

Section 1: IDENTIFICATION

Product Name: Hand Sanitizer

Synonyms: Not available.

Product Use: Hand Sanitizer.

Restrictions on Use: Not available.

Date of Preparation of SDS: March 17, 2020

Section 2: HAZARD(S) IDENTIFICATION
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GHS INFORMATION

Classification: Flammable Liquids, Category 2
 Eye Irritation, Category 2A
 Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects

LABEL ELEMENTS**Hazard****Pictogram(s):****Signal Word:** Danger

Hazard Statements: Highly flammable liquid and vapor.
 Causes serious eye irritation.
 May cause drowsiness or dizziness.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep container tightly closed.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical, ventilating, and lighting equipment.
 Use non-sparking tools.
 Take action to prevent static discharges.
 Avoid breathing mist, vapours, or spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves, protective clothing and eye protection.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER or doctor if you feel unwell.
 If eye irritation persists: Get medical attention.
 In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed.
 Keep cool.
 Store locked up.

Disposal: Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Ethanol	Not available.	64-17-5	70 - 80
2-Propanol	Isopropyl alcohol	67-63-0	1 - 5
Hydrogen peroxide (H ₂ O ₂)	Hydrogen peroxide	7722-84-1	0.1 - 1
Non-Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Water	Not available.	7732-18-5	10 - 30
1,2,3-Propanetriol	Glycerin	56-81-5	1 - 5

Actual concentration range(s) withheld as a trade secret.

Section 4: FIRST-AID MEASURES

Inhalation: If used as recommended, no first-aid measures are necessary. If handling large amounts of vapour is inhaled, remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: Normal use is not expected to cause any adverse effects. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness.

Eye Contact: If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Acute and delayed symptoms and effects: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Ethanol may cause painful sensitization to light, chemical

conjunctivitis and corneal damage. Isopropanol may cause transient corneal injury.

Skin Contact: If used as recommended, no first-aid measures are necessary. If in contact with large amounts of product: Rinse skin with water or shower. Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: No adverse effects are expected under normal conditions of use. Handling of large amounts may cause skin dryness and/or irritation.

Ingestion: If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Highly flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Liquid is lighter than water.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: Take action to prevent static discharges. This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO₂, water spray or alcohol-resistant foam.

Large Fire: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Do not use straight streams. CAUTION: This product has a very low flash point: Use of water spray when fighting fire may be inefficient.

Products of Combustion: Oxides of carbon. Acrolein.

Protection of Firefighters: Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods for Containment: Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.

Methods for Clean-Up: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:

Do not swallow. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist, vapours, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines**Component**

Ethanol [CAS No. 64-17-5]

ACGIH: 1000 ppm (TWA); A3 (2008)**OSHA:** 1000 ppm (TWA), 1900 mg/m³ (TWA);

Isopropyl alcohol [CAS No. 67-63-0]

ACGIH: 200 ppm (TWA); 400 ppm (STEL); A4; BEI (2001)**OSHA:** 400 ppm (TWA), 980 mg/m³ (TWA);
500 ppm (STEL) [Vacated];

Hydrogen peroxide [CAS No. 7722-84-1]

ACGIH: 1 ppm (TWA); A3 (1990)**OSHA:** 1 ppm (TWA), 1.4 mg/m³ (TWA);

Water [CAS No. 7732-18-5]

ACGIH: No TLV established.**OSHA:** No PEL established.

Glycerin [CAS No. 56-81-5]

ACGIH: No TLV established.**OSHA:** 15 mg/m³ (Total particulate) (TWA), 5 mg/m³ (Respirable fraction) (TWA);
10 mg/m³ (Total particulate) (TWA) [Vacated];**PEL:** Permissible Exposure Limit**TLV:** Threshold Limit Value**TWA:** Time-Weighted Average**STEL:** Short-Term Exposure Limit**Engineering Controls:**

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)**Eye/Face Protection:**

Wear chemical safety goggles when handling large amounts of product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 for Personal Protective Equipment.

Hand Protection:

Wear protective gloves when handling large amounts of product. Consult manufacturer specifications for further information.

Skin and Body Protection:

Wear protective clothing when handling large amounts of product. Flame resistant clothing that meets the NFPA 2112

and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

- Respiratory Protection:** Not necessary under normal conditions of use. If handling large amounts of product, if engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid.
Colour:	Colourless.
Odour:	Alcohol.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	78 °C (172.4 °F) (Ethanol)
Boiling Range:	Not available.
Flash Point:	12 °C (53.6 °F) (Closed Cup - Ethanol)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	0.850 (Water = 1)
Solubilities:	Miscible in water.
Partition Coefficient: n-Octanol/Water:	Not available.

Hand Sanitizer

Date of Preparation: March 17, 2020

SAFETY DATA SHEET

Auto-ignition Temperature: 400 °C (752 °F) (Ethanol)

Decomposition Temperature: Not available.

Viscosity: Not available.

Percent Volatile, wt. %: Not available.

VOC content, wt. %: Not available.

Density: Not available.

Coefficient of Water/Oil Distribution: Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: Acids. Strong oxidizers.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Ethanol	64-17-5	7060 mg/kg (rat)	20000 mg/kg (rabbit)	20000 ppm (rat); 10H
Isopropyl alcohol	67-63-0	3600 mg/kg (mouse)	12800 mg/kg (rabbit)	16000 ppm (rat); 8H
Hydrogen peroxide	7722-84-1	376 mg/kg (rat)	4060 mg/kg (rat)	2000 mg/m ³ (rat); 4H
Water	7732-18-5	Not available.	Not available.	> 90000 µl/kg (rat); 4H
Glycerin	56-81-5	12600 mg/kg (rat)	> 10000 mg/kg (rabbit)	> 570 mg/m ³ (rat); 1H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Target Organs: Eyes. Gastrointestinal tract. Respiratory system.

Symptoms (including delayed and immediate effects)

Inhalation: Normal use is not expected to cause any adverse effects. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness.

Eye: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Ethanol may cause painful sensitization to light, chemical conjunctivitis and corneal damage. Isopropanol may cause transient corneal injury.

Skin: No adverse effects are expected under normal conditions of use. Handling of large amounts may cause skin dryness and/or irritation.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Cardiovascular system. Liver. Kidneys. Reproductive system. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias.

Carcinogenicity: Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components. Animal studies with Ethanol have reported the development of tumours.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Ethanol	A3	Group 1	Not listed.	OSHA Carcinogen.	Not listed.
Isopropyl alcohol	A4	Group 3	Not listed.	Not listed.	Not listed.
Hydrogen peroxide	A3	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Laboratory experiments with Ethanol have resulted in mutagenic effects.

Reproductive Effects: Ethanol may cause reproductive effects.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals if swallowed. Prenatal exposure to ethanol by ingestion is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.
Persistence / Degradability: Not available.
Bioaccumulation / Accumulation: Not available.
Mobility in Environment: Not available.
Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1987, ALCOHOLS, N.O.S., 3, PG II
Class: 3
UN Number: UN1987
Packing Group: II
Label Code:



ICAO/IATA

Proper Shipping Name: UN1987, ALCOHOLS, N.O.S., 3, PG II
Class: 3
UN Number: UN1987
Packing Group: II
Label Code:



IMDG

Proper Shipping Name: UN1987, ALCOHOLS, N.O.S., 3, PG II
Class: 3
UN Number: UN1987
Packing Group: II
Label Code:



Section 15: REGULATORY INFORMATION**Chemical Inventories****Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Section 16: OTHER INFORMATION**Disclaimer:**

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 their own particular use.

Date of Preparation of SDS: March 17, 2020

Version: 1.0

Hand Sanitizer

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Product Name: Hand Sanitizer

2. HAZARD IDENTIFICATION

GHS Category

Flammable liquids, Category 2

Hazard Statements

H225 - Highly flammable liquid and vapor

Signal Word

Danger



3. MATERIAL COMPOSITION AND COMPONENT INFORMATION

Component	CAS No.	Ratio(w/w)	Ratio (V/V)
Ethyl alcohol	64-17-5	60-70%	66-74%
Glycerin	56-81-5	2-3%	1-2%
Water	7732-18-5	29-36%	25-30%
Additives	/	<2%	<2%

4. FIRST AID MEASURES

Inhalation	:	If inhaled, remove to fresh air. Get medical attention if ill effects persist.
Skin	:	No need for first aid. Get medical attention if ill effects persist.
Eyes	:	Wash off with water as a precautionary measure, If irritation occurs and continues, get medical attention.
Oral	:	If swallowed, do not induce vomiting. Get medical attention if ill effects persist. Rinse thoroughly with water.

5. FIRE-FIGHTING MEASURES

Extinguishing method and Extinguishing Media	:	Foam, CO ₂ , Dry Chemical ,Soil
Unsuitable Extinguishing Media	:	Water spray.
Hazardous Combustion Products	:	Carbon oxides.
Special protective equipment for firefighters	:	If necessary, wear self-containing breathing apparatus and personal protective equipment when extinguishing a fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all ignition sources. According to the influence area of liquid flow and vapor diffusion, the warning area shall be defined, and irrelevant personnel shall evacuate from crosswind and upwind to the safety area. It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and anti-static clothing. All equipment used in the work shall be grounded .Do not touch or cross over leaking. Cut off the
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	source of leakage as soon as possible. Prevent spills from entering water bodies, sewers, basements or confined spaces. Small leakage: Absorb with sand or other incombustible materials. Use clean non sparking tools to collect absorption materials.
Environmental Precautions	Collect leaking, avoid environmental pollution, and prevent from spreading or entering into sewers, surface water and groundwater.
large leakage	To build a causeway or trenching asylum. Closed drain. Covered with foam to inhibit evaporation. Transfer to tank car or special collector with explosion-proof pump, recycle or transport to waste disposal site for disposal

7. HANDLING AND STORAGE

HANDLING

Precautions for safe handling	: NO flame, NO spark and NO smoking. Use explosion-proof electrical apparatus, ventilation and lighting etc. Container and Equipment grounding. Tools does not generate static electricity. Proper ventilation.
Avoid Contact with Forbidden Complex	: Strong oxidizing agent.
Storage	
Storage Conditions	: Separated from strong oxidants. Keep container cool and tightly closed. Do not store above 37°C (98.6°F). Provide enough fighting equipment and emergency treatment equipment
Forbidden Complex	: Do not store with the following product types: Strong oxidizing agent

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contact Control and personal protection	: Avoid contact with eyes when using the product. No special protection required.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form	: Viscous Liquid
Color	: Colorless

Odor	:	Intrinsic smell of ethanol
Odor threshold	:	No data.
pH	:	6-8.
Melting	:	No data.
/Solidification		
Point		
Boiling	:	> 35 °C
Point/Range		
Flash Point	:	22 °C
		Method: Closed flash point test method
Evaporation	:	No data.
rate		
Flammability(:	Not applicable.
Solid, Gas)		
Upper Limit of	:	No data.
Explosion		
Lower Limit of	:	No data.
Explosion		
Vapor Pressure	:	No data.
Vapor Density	:	No data.
Density/	:	0.86-0.90
Relative		
Density		
Water	:	No data.
Solubility:		
Partition	:	No data.
Coefficient		
(n-Octanol/Wat		
er)		
Auto ignition	:	No data.
Temperature		
Decomposition	:	No data.
Temperature		
Viscosity	:	< 6000 mPa.s

Explosion : None
 characteristics
 Oxidation : This substance or mixture is not
 Property classified as oxidizing agent.
 Molecular : No data.
 Weight

10. STABILITY AND REACTIVITY

Reactivity : They are stable under normal conditions.
 Stability : They are stable under normal conditions.
 Hazardous : None.
 Reactions
 Conditions to : Keep away from flames.
 Avoid
 Materials to : Stronger oxidizing agents, Alkali metal, Strong acid and
 Avoid: Strong base.
 Hazardous : Ethanol
 Decomposition
 Products

11. TOXICOLOGICAL INFORMATION

Route of : Inhalation, skin contact
 Exposure Accidental ingestion and eye contact
 Acute Toxicity
 Ethanol:

LD50-oral	rat	10470mg/kg
LD50-inhalation	mice 4h	124.7mg/L

Skin corrosion / irritation

No data.

Severe eye injuries / eye irritation

Irritating to eyes.

Respiratory or skin allergies

Alcohol allergy.

Respiratory allergies

No data.

Germ cell mutagenicity

No data.

Carcinogenicity

No data.

Reproductive toxicity

No classification based on available information.

Specific target organ system toxicity- Primary contact

No classification based on available information.

Specific target organ system toxicity - Repeated contact

No classification based on available information.

12. ECOLOGICAL INFORMATION

Eco toxicity :

No data

Persistence and degradation:

No data

Bio accumulative Potential:

No data

Bioaccumulation Mobility in Soil:

No data

Additional Environmental Information:

No data

13. DISPOSAL CONSIDERATIONS

Disposal method

Product : Dispose of in accordance with local regulations.

Disposal:

Packaging : Empty containers should be sent to approved waste disposal

Disposal sites for recycling or disposal. If there is no other requirement: treat as unused product.

14. TRANSPORT INFORMATION

Classification according to UN No.: 1170; ethanol solution

Major hazard category:3

Packaging category: II

15. REGULATORY INFORMATION

None

16. OTHER INFORMATION

None