March 30, 2020

SAFETY DATA SHEET

According to the Global Harmonized System (and with all information required by the HPR)

SECTION 1. Identification

Product Identifier	
Recommended Use	***Hand Sanitizer***
Restrictions on Use	***Not for oral consumption.***
Initial Supplier Identifier	
Emergency Telephone Number	

SECTION 2. Hazards identification

Identified uses *Hand Sanitizer*

Details of the supplier of the safety data sheet: *Raft Beer Labs Inc., Life Sciences Innovation Hub, 3655 36 St NW, Calgary, AB T2L 1Y8. 1-587-432-5205*

Flammable liquid, Category 2, H225

Eye irritation, Category 2A, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word

Danger

Hazard Statements

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

Precautionary Statements

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/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Alcoholic solution

Hazardous ingredients

Ethanol (95% diluted to 80% v/v) CAS number: 64-17-5

Glycerol (99.7% diluted to 1.45% v/v) CAS number: 56-81-5

Hydrogen peroxide (29% diluted to 0.125% v/v) CAS number: 7722-84-1

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

After eye contact: rinse out with plenty of water. Call an ophthalmologist. Remove contact lenses.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO2), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel:

Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Store at +5°C to +30°C (+41°F to +86°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients			
Basis	Value	Threshold limits	Remarks
ethanol 64-17-5			
CAD AB OEL	Time Weighted Average (TWA)	1,000 ppm 1,880 mg/m3	
CAD BC OEL	Short Term Exposure Limit (STEL)	1,000 ppm	
CAD MB OEL	Short Term Exposure Limit (STEL)	1,000 ppm	

CAD ON OEL	Short Term Exposure Limit (STEV)	1,000 ppm	
OEL (QUE)	Time Weighted Average (TWA)	1,000 ppm 1,880 mg/m3	

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection Safety glasses

Hand protection

Full contact:

Glove material: butyl-rubber

Glove thickness: 0.7 mm

Break through time: > 480 min

Splash contact:

Glove material: Nitrile rubber

Glove thickness: 0.4 mm

Break through time: > 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374

This recommendation applies only to the product stated in the safety data sheet.

Other protective equipment:

Flame retardant antistatic protective clothing.

Respiratory protection required when vapors/aerosols are generated.

Recommended Filter type:

Filter A (acc. to DIN 3181) for vapors of organic compounds.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

SECTION 9. Physical and chemical properties

Physical state: liquid

Color: clear

Odor: alcohol-like

Threshold pH: No information available

Melting point: No information available

Boiling point: No information available

Flash point: 20°C

Evaporation rate: No information available

Flammability (solid, gas): No information available

Lower explosion limit: No information available

Upper explosion limit: No information available

Vapor pressure: No information available

Relative vapor density: No information available

Density: No information available

Relative density: 0.86g/cm^3 at 20°C

Water solubility: fully soluble at 20°C

Partition coefficient: n-octanol/water

Autoignition temperature: No information available

Decomposition temperature: No information available

Viscosity, dynamic: No information available

Explosive properties: Not classified as explosive

Oxidizing properties: None

SECTION 10. Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

Hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide

Silver, with, Nitric acid

Silver compounds, with, Ammonia

Potassium permanganate, with, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

Halogen-halogen compounds, chromium (VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum

Nitric acid, with, potassium permanganate

Conditions to avoid

Warming.

Incompatible materials

Rubber, various plastics

Hazardous decomposition products

No information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Acute oral toxicity

Symptoms: Nausea, Vomiting

Acute inhalation toxicity

Symptoms: Possible damages - mucosal irritations

Skin irritation

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation

Mixture causes serious eye irritation.

Carcinogenicity

Carcinogen classifications of IARC, NTP, California proposition 65 for Ethanol CAS 64-17-5 apply to beverage use only. This product is NOT intended for this use.

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Systemic effects:
Euphoria

After absorption of large quantities:
Dizziness, inebriation, narcosis, respiratory paralysis
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Ingredients

Ethanol:

Acute oral toxicity
LD50 Rat: 10,470 mg/kg OECD Test Guideline 401

Acute inhalation toxicity
LC50 Rat: 124.7 mg/l; 4 h ; vapor OECD Test Guideline 403

Skin irritation
Rabbit
Result: No skin irritation OECD Test Guideline 404

Eye irritation
Rabbit
Result: Eye irritation OECD Test Guideline 405

Sensitization
Local lymph node assay (LLNA) Mouse Result: negative
Method: OECD Test Guideline 429

Germ cell mutagenicity Genotoxicity in vitro
Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test MOUSE LYMPHOMA TEST
Result: negative
Method: OECD Test Guideline 476

Reproductive toxicity
Application Route: Oral
Mouse
Method: OECD Test Guideline 416

Glycerol: No known toxicological effects at this concentration.

Hydrogen peroxide: No known toxicological effects at this concentration.

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Ingredients

Ethanol

Toxicity to fish

flow-through test EC50 Pimephales promelas (fathead minnow): 15,300 mg/l; 96 h Analytical monitoring: yes US-EPA

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): 9,268 - 14,221 mg/l; 48 h (IUCLID)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): 5,000 mg/l; 7 d (Lit.)

Toxicity to bacteria
EC5 Pseudomonas putida: 6,500 mg/l; 16 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC Daphnia magna (Water flea): 9.6 mg/l; 9 d (ECHA)

Biodegradability 94 %
OECD Test Guideline 301E Readily biodegradable.

Biochemical Oxygen Demand (BOD) 930 - 1,670 mg/g (5 d)

Theoretical oxygen demand (ThOD) 2,100 mg/g (Lit.)

Ratio COD/ThBOD 90 % (Lit.)

Partition coefficient: n-octanol/water log Pow: -0.31 (experimental)

Bioaccumulation is not expected. (Lit.)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport

UN number UN *1170*
Proper shipping name *ETHANOL SOLUTION*

Class *3*
Packing group *II*

Environmentally hazardous *--*

Air transport (IATA)

UN number *UN 1170*
Proper shipping name *ETHANOL SOLUTION*

Class *3*
Packing group *II*

Environmentally hazardous *--*

Special precautions for user *no*

Sea transport (IMDG)

UN number *UN 1170*
Proper shipping name *ETHANOL SOLUTION*

Class *3*

Packing group *II*

Environmentally hazardous *--*

Special precautions for user *Yes: EmS F-E S-D*

SECTION 15. Regulatory information

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

Notification status

TSCA: All components of the product are listed in the TSCA-inventory. DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms

Signal Word

Danger

Hazard Statements
H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation.

Precautionary Statements
Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240 Ground/bond container and receiving equipment.
Response
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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