - Drinking Water - Maximum Residual Disinfectant Levels (MRDLs)
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - West Virginia - Water Quality - Groundwater Standards - Ceiling Concentrations
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

Canadian Regulations

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WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

Chlorine dioxide (CAS#10049-04-4)

DLS	Listed on the Canadian DSL (Domestic Substance List)
IDL	Listed on the Canadian IDL (Ingredient Disclosure List) – Concentration 1.0%
WHMIS Classification	Class A – Compressed Gas Class C – Oxidizing Material Class D Division 1 Subdivision A – Very toxic material causing immediate and serious toxic effects Class E – Corrosive Material Class F – Dangerously Reactive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

Section 16: Other Information

GHS Full Text Phrases:

Acute Tox. 1 (Inhalation: gas)	Acute toxicity (inhalation: gas) Category 1
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Compressed gas	Gases under pressure Compressed gas
Ox. Gas 1	Oxidizing gases Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA Health Hazard:

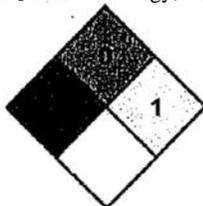
1 – Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA Fire Hazard:

0 – Materials that will not burn.

NFPA Reactivity:

1 – Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



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Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Revision Number: 3.0

Revision explanation: Updated section 8 with 500 ppm PPE recommendation and ProKure image in the header.

Information Sources: RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

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