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.

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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

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

- **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 Handheld 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:	6.68
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.

11. Toxicity Information

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.

12. Ecological 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 wastewater 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.

US State Regulations:

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	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen peroxide	7722-84-1	TWA 1 ppm	TWA 1 ppm	75 ppm

International Occupation Exposure limits:

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