

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Trade name : Septihol® Ethyl WFI st Alcohol Solution
 Product code : 1S11

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For Industrial and Institutional Use
 Surface cleaner

1.3. Details of the supplier of the safety data sheet

STERIS Corporation
 P. O. Box 147, St. Louis, MO 63166, US
 Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)

1.4. Emergency telephone number

Emergency number : US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2 H225
 Eye Irrit. 2 H319
 STOT SE 2 H371

2.2. Label elements – This label is regulated by the EPA under FIFRA. Refer to Section 15.

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour
 H319 - Causes serious eye irritation
 H371 - May cause damage to organs

Precautionary statements (GHS-US) :

P210 - Keep away from heat, open flames, sparks. - No smoking
 P233 - Keep container tightly closed
 P280 - Wear protective gloves, clothing, eye and 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
 P403+P235 - Store in a well-ventilated place. Keep cool
 P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

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according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---------------------------------|--------------------|-------|--|
| Ethyl alcohol (Self Classified) | (CAS No) 64-17-5 | 55-70 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |
| Isopropyl alcohol | (CAS No) 67-63-0 | 2-5 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336 |
| Methyl alcohol | (CAS No) 67-56-1 | 2-5 | Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 STOT SE 1, H370 |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician. |
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration, preferably mouth to mouth, if possible. In all cases of doubt, or when symptoms persist, seek medical advice. Remove to fresh air and keep at rest in a position comfortable for breathing. |
| First-aid measures after skin contact | : Immediately flush skin with plenty of water for at least 15 minutes. Remove/Take off immediately all contaminated clothing. Seek medical attention if irritation develops. Rinse skin with water/shower. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Give water or milk if the person is fully conscious. Do not give anything by mouth to an unconscious person. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries | : May cause damage to organs. Causes damage to organs. |
| Symptoms/injuries after inhalation | : In the event of insufficient ventilation: May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : Frequent or prolonged contact with skin may cause dermal irritation. |
| Symptoms/injuries after eye contact | : May cause slight irritation, tearing. |
| Symptoms/injuries after ingestion | : This material contains methanol, which, when ingested, has cards acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Dry powder. Water fog. Alcohol foam. carbon dioxide (CO2). Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : Highly flammable liquid and vapor. |
| Explosion hazard | : May form flammable/explosive vapor-air mixture. |

5.3. Advice for firefighters

| | |
|---------------------------------------|---|
| Precautionary measures fire | : Vapors may travel long distances along ground before igniting/flashing back to vapor source. |
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Evacuate personnel to a safe area. |
| Protective equipment for firefighters | : Full protective flameproof clothing. Do not enter fire area without proper protective equipment, including respiratory protection. Wear positive pressure air supplied respirator if required by safe entry procedures. |
| Other information | : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Cool closed containers exposed to fire with water spray. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking. Avoid breathing mist or vapor.

6.1.1. For non-emergency personnel

Protective equipment : Refer to section 8.
Emergency procedures : Evacuate unnecessary personnel. Keep upwind.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapours/spray.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Do not absorb in sawdust, paper, cloth or other combustible absorbents. Collect spillage. Vapors can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Store away from other materials. Small spills may be flushed with large amounts of water; larger spills should be collected for disposal. Prevent large quantities from entering sewers, watercourses or low areas.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No naked lights. No smoking. Use only non-sparking tools. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area. Do not spray into eyes. Keep away from heat and direct sunlight. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Hygiene measures : Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ensure adequate ventilation. Ventilation at floor level. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment. A washing facility/water for eye and skin cleaning purposes should be present. Provide for an automatic sprinkler system. Ground/bond container and receiving equipment.
Storage conditions : Keep in fireproof place. Keep container tightly closed. Keep only in the original container in a cool well ventilated place. Store in dry protected location to prevent any moisture contact. Keep away from heat and direct sunlight. Do not store near heat or open flames. If frozen, thaw and re-mix before use.
Incompatible materials : Strong acids. Strong bases. Strong oxidizing agents. Sawdust.
Heat and ignition sources : Store away from excessive heat. Remove all sources of ignition. These can cause flammability/explosion hazards.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Isopropyl alcohol (67-63-0) | | |
|-----------------------------|-------------------------------------|-----------------------|
| USA ACGIH | ACGIH TWA (ppm) | 200 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 400 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 980 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 400 ppm |

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| Methyl alcohol (67-56-1) | | |
|--------------------------|-------------------------------------|-----------------------|
| USA ACGIH | ACGIH TWA (ppm) | 200 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 250 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 260 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |

| Ethyl alcohol (Self Classified) (64-17-5) | | |
|---|-------------------------------------|------------------------|
| USA ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation to minimize vapour concentrations. Use explosion-proof ventilating equipment.

Personal protective equipment : Avoid all unnecessary exposure. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Protective goggles. Protective clothing. Gloves.



Hand protection : Wear protective gloves. Rubber gloves.

Eye protection : Chemical goggles or face shield. Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing. Wear protective shoes.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls : Avoid release to the environment.

Other information : Do not eat, drink or smoke during use. Wash contaminated clothing immediately.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--------------------------------------|
| Physical state | : Liquid |
| Appearance | : Clear. |
| Colour | : Colorless. |
| Odour | : Alcohol odor. |
| Odour threshold | : No data available |
| pH | : 4.70 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : > 35 °C Mixture not tested. |
| Flash point | : ASTM D 56 (Tag Closed Cup) 62°F |
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Highly flammable liquid and vapour |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Specific Gravity | : 0.8886 |
| Solubility | : Water: completely soluble |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity | : 1.60 cP @25°C |

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| | |
|----------------------|---------------------|
| Explosive properties | : None |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions. Exposure to heat may cause bursting. Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Sawdust.

10.6. Hazardous decomposition products

May release flammable gases. unburned hydrocarbons. Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Isopropyl alcohol (67-63-0) | |
|-----------------------------|--------------------------------|
| LD50 oral rat | 4396 mg/kg |
| LD50 dermal rabbit | 12800 mg/kg |
| LC50 inhalation rat (ppm) | 16000 ppm (Exposure time: 8 h) |
| ATE (oral) | 4396,000 mg/kg bodyweight |
| ATE (dermal) | 12800,000 mg/kg bodyweight |

| Methyl alcohol (67-56-1) | |
|----------------------------|---------------------------|
| LD50 oral rat | 5628 mg/kg |
| LD50 dermal rabbit | 15800 mg/kg |
| LC50 inhalation rat (mg/l) | 130.7 mg/l/4h (lit. ECHA) |
| ATE (oral) | 100,000 mg/kg bodyweight |
| ATE (dermal) | 300,000 mg/kg bodyweight |
| ATE (vapours) | 3,000 mg/l/4h |

| Ethyl alcohol (Self Classified) (64-17-5) | |
|---|---------------------------------|
| LC50 inhalation rat (mg/l) | 124.7 mg/l (Exposure time: 4 h) |

| | |
|--|--|
| Skin corrosion/irritation | : Not classified Based on available data, the classification criteria are not met |
| Serious eye damage/irritation | : Causes serious eye irritation |
| Respiratory or skin sensitisation | : Not classified Based on available data, the classification criteria are not met |
| Germ cell mutagenicity | : Not classified Based on available data, the classification criteria are not met |
| Carcinogenicity | : Not classified Based on available data, the classification criteria are not met |
| Reproductive toxicity | : Not classified Based on available data, the classification criteria are not met |
| Specific target organ toxicity (single exposure) | : May cause damage to organs May cause drowsiness or dizziness Causes damage to organs |

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| | |
|---|---|
| Specific target organ toxicity (repeated exposure) | : Not classified Based on available data, the classification criteria are not met |
| Aspiration hazard | : Not classified Based on available data, the classification criteria are not met |
| Potential Adverse human health effects and symptoms | : Not classified Based on available data, the classification criteria are not met |
| Symptoms/injuries | : May cause damage to organs. Causes damage to organs. |
| Symptoms/injuries after inhalation | : In the event of insufficient ventilation: May cause drowsiness or dizziness. |
| Symptoms/injuries after skin contact | : Frequent or prolonged contact with skin may cause dermal irritation. |
| Symptoms/injuries after eye contact | : May cause slight irritation, tearing. |
| Symptoms/injuries after ingestion | : This material contains methanol, which, when ingested, has caused acidosis, ocular toxicity ranging from diminished visual capacity to complete blindness, and death. |

SECTION 12: Ecological information

12.1. Toxicity

| Isopropyl alcohol (67-63-0) | |
|--------------------------------|---|
| LC50 fishes 1 | 9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| EC50 Daphnia 1 | 13299 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| EC50 other aquatic organisms 1 | > 1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus) |
| LC50 fish 2 | 11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| EC50 other aquatic organisms 2 | > 1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus) |

| Methyl alcohol (67-56-1) | |
|--------------------------|-----------------------|
| LC50 fishes 1 | > 12700 mg/l 96 hours |
| EC50 Daphnia 1 | > 10000 mg/l 48 hours |

| Ethyl alcohol (Self Classified) (64-17-5) | |
|---|---|
| LC50 fishes 1 | 12,0 - 16,0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |
| EC50 Daphnia 1 | 9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC50 fish 2 | > 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| EC50 Daphnia 2 | 10800 mg/l (Exposure time: 24 h - Species: Daphnia magna) |

12.2. Persistence and degradability

| Septihol® Ethyl WFI st Alcohol Solution | |
|---|------------------|
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| Septihol® Ethyl WFI st Alcohol Solution | |
|---|------------------|
| Bioaccumulative potential | Not established. |

| Isopropyl alcohol (67-63-0) | |
|-----------------------------|-----------------|
| Log Pow | 0.05 (at 25 °C) |

| Ethyl alcohol (Self Classified) (64-17-5) | |
|---|-------|
| Log Pow | -0.32 |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Additional information | : Handle empty containers with care because residual vapours are flammable. Product may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation. It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

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SECTION 14: Transport information

In accordance with DOT

| | |
|---|---|
| Transport document description | : UN1170 Ethanol solutions, 3, II |
| UN-No.(DOT) | : 1170 |
| DOT NA no. | : UN1170 |
| DOT Proper Shipping Name | : Ethanol solutions |
| Department of Transportation (DOT) Hazard Classes | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Hazard labels (DOT) | : 3 - Flammable liquid |



Packing group (DOT) : II - Medium Danger

Additional information

Transport by sea

22 ounce and 32 ounce bottles – UN1170, Ethanol Solutions, 3, PGII, Ltd. Qty.
1 gallon bottle – UN1170, Ethanol Solutions, 3, PGII

Air transport

Not eligible for air transport

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

| | |
|------------------------------------|--|
| EPA FIFRA Pesticide Product Notice | This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use. |
| EPA FIFRA Signal Word | Warning - Flammable |
| EPA FIFRA Hazard Statements | Keep away from heat and open flame. |
| EPA FIFRA Precautionary Statements | Hazards to Humans and Domestic Animals |
| | Causes substantial but temporary eye injury. |
| | Do not get in eyes or on clothing. |
| | Wear protective eyewear such as <u>goggles</u> or safety glasses. |
| | Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using toilet. |
| | Remove and wash contaminated clothing before reuse. |
| | Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. |

Isopropyl alcohol (67-63-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on SARA Section 313 (Specific toxic chemical listings)

| | |
|---------------------------------------|--|
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| SARA Section 313 - Emission Reporting | 1,0 % (only if manufactured by the strong acid process, no supplier notification) |

Methyl alcohol (67-56-1)

| | |
|---------------------------------------|-------|
| SARA Section 313 - Emission Reporting | 1,0 % |
|---------------------------------------|-------|

Ethyl alcohol (Self Classified) (64-17-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Septihol® Ethyl WFI st Alcohol Solution

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15.2. International regulations

Not applicable

15.3. US State regulations

Not applicable.

SECTION 16: Other information

Revision Date : 04/17/2019

Other information : None.

Full text of H-phrases:

| | |
|----------------------------------|--|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation:vapour) | Acute toxicity (inhalation:vapour), Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| STOT SE 1 | Specific target organ toxicity (single exposure), Category 1 |
| STOT SE 2 | Specific target organ toxicity (single exposure), Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure), Category 3 |
| H225 | Highly flammable liquid and vapour |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H336 | May cause drowsiness or dizziness |
| H370 | Causes damage to organs |
| H371 | May cause damage to organs |

NFPA health hazard

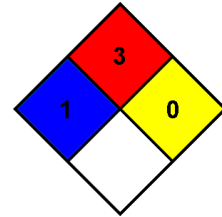
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to provide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.