1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name HaloMist

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Disinfectant (Aerosol) Surfaces

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Halosil International Inc.

Supplier Address 91 Lukens Drive
New Castle
DE
19720
US

Supplier Phone Number Phone:302-454-8102

Supplier Email sales@halosil.com

Emergency telephone number CHEMTREC US and Canada-1-800-434-9300, Outside US-1-703-527-3887

Company Emergency Phone Number 302-454-8102

2. HAZARDS IDENTIFICATION

Classification
Eye Irrit 2B H320
Eye irritation

Category 2  Sub-category B

GHS Label elements, including precautionary statements

Emergency Overview

Signal word  Warning

Hazard Statements
H320-Causes eye irritation

Appearance  Colorless  Physical state  Liquid  Odor  Odorless

Precautionary Statements – Prevention

P-280 -Wear Protective gloves/protective clothing and eye/face protection and breathing protection.
P305+ P351 + P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313- If eye irritation persists: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing immediately call a POISON CENTER or doctor/physician

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity

Other information

Interactions with Other Chemicals
No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>Silver nitrate</td>
<td>7761-88-8</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Other ingredients</td>
<td></td>
<td>94.99</td>
<td>x</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

First aid measures

**General Advice**

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show label where possible).

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

**Skin contact**

Wash off immediately with plenty of water for 15 minutes while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.

**Inhalation**

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

**Ingestion**

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**Self-protection of the first aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed**

**Symptoms/injuries after inhalation**: May be irritating to the mucous membranes and to the respiratory system.
Symptoms/injuries after skin contact: Frequent or prolonged contact with skin may cause dermal irritation
Symptoms/injuries after eye contact: Causes serious eye irritation.
Symptoms/injuries after ingestion: May cause burns or irritation of the linings of the mouth, throat and GI tract.

**Indication of any immediate medical attention and special treatment needed**

No additional information available

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media
Flood with plenty of water. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### Unsuitable extinguishing media
CAUTION: Organic compounds. As hydrogen peroxide may react with a variety of organic materials and form explosive mixtures, shock sensitive compounds and initiate fire. Foam is not effective as oxygen and heat continue to be generated under the foam.

### Specific hazards arising from the chemical
Hazardous decomposition products in case of fire: Thermal decomposition can lead to release of oxygen which may intensify fire. Containers may swell and burst during a fire due to internal pressure caused by heat.

### Advice for firefighters
Firefighting instructions: Exercise caution when fighting any chemical fire.

### Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General Measures: Insure adequate ventilation. Do not breathe fumes, vapors. Avoid contact with skin, eyes and clothes.

Non-emergency Personnel precautions: Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information: Refer to protective measures listed in Sections 7 and 8.

Emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Stop leak if safe to do so. Evacuate unnecessary personnel. Ventilate area.

Environmental precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Contain any spills with dikes. To prevent migration and entry into sewers or streams. Soak up with inert absorbent material. Do not absorb in sawdust, paper cloth or other combustible absorbents. Comply with applicable local, national and international regulation.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling: Read label before use. Provide good ventilation in process area to prevent formation of vapor. Avoid all eye and skin contact and do not breathe vapor and mist. Keep away from incompatible materials. Wash hands and other exposed areas with mild soap before eating, drinking or smoking and when leaving work. Do not wear leather soled shoes. Take care for general hygiene and housekeeping. Wash hands thoroughly after handling. Do not eat drink or smoke when using this product. Contaminated clothing should be washed thoroughly in order to eliminate a delayed potential fire hazard.

Conditions for safe storage, including any incompatibilities


8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm</td>
<td>IDLH: 75 ppm</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>TWA: 1.4 mg/m³</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm</td>
</tr>
<tr>
<td></td>
<td>(vacated) TWA: 1 ppm</td>
<td>TWA: 1.4 mg/m³</td>
<td>(vacated) TWA: 1 ppm</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value
OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits
NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures
Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure. Personal protective equipment should be selected upon the conditions under which this product is handled or used.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear protective eyewear. Safety goggles and ½ face or full face respirator.

Skin and body protection
Wear protective gloves and protective clothing. Long sleeved clothing. Neoprene gloves.

Respiratory protection
Hydrogen Peroxide levels between 1 and 10 ppm requires at least half-face piece respirator (and appropriate eye protection) with either 3M 6003 or 6006 (organic vapor/acid gas or multi-gas) cartridge in combination with particulate filter (i.e. 5N11 or 5P71).*

(* 3M Technical Bulletin #185 and Solvay Chemicals Technical Communications TDS-No. HOOH-PAA-RESP.) If levels exceed 50 ppm, a full SCBA is necessary. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>3.0</td>
<td>None known</td>
</tr>
</tbody>
</table>

Physical state
Liquid
Color
Colorless
Odor
Odorless
Odor Threshold
No information available
Melting / freezing point: No data available, None known
Boiling point / boiling range: No data available, None known
Flash Point: No data available, None known
Evaporation Rate: No data available, None known
Flammability (solid, gas): No data available, None known
Flammability Limit in Air
  Upper flammability limit: No data available
  Lower flammability limit: No data available
Vapor pressure: No data available, None known
Vapor density: No data available, None known
Specific Gravity: No data available, None known
Water Solubility: Completely soluble, None known
Solubility in other solvents: No data available, None known
Partition coefficient: n-octanol/water: No data available, None known
Autoignition temperature: No data available, None known
Decomposition temperature: No data available, None known
Kinematic viscosity: No data available, None known
Dynamic viscosity: No data available, None known
Explosive properties: Not explosive
Oxidizing properties: oxidizer

Other Information
Softening Point: No data available
VOC Content (%): No data available
Particle Size: No data available
Particle Size Distribution: 

10. STABILITY AND REACTIVITY

Reactivity
Thermal decomposition generates corrosive vapors.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Exposure to extremely high or low temperatures

Incompatible materials
Acids. Bases. Oxidizing agent. Organic materials, reducing agents, metal salts, readily oxidizable materials such as paper, wood, sulfur, copper and it's alloys.

Hazardous Decomposition Products
Oxygen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
May cause irritation of respiratory tract.
Eye contact
Moderate eye irritant. (based on product).

Skin contact
Slight irritant. (based on product).

Ingestion

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>&gt;5000 mg/kg (Rat)</td>
<td>&gt;5000 mg/kg (Rabbit)</td>
<td>= 2 g/m³ (Rat) 4 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
May cause temporary skin whiteness. Coughing and/or wheezing. Eye irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
Guinea Pig, non-sensitizing (skin).

Mutagenic Effects
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>A3</td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Chronic Toxicity
No known effect based on information supplied. Carcinogenic potential is unknown.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity  Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
801.000 mg/kg bodyweight

ATEmix (dermal)
2000 mg/kg bodyweight

ATEmix (inhalation-gas)
4500.000 ppm V/4 h

ATEmix (inhalation-dust/mist)
2000 mg/l 4h
ATEmix (inhalation-vapor)
2000 mg/l 4h ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>72h EC50: = 2.5 mg/L (Chlorella vulgaris)</td>
<td>96h LC50: = 16.4 mg/L (Pimephales promelas)</td>
<td>96h LC50: 18 - 56 mg/L (Lepomis macrochirus)</td>
<td>48h EC50: 18 - 32 mg/L 24h EC50: = 7.7 mg/L</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation
Not established

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of contents/containers in accordance with local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Toxic Corrosive Ignitable Reactive</td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name
NON REGULATED

Hazard Class
N/A
15. REGULATORY INFORMATION

International Inventories

TSCA  Complies
DSL  All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations
EPA Registration # 84526-6

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
</table>
Hydrogen peroxide
7722-84-1

1000 lb (concentration >52%)

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Supplier Trade Secret</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Supplier Trade Secret</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

Mexico
National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
</table>
| Hydrogen peroxide 7722-84-1 | A3                | Mexico: TWA 1 ppm
|                            |                   | Mexico: TWA 1.5 mg/m³
|                            |                   | Mexico: STEL 2 ppm
|                            |                   | Mexico: STEL 3 mg/m³ |

Mexico - Occupational Exposure Limits - Carcinogens
A3 - Confirmed Animal Carcinogen

16. OTHER INFORMATION

NFPA Health Hazards 1 Flammability 0 Instability 0 Physical and Chemical Hazards - Personal Protection X

HMIS Health Hazards 1 Flammability 0 Physical Hazard 0

Prepared By Halosil International
Revision Date 19-Oct-2015
Revision Note GHS SDS-3

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet