HAVILAND PRODUCTS COMPANY
SAFETY DATA SHEET

Section 1: Identification

Product Name: Havaclean Hand Sanitizer-E    Product Code:H006616
Haviland Products Company
421 Ann Street NW
Grand Rapids, MI 49504
(616) 361-6691

Emergency Phone:
CHEMTREC: Canada and USA - (800) 424-9300
CHEMTREC: In Mexico - 01-800-681-9531

Product Use: Hand Sanitizer
Not recommended for: NA

Section 2: Hazard(s) Identification

GHS Ratings:
- Flammable liquid: 2
- Skin corrosive: 3
- Eye corrosive: 2B
- Organ toxin single exposure: 3
- Organ toxin repeated exposure: 1

Flash point < 23°C and initial boiling point > 35°C (95°F)
Reversible adverse effects in dermal tissue, Draize score: >= 1.5 < 2.3
Mild eye irritant: Subcategory 2B, Reversible in 7 days
Transient target organ effects- Narcotic effects- Respiratory tract irritation
Significant toxicity in humans- Reliable, good quality human case studies or epidemiological studies
Presumed significant toxicity in humans- Animal studies with significant and/or severe toxic effects relevant to humans at generally low exposure (guidance)

GHS Hazards
- H225 Highly flammable liquid and vapour
- H316 Causes mild skin irritation
- H320 Causes eye irritation
- H335 May cause respiratory irritation
- H336 May cause drowsiness or dizziness
- H372 Causes damage to organs through prolonged or repeated exposure

GHS Precautions
- P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P233 Keep container tightly closed
- P240 Ground/bond container and receiving equipment
- P241 Use explosion-proof electrical/ventilating/light/equipment
- P242 Use only non-sparking tools
- P243 Take precautionary measures against static discharge
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P264 Wash face, hands, and any exposed skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves/protective clothing/eye protection/face protection
P312 Call a POISON CENTER or doctor/physician if you feel unwell
P314 Get Medical advice/attention if you feel unwell
P303+P361+P353 If on skin (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304+P340 If inhales: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice / attention
P337+P313 If eye irritation persists get medical advice / attention
P370+P378 In case of fire: Use suitable media for extinction
P405 Store locked up
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well ventilated place. Keep cool
P501 Dispose of contents/container in accordance with local/regional/national/international regulations

Danger

Section 3: Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name / CAS No.</th>
<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
<th>Other Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm STEL</td>
<td>NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>70% - 80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vapor Pressure: 42.979 mmHg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerin</td>
<td>15 mg/m3 TWA (mist, total particulate); 5 mg/m3 TWA (mist, respirable fraction)</td>
<td>1 ppm TWA</td>
<td>NIOSH: 1 ppm TWA; 1.4 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>56-81-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% - 5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vapor Pressure: 0.002 mmHg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>1 ppm TWA; 1.4 mg/m3 TWA</td>
<td>1 ppm TWA</td>
<td>NIOSH: 1 ppm TWA; 1.4 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>7722-84-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.1% - 1.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 4: First-aid Measures
Inhalation
Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. To prevent aspiration, keep head below knees.

Eye Contact
Immediately flush eyes with water. Flush eyes with water for a minimum of 15 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly.

Skin Contact
Remove contaminated clothing. Wash skin with soap and water. Get medical attention. Wash clothing separately and clean shoes before reuse.

Ingestion
If swallowed, do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Section 5: Fire-fighting Measures
Extinguishing Media

Do not use: Solid water jet ineffective as extinguishing medium.

Specific Hazards Arising from the Chemical
DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits.
INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits.
INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Special Protective Equipment and Precautions for Firefighters
Special Information: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA / NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures
Spill and Leak Procedures

Clean up methods:
Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite or powdered limestone. Scoop absorbed substance into covering containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Section 7: Handling and Storage
Handling Procedures
Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use with adequate ventilation. Avoid breathing dusts, mists, and vapors. Do not get in eyes, on skin, or on clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Requirements
Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place away from: incompatible materials. Keep in fireproof place.
Incompatible products: Strong bases. Strong acids.
Incompatible materials: Sources of ignition. Direct sunlight. Heat sources.
Heat and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. water/moisture.
Storage area: Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Fireproof storeroom.
Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements.
Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: stainless steel. aluminium. iron. copper. nickel. synthetic material. glass.

<table>
<thead>
<tr>
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<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm STEL</td>
<td>NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA</td>
</tr>
<tr>
<td>Glycerin 56-81-5</td>
<td>15 mg/m3 TWA (mist, total particulate); 5 mg/m3 TWA (mist, respirable fraction)</td>
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<td>Hydrogen peroxide 7722-84-1</td>
<td>1 ppm TWA; 1.4 mg/m3 TWA</td>
<td>1 ppm TWA</td>
<td>NIOSH: 1 ppm TWA; 1.4 mg/m3 TWA</td>
</tr>
</tbody>
</table>

ENGINEERING CONTROLS: Provide ventilation sufficient to maintain exposure below the recommended limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.

SKIN PROTECTION: Wear impervious protective gloves. Wear protective gear as needed - apron, suit, boots.

EYE PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield.

OTHER PROTECTIVE EQUIPMENT: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

HYGENIC PRACTICES: Do not eat, drink, or smoke in areas where this material is used. Avoid breathing vapors.
Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Wash hands before eating.

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Appearance: Clear Colorless Liquid</th>
<th>Odor: Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold: Not Available</td>
<td></td>
</tr>
<tr>
<td>pH: 6.5 - 8.5</td>
<td></td>
</tr>
<tr>
<td>Melting point: Not Available</td>
<td></td>
</tr>
<tr>
<td>Solubility: Complete</td>
<td></td>
</tr>
<tr>
<td>Flash point: 25° C</td>
<td></td>
</tr>
<tr>
<td>Flammability: Not Available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity 0.837</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature: Not Available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate (Ether=1): 8.3</td>
<td></td>
</tr>
<tr>
<td>Explosive Limits: Not Available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature: Not Available</td>
<td></td>
</tr>
</tbody>
</table>

SDS for: 1.H006616.PL5SQN.std.1
Section 10: Stability and Reactivity

Chemical Stability:
STABLE

Incompatible Materials
Strong acids. Strong bases.

Conditions to Avoid
Direct sunlight. Extremely high or low temperatures. Open flame.

Hazardous Decomposition Products

Hazardous Polymerization

Hazardous polymerization will not occur.

Section 11: Toxicology Information

Mixture Toxicity
Inhalation Toxicity LC50: 150mg/L

Component Toxicity
7722-84-1 Hydrogen peroxide
Oral LD50: 801 mg/kg (Rat) Dermal LD50: 4,060 mg/kg (Rat) Inhalation LC50: 2 g/m3 (Rat)

Routes of Entry:
Inhalation
Ingestion
Skin contact
Eye contact

Target Organs
Blood Eyes Kidneys Liver Central Nervous System Reproductive System Skin Respiratory System

Effects of Overexposure

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Description</th>
<th>% Weight</th>
<th>Carcinogen Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>7722-84-1</td>
<td>Hydrogen peroxide</td>
<td>0.1% - 1.0%</td>
<td>Hydrogen peroxide:</td>
</tr>
</tbody>
</table>

Section 12: Ecological Information

Component Ecotoxicity
Ethyl alcohol

96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]
48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static]
Section 13: Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

Section 14: Transportation Information

UN Code: 1993
Proper Shipping Name: Flammable liquid, N.O.S. (Ethanol)
Hazard Class: 3
Packing Group: III

Section 15: Regulatory Information

OSHA Process Safety Management Highly Hazardous Chemicals
7722-84-1 Hydrogen peroxide

TSCA 8(b) Inventory
7722-84-1 Hydrogen peroxide
56-81-5 Glycerin
64-17-5 Ethyl alcohol

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulation</th>
<th>All Components Listed</th>
</tr>
</thead>
</table>

Section 16: Other Information

Date Prepared: 4/6/2020

Disclaimer
The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.