

MATERIAL SAFETY **DATA SHEET** **VE-70 HAND DISINFECTANT** **LIQUID**

UN Nr	1170
CLASS	3
SUBSIDIARY RISK	N/A
PACKAGING GROUP	III
ERG NR	127
EMERGENCY NR: 0826523312 OR 0823208075	

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1) MATERIAL PREPARATION & TRADE NAME

Product Name: VE-70 Hand Disinfectant Liquid
Product Description: Hand Disinfectant
Common Name: Ethanol 70%

2) INFORMATION ON COMPONENTS

Ingredients contributing to formulation:

Nr	Ingredients	Content	Exposure Limits
1	Ethanol	70% v/v (min)	TWA: 1000 ppm OSHA TWA: 1900 mg/m ³
2	Didecyl dimethyl ammonium chloride	>0.2	

3) HAZARD INFORMATION

Main hazard: Flammable liquid and vapour. May cause eye irritation. Causes skin irritation. Contains material, which can cause cancer. Risk of cancer depends on duration and level of exposure.

Flammability: Flammable

Routes of entry: Eye Contact, Ingestion, Inhalation and/or absorbed through skin.

Potential Acute Health Effects:

Eyes: Hazardous in case of eye contact (irritant).

Skin: Sensitization of the product: Not available. Very hazardous in case of skin contact. Skin inflammation is characterized by itching, scaling, Redding or occasionally, blistering.

Inhalation: Slightly hazardous in case of inhalation (lung irritant).

Ingestion: Hazardous in case of ingestion.

Potential Chronic Health Effects:

Carcinogenic: Classified A₁ (Confirmed for human) by ACGIH, + (Proven) by EPA, + (Proven) by [NIOSH]. Classified A₄ (Not classified for human or animal) by AVGIH [Ethanol].

Mutagenic: Mutagenic for bacteria and/or yeast. [MEK]. Classified Proven for human [Benzene]. Mutagenic for mammals [Benzene]. Mutagenic for bacteria/or yeast [Benzene].

Teratogenic: Classified Proven for human [Ethanol].

Medical conditions aggravated by exposure: Diabetics treated with Phenforming and individuals with chronic liver disease, heart disease or neurologic disease might be more sensitive to the effects of Ethanol. Persons receiving Antabuse Reaction from occupational exposure.

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Overexposure/Signs/Symptoms: Vapors may cause dizziness or suffocation. Impaired sensory function, muscular in coordination, fatigue, mild euphoria, loud profuse speech, impaired mental activity, nausea, vomiting, ataxia, hypothermia, amnesia, anaesthesia, heavy breathing, deep coma, death.

4) FIRST AID MEASURES

Skin contact: In the case of contact, flush the skin with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, Cervices, creases and groin. Cover the irritated skin with an emollient. Wash clothes before reuse. Thoroughly clean shoes before reuse. If irritation persists seek medical attention.

Hazardous Skin Contact: Wash with a disinfectant soap and cover skin with an anti-bacterial cream. Seek medical attention.

Eye contact: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 15 minutes, keep eyelids open. Cold water may be used. DO NOT use eye ointment. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing apply artificial respiration. Get medical attention.

Inhalation: If inhaled, remove to fresh air and allow victim to rest. Get medical attention.

Hazardous inhalation: If inhaled, remove victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is laboured, give oxygen. If not breathing apply artificial respiration. Get medical attention. **WARNING!** It may be hazardous to the person performing aid to give CPR when inhaled material is toxic, infectious or corrosive. Seek medical attention.

5) FIRE AID MEASURES

Flammability of the product: Flammable

Auto ignition temperature: The lowest known value is 363°C (685.4°F) [Ethanol]

Flash Points: Closed Cup: 12°C (53.6°F)

Flammable limits: The greatest known range is LOWER: 3.3 % UPPER: 19% [Ethanol]

Products of combustion: These products are carbon oxides (CO, CO₂)

Fire hazards in presence of various substances: Highly flammable in the presence of acids, and of alkalis. Flammable in the presence of open flames and sparks, of heat and oxidizing materials, and of combustible materials. Slightly flammable in the presence of shocks, and of reducing materials. Non-flammable in presence of moisture.

Explosion hazards in presence of various other substances: Risk of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of product on presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials.

Extinguishing media: Flammable liquid, soluble or dispersed in water.

SMALL FIRE: Use DRY chemical powder, CO₂, alcohol foam or water spray.

LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet on order to prevent pressure build-up, auto ignition or explosion.

Special fire hazards: Containers should be grounded.

Protective clothing: Wear MSHA/NIOSH self-contained respirator or equivalent and full protective gear.

6) ACCIDENTAL RELEASE MEASURES

Personal precautions: Follow precautions for safe handling described in this safety data sheet. Ensure adequate personal protective equipment is used when cleaning spillages.

Environmental precautions: Contain spill

Small spills: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large spills: Flammable liquid, insoluble in water. Keep away from heat. Keep away from sources of Ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside the container. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Call for assistance on disposal. Be careful that the product is not present at a Pconcentration level above TLV. Check TLV on the MSDS and with local authorities.

7) HANDLING & STORAGE

Suitable material: Keep in same container as supplied.

Handling precautions: Keep locked up. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. DO NOT ingest. DO NOT breathe gas, fumes, vapour or spray. If ingested, seek medical advice immediately and show label or container. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage precautions: Flammable materials should be stored in a separately safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

8) EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering control measures: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below their respective threshold limit values. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal protection:

Respiratory: Vapour respirator-be sure to use an MSHA/NIOSH approved respirator equivalent. Wear appropriate respirator when ventilation is inadequate.

Hand: Wear butyl rubber gloves. Avoid contact with skin.

Eye: Splash goggles

Skin: None

Other protection: Splash goggles, Lab coat, Vapour respirator, Butyl gloves.

Personal protection in case of large spills: Splash goggles. Full suit. Vapour and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling the product.

9) PHYSICAL & CHEMICAL PROPERTIES

Appearance: Water white liquid

Odour: Typical Alcohol

Clarity: Clear

Viscosity Determination: Water Thin

Specific Gravity: 0.84-0.86

pH (Concentrate): 8.00-9.00

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Flammability:	Flammable
Solubility – water:	Soluble
Melting/Freezing Point:	May start to solidify at -88.5°C (-127.3°F) based on data for: Isopropyl alcohol. Weighted average: -112.31°C (-170.2°F)
Boiling/Condensation Point:	79°C (174.2°F)
Critical temperature:	The lowest known value is 232.5°C (450.5°F) (Isopropyl alcohol)
Vapour Pressure:	The highest known value is 43mm of Hg (@ 20°C) [Ethanol 99.9/UN]. Weighted average: 42.3mm of Hg (@ 20°C).
Vapour Density:	The highest known value is 2.08 (Air=1) [Isopropyl alcohol]. Weighted average: 1.63 (Air=1)
Volatility:	100%v/v. [MEK]. Weighted average: 127% (v/v) 100% (w/w). [MEK]. Weighted average: 100%
Odour Threshold:	The highest known value is 200ppm [Isopropyl alcohol]. Weighted average: 181.4ppm.
Evaporation rate:	1.176 (Butyl acetate = 1)
VOC:	100 (%)
Viscosity:	The highest known value is 2.4cP [Isopropyl alcohol]. Weighted average: 1.48 cP.
Log _{K_{ow}} :	The product is not soluble in water.
Iconicity (in water):	No data available.
Dispersion properties:	See solubility in water, methanol, diethyl ether, n-octanol, and acetone.
Solubility:	Easily soluble in cold water, hot water, methanol, and diethyl ether. Soluble in acetone. Partially soluble in n-octanol.

This is typical data-not a specification.

10) STABILITY / REACTIVITY

Conditions to avoid:	High temperatures
Incompatible materials:	Highly reactive with reducing agents, alkalis. Reactive with oxidizing agents, metals, acids. Slightly reactive with moisture.
Hazardous decomposition products:	Not available
Stability and reactivity:	Stable

11) TOXICOLOGICAL INFORMATION

Toxicity to animals:	WARNING: THE LC ₅₀ VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD ₅₀): 3600mg/kg [Mouse]. (Isopropyl alcohol). Acute dermal toxicity (LC ₅₀): 12800mg/kg [Rabbit]. (Isopropyl alcohol). Acute toxicity of the vapour (LC ₅₀): 8307 ppm 4 hour(s) [Rat]. (Calculated value for the mixture)
Chronic effects on humans:	
Carcinogenic:	A ₄ (Not classifiable for human or animal) by ACGIH [Ethanol]. Classified A ₁ (confirmed for human) by ACGIH, 1 (Proven for human). By IARC, 1 (Known) by NTP, + (Proven) by OSHA, A (Proven) by EPA, + (Proven) by NIOSH, A ₁ (Confirmed for human) by MAK [Benzene].
Mutagenic:	Mutagenic for bacteria and/or yeast [MEK.]. Classified PROVEN from human [Benzene]. Mutagenic for mammals. [Benzene. Mutagenic for bacteria and/or yeast [Benzene].
Developmental Toxicity:	PROVEN [Ethanol]. The substance is toxic to kidneys, lungs, the nervous system, liver, immune system, skin, eyes, brain, blood, heart, spleen and gastro-intestinal tract.
Other Toxic effects on humans:	Very hazardous in case of skin contact (irritant). Hazardous in case of skin contact (sensitizer, permeator), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation.
Special remarks on toxicity to Animals:	Based on the reported and estimated BCF, benzene will not be expected to bio concentrate in aquatic organisms. (Benzene).

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Humans: 0900 Detected in maternal milk in humans.
Special remarks on other toxic effects on humans: Moderately toxic and narcotic in high concentrations. Experimentally tumorigenic [ethanol].

12) ECOLOGICAL INFORMATION

Eco toxicity: Not Available
BOD₅ and COD: The COD is 52 mg/kg [Hour. Day(s)]
Biodegradable/OECD: Not Available
Mobility: No data available. Possible hazardous short-term degradation products are not likely. However, long term degradation products may arise.
Products of degradation: Formaldehyde and Acetic acid.
Toxicity of the products of biodegradation: The products of degradation are less toxic than the product itself.
Special remarks on the products of biodegradation: Formaldehyde and Acetic acid are products of biodegradation.
BIOCONCENTRATION: There is no indication of bio concentration in fish as a result of Ethanol's low log P value (log P = -0.31 [Ethanol]).

13) DISPOSAL CONSIDERATIONS

Disposal methods: Disposed of in accordance with local regulations
Disposal of packaging: Recycle or dispose of in accordance with prevailing regulations, preferably recognised collector or contractor. The competence of the contractor to deal satisfactorily with this type of product should be established beforehand.
Product Disposal: Incineration.

14) TRANSPORT INFORMATION

UN no.: 1170
Class: 3
Subsidiary Risk: N/A
PG: II

15) REGULATORY INFORMATION



16) OTHER INFORMATION

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.