Chemical™ Concepts
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800.220.1966

Safety Data Sheet

Chem-Set™ Hand Sanitizer

SECTION 1: Identification

1.1 Product identifier

Product name	Chem-Set™ Hand Sanitizer
Product number	CCM-HS1

1.2 Other means of identification

Chem-Set™ Hand Sanitizer

1.3 Recommended use of the chemical and restrictions on use

Hand Sanitizer. For external use only.

1.4 Supplier's details

Name	Chemical Concepts, Inc.
Address	410 Pike Road Huntingdon Valley, PA 19006 USA
Telephone	800.220.1966
Fax	215.357.1940
email	info@chemical-concepts.com

1.5 Emergency phone number(s)

INFOTRAC 1-800-535-5053

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Flammable liquids (C.4.19), Cat. 3
- Eye damage/irritation (C.4.5), Cat. 2A

2.2 GHS label elements, including precautionary statements

Pictogram

Hazard statement(s)

H226	Flammable liquid and vapor
H319	Causes serious eye irritation

Precautionary statement(s)

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 eye protection/face 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.
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.

2.3 Other hazards which do not result in classification

Vapors may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Component	Concentration
ETHANOL (CAS no.: 64-17-5; EC no.: 200-578-6; Index no.: 603-002-00-5)	**> 50 - < 80 % (weight)**
CLASSIFICATIONS: Flammable liquids (C.4.19), Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor.	
ISOPROPANOL (CAS no.: 67-63-0; EC no.: 200-661-7; Index no.: 603-117-00-0)	**>= 1 - <= 9 % (weight)**
CLASSIFICATIONS: Flammable liquids (chapter 2.6), Cat. 2; Eye damage/irritation (chapter 3.3), Cat. 2; Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3. HAZARDS: H225 - Highly flammable liquid and vapor; H319 - Causes serious eye irritation; H336 - May cause drowsiness or dizziness.	
GLYCEROL (CAS no.: 56-81-5)	**>= 0.1 - <= 5 % (weight)**
CLASSIFICATIONS: No data available. HAZARDS: No data available.	

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	Remove to fresh air. Get medical attention if symptoms occur. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention.
In case of skin contact	Prolonged or repeated contact may dry skin and cause irritation.
In case of eye contact	Rinse cautiously with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
If swallowed	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur.

Rinse mouth thoroughly with water.

Personal protective equipment for first-aid responders

First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No data available.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical
Hazardous combustion products: Carbon oxides

Specific hazards during fire fighting: Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapors may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up
Eliminate all sources of ignition. Non-sparking tools should be used. Soak up with inert absorbent material and dispose of as hazardous waste. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Keep in suitable, closed containers for disposal.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Wash hands with soap and water after handling. Do not swallow. Container explosion may occur under fire conditions. Use explosion-proof equipment. Use only non-sparking tools. Keep away from sources of ignition. No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.

7.2 Conditions for safe storage, including any incompatibilities

Keep properly labeled container tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Do not store with the following product types:
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases
Strong oxidizing agents

Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 56-81-5
Glycerin (mist)
Cal/OSHA: PNOR PEL inhalation; NIOSH: See Appendix D REL inhalation
Glycerin (mist), Respirable fraction
Cal/OSHA: 5 mg/m3, PNOR PEL inhalation; OSHA: 5 mg/m3 PEL inhalation
Glycerin (mist), Total dust
Cal/OSHA: 10 mg/m3 , PNOR PEL inhalation; OSHA: 15 mg/m3 PEL inhalation

CAS: 64-17-5
Ethyl alcohol (Ethanol)
Cal/OSHA: 1000 ppm PEL inhalation; NIOSH: 1000 ppm REL inhalation; OSHA: 1000 ppm PEL inhalation; 1900 mg/m3 PEL inhalation

CAS: 67-63-0
Isopropyl alcohol
Cal/OSHA: 400 ppm, (ST) 500 ppm PEL inhalation; NIOSH: 400 ppm, (ST) 500 ppm REL inhalation; OSHA: 400 ppm PEL inhalation; 980 mg/m3 PEL inhalation

8.2 Appropriate engineering controls

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety goggles. If splash hazard, wear faceshield (8-inch minimum).

Skin protection
Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing.
If handling differently than directed or for a prolonged period of time, wear protective gloves, such as nitrile gloves.

Body protection
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Wear suitable protective clothing. If splash risk, ensure clothing is impervious and fire resistant.

Respiratory protection
Provide good ventilation. Respiratory protection is not required under normal use conditions.

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 with organic vapor/acid gas cartridge and particulate filter, 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. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	liquid
Odor	alcohol
Odor threshold	No data available.
pH	6.5 - 7.5
Melting point/freezing point	No data available.
Initial boiling point and boiling range	73C
Flash point	25C
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	0.881 g/cm3
Solubility(ies)	water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	The mixture is not classified self-reactive.
Viscosity	No data available.

Explosive properties	No data available.
Oxidizing properties	The mixture is not classified self-reactive.

Other safety information
No data available.

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable under normal storage conditions.

10.3 Possibility of hazardous reactions
Flammable liquid and vapor.
Vapors may form explosive mixture with air.
Can react with strong oxidizing agents.

10.4 Conditions to avoid
Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials
Oxidizing agents.

10.6 Hazardous decomposition products
None known.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.
Acute and delayed symptoms and effects from inhalation, skin and eye contact and ingestion are listed in Section 4.

Acute toxicity
Not classified based on available information.
Product:
Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
Ingredients:
Ethanol:
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Propan-2-ol:
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity : LC50 (Rat): 72.6 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Based on available data, classification data are not met.

Product:
Result: No skin irritation
Ingredients:
Ethanol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Propan-2-ol:
Species: Rabbit
Result: No skin irritation

Serious eye damage/irritation
Causes serious eye irritation.

Ethanol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days
Method: OECD Test Guideline 405
Propan-2-ol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitization
Based on available data, classification data are not met.

Product:
Assessment: Does not cause skin sensitization.
Ingredients:
Ethanol:
Test Type: Local lymph node assay (LLNA)
Routes of exposure: Skin contact
Species: Mouse
Result: negative
Propan-2-ol:
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Germ cell mutagenicity
Based on available data, classification data are not met.

Ingredients:
Ethanol:
Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative
Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative
Propan-2-ol:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Carcinogenicity
Carcinogenicity
Not classified based on available information.

Ingredients:
Propan-2-ol:
Species: Rat
Application Route: inhalation (vapor)
Exposure time: 104 weeks
Method: OECD Test Guideline 451
Result: negative

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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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.

Reproductive toxicity
Based on available data, classification data are not met

Ingredients:
Ethanol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Propan-2-ol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT-single exposure
Based on available data, classification data are not met.

Ingredients:
Propan-2-ol:
Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure
Based on available data, classification data are not met.

Ingredients:
Ethanol:
Species: Rat
NOAEL: 2,400 mg/kg
Application Route: Ingestion
Exposure time: 2 y
Propan-2-ol:
Species: Rat
NOAEL: 5000 ppm
Application Route: inhalation (vapor)
Exposure time: 104 w
Method: OECD Test Guideline 413

Aspiration hazard
Based on available data, classification data are not met.

SECTION 12: Ecological information

Toxicity
No data available on product

Ingredients:
Ethanol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates
: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates
(Chronic toxicity)
: NOEC (Daphnia magna (Water flea)): 9.6 mg/l
Exposure time: 9 d
Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l
Exposure time: 0.25 h
Propan-2-ol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates
: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Toxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): > 1,800 mg/l
Exposure time: 8 d
Toxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h

Persistence and degradability
No data available on product

Ingredients:
Ethanol:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d

Propan-2-ol:
Biodegradability : Result: rapidly degradable

Bioaccumulative potential
No data available on product

Ingredients:
Ethanol:
Partition coefficient: noctanol/water: log Pow: -0.35
Propan-2-ol:
Partition coefficient: noctanol/water: log Pow: 0.05

Mobility in soil
No data available on product.

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
No data available on product.

SECTION 13: Disposal considerations

Disposal of the product
Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Disposal of contaminated packaging
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

DOT (US)
UN Number: UN 1987
Class: 3
Packing Group: III
Proper Shipping Name: ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)
Reportable quantity (RQ):
Marine pollutant: NO
Poison inhalation hazard:

IMDG
UN Number: UN 1987
Class: 3
Packing Group: III
EMS Number: F-E, S-D
Proper Shipping Name: : ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)

IATA
UN Number: UN 1987
Class: 3
Packing Group: III
Proper Shipping Name: ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components
Chemical name: Isopropyl alcohol
CAS number: 67-63-0

New Jersey Right To Know Components
Common name: ETHYL ALCOHOL
CAS number: 64-17-5

Common name: ISOPROPYL ALCOHOL
CAS number: 67-63-0

Common name: GLYCERIN
CAS number: 56-81-5

Pennsylvania Right To Know Components
Chemical name: Ethanol
CAS number: 64-17-5

Chemical name: 2-Propanol
CAS number: 67-63-0

Chemical name: 1,2,3-Propanetriol
CAS number: 56-81-5

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Propan-2-ol 67-63-0 3.4086 %

15.2 Chemical Safety Assessment

The ingredients of this product are reported in the following inventories:
REACH : All ingredients (pre-)registered or exempt.
TSCA : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
AICS : All ingredients listed or exempt.

HMIS Rating

Chem-Set™ Hand Sanitizer	
HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating

SECTION 16: Other information

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA : 8-hour time weighted average

16.1 Further information/disclaimer

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