

ALCOHOL-BASED HAND SANITIZER: MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier Alcohol-Based Hand Sanitizer

Supplier General Resources

Emergency Tel Number Chemtrec 1.800.424.9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Ingredient</u> | <u>CAS No.</u> | <u>Percentage</u> |
|-------------------|----------------|-------------------|
| Water | 7732-18-5 | 10% - 20% |
| Ethyl Alcohol | 64-17-5 | 73% - 75% |
| Isopropyl Alcohol | 67-63-0 | 2% - 5% |

3. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Eye irritation : Category 2A

GHS Label element



Hazard pictograms :

Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.

Hazard statements

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

Precautionary statements

Prevention:

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.

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.

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.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

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| 4. FIRST AID MEASURES |
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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.

Inhalation If inhaled, remove to fresh air. If symptoms persist, call a physician.

Skin Contact Wash with water and soap as a precaution. Get medical attention if irritation develops and persists.

Ingestion If swallowed, DO NOT induce vomiting. Rinse mouth with water. Obtain medical attention.

Most important symptoms and effects, both acute and delayed Causes serious eye irritation.

Protection of first-aiders First Aid responders should pay attention to self-protection and use the recommended protective clothing

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| 5. FIRE FIGHTING MEASURES |
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Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media High volume water jet

Special Firefighting Procedures Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray. Flash back possible over considerable distance. May form explosive mixtures in air. Exposure to decomposition products may be a hazard to health. Carbon oxides

Specific hazards during firefighting Carbon oxides

Hazardous combustion products Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers

Specific extinguishing methods Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

Environmental precautions :

Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up :

Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

7. HANDLING AND STORAGE

Advice on safe handling :

For personal protection see section 8. Keep away from heat and flame. Use with local exhaust ventilation. Avoid contact with eyes.

Conditions for safe storage :

Take measures to prevent the build up of electrostatic charge. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in accordance with the particular national regulations

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control Parameters / Permissible concentration | Basis |
|-------------------|---------|-------------------------------|--|-----------|
| Ethyl Alcohol | 64-17-5 | TWA | 1,000 ppm 1,900 mg/m ³ | NIOSH REL |
| | | TWA | 1,000 ppm 1,900 mg/m ³ | OSHA Z-1 |
| | | STEL | 1,000 ppm | ACGIH |
| Isopropyl Alcohol | 67-63-0 | TWA | 200 ppm | ACGIH |
| | | STEL | 400 ppm | ACGIH |
| | | TWA | 400 ppm 980 mg/m ³ | NIOSH REL |
| | | ST | 500 ppm 1,225 mg/m ³ | NIOSH REL |
| | | TWA | 400 ppm 980 mg/m ³ | OSHA Z-1 |

Respiratory protection No personal respiratory protective equipment normally required.

Hand protection No special protective equipment required.

Eye Protection Wear a face-shield and protective suit for abnormal processing problems.

Skin/body protection No special measures necessary provided product is used correctly.

Protective measures Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Ensure that eye flushing systems and safety showers are located close to the working place.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid

Odor alcohol-like

pH 6-8

Initial boiling point and boiling range 75.00 °C

Flammability limits (liquids) 4-20

Vapour Pressure (20 °C) 5.9kpa

Density 1.59 @ 15°C

Solubility (ies) Soluble

Total VOC (g/liter) 87%

Auto-ignition temperature : 392°C

Thermal decomposition The substance or mixture is not classified self-reactive.

10. STABILITY AND REACTIVITY

Reactivity Not classified as a reactivity hazard

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Vapours may form explosive mixture with air.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents

Hazardous decomposition products No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Eye contact

Skin contact

Acute toxicity

Not classified based on available information.

Components:

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: vapour

Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LD50 (Rat): > 72.6 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion / Irritation

Not classified based on available information.

Product:

Result: No skin irritation

Components:

Ethanol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Propan-2-ol:

Species: Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation

Components:

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 sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitisation.

Components:

Ethanol:

Test type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Result: negative

Propan-2-ol:

Test type: Buehler Test

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: negative

Chronic toxicity**Germ cell mutagenicity**

Not classified based on available information.

Components:

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

Not classified based on available information.

Components:

Propan-2-ol:

Species: Rat

Application Route: inhalation (vapour)

Exposure time: 104 weeks

Method: OECD Test Guideline 451

Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Ethanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Test 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
Test species: Rat
Application Route: ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Test species: Rat
Application Route: ingestion
Result: negative

STOT – single exposure

Not classified based on available information.

Components:

Propan-2-ol:

Assessment: May cause drowsiness or dizziness.

STOT – repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

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 (vapour)

Exposure time: 104 w

Method: OECD Test Guidelines 413

Aspiration toxicity

Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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 Guidelines 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

Product:

Biodegradability : Result: Readily biodegradable

Components:

Ethanol:

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

Propan-2-ol:

Biodegradability : Result: Readily degradable

Bioaccumulative potential

Components:

Ethanol:

Partition coefficient: n- : log POW: -0.35
Octanol/water

Propan-2-ol:

Partition coefficient: n- : log POW: 0.05
Octanol/water

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

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.

14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

UN number : UN 1987

Proper shipping name : ALCOHOLS, N.O.S (Ethanol, Propan-2-ol)

Class : 3

Packing group : III

Labels : 3

IATA-DGR

UN/ID NO. : UN 1987

Proper shipping name : ALCOHOLS, N.O.S (Ethanol, Propan-2-ol)

Class : 3
Pacing group : III
Labels : Flammable Liquids

IMDG-Code

UN/ID NO. : UN 1987
Proper shipping name : ALCOHOLS, N.O.S (Ethanol, Propan-2-ol)
Class : 3
Pacing group : III
Labels : 3
EmS Code : F-E, S-D
Marine pollutant : no

Transport in bulk according to Annex ii of MARPOL 73/78 and IBC Code
Not applicable for product as supplied.

National Regulation

ADG

UN number : UN 1987
Proper shipping name : ALCOHOLS, N.O.S (Ethanol, Propan-2-ol)
Class : 3
Pacing group : III
Labels : 3
Hazchem Code : 3 Y

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| 15. REGULATORY INFORMATION |
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Safety, health and environmental regulation/legislation specific for substance or mixture

Standard for the uniform : no poison schedule number allocated
Scheduling of Medicines
and Poisons

Standard for the uniform Scheduling of Medicines and Poisons There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State of Territory Legislation.

Prohibition/Licensing Requirements There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State of Territory Legislation.

The component of this product are reported in 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 Candian Domestic Substances List (DSL).
- AICS : All ingredients listed or exempt.

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)

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| 16. OTHER INFORMATION |
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DISCLAIMER STATEMENT

Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.

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END OF MSDS