

ETOH

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Issue date: 2020-09-30

Revision date: 2020-09-30

Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Substance
Substance name : ETOH
Product code : Not available
Substance name : Ethanol

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

Use of the substance/mixture : High Purity ethanol CRM, for laboratory use only

1.3. Details of the supplier of the safety data sheet

National Research Council Canada
1200 Montreal Road
Ottawa, K1A 0R6 - Canada
T 613-993-2359



National Research
Council Canada

Conseil national de
recherches Canada

1.4. Emergency telephone number

Emergency number : CANUTEC 1-613-996-6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Flammable Liquid 2
Skin Irritant 2
Eye Irritant 2B
Specific Target Organ Toxicity Single Exposure 3

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



GHS02

GHS07

Signal word (GHS) :

Danger

Hazard statements (GHS) :

Highly flammable liquid and vapour. Causes skin irritation. Causes eye irritation. May cause respiratory irritation.

Precautionary statements (GHS) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands, forearms and face thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Store in a well-ventilated

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place. Keep container tightly closed. Keep cool. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : ETOH

| Name | Product identifier | % (by weight) |
|---------------|--------------------|---------------|
| Ethyl alcohol | (CAS-No.) 64-17-5 | 100 |

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- First-aid measures after skin contact : IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

- Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
- Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide, dry chemical, alcohol foam
- Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapour. Products of combustion may include, and are not limited to: oxides of carbon. Formaldehyde.

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Explosion hazard : May form flammable/explosive vapour-air mixture. Vapours may travel long distances along ground before igniting/flashing back to vapour source.

5.3. Advice for firefighters

Protection during firefighting : Use water spray to keep fire-exposed containers cool. Use water spray to disperse the vapours. Reignition is possible. Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Remove all sources of ignition.

6.2. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/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 : Avoid contact with skin and eyes. Avoid breathing vapour. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Store locked up. Keep container tightly closed and in a well-ventilated place. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ethyl alcohol (64-17-5) | |
|---|--|
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH STEL (ppm) | 1000 ppm |
| ACGIH chemical category | Confirmed Animal Carcinogen with Unknown Relevance to Humans |
| USA - OSHA - Occupational Exposure Limits | |
| OSHA PEL (TWA) (mg/m ³) | 1900 mg/m ³ |
| OSHA PEL (TWA) (ppm) | 1000 ppm |

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| USA - IDLH - Occupational Exposure Limits | |
|--|------------------------|
| US IDLH (ppm) | 3300 ppm (10% LEL) |
| USA - NIOSH - Occupational Exposure Limits | |
| NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| NIOSH REL (TWA) [ppm] | 1000 ppm |

8.2. Exposure controls

| | |
|----------------------------------|--|
| Appropriate engineering controls | : Ensure good ventilation of the work station. |
| Hand protection | : Wear suitable gloves resistant to chemical penetration. Neoprene rubber gloves. Butyl rubber gloves. |
| Eye protection | : Wear eye/face protection. |
| Skin and body protection | : Wear suitable protective clothing. |
| Respiratory protection | : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |
| Environmental exposure controls | : Avoid release to the environment. |
| Other information | : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Appearance | : Colourless liquid |
| Colour | : Colourless |
| Odour | : Ethanol |
| Odour threshold | : 0.1 – 5100 ppm for ethyl alcohol as reported in appendix 1 of the Canadian Standards Association guide Z94.4-M1982 |
| pH | : No data available |
| Melting point | : 115 °C / 239 °F |
| Freezing point | : 115 °C / 239°F |
| Boiling point | : 78.3 °C / 172.94 °F |
| Flash point | : 13 °C /55.4 °F (Tag closed cup, ASTM D-56) |
| Relative evaporation rate (butyl acetate=1) | : 1.7 |
| Flammability (solid, gas) | : Highly flammable liquid and vapour |
| Vapour pressure | : 44 mm Hg @ 20 °C/68 °F, for 100% Ethanol |
| Relative vapour density at 20 °C / 68 °F | : 0.7883 |
| Relative density | : No data available |
| Solubility | : Complete |
| Partition coefficient n-octanol/water | : -0.32 |
| Auto-ignition temperature | : 370 °C / 689 °F |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 1.35 cP @ 20°C / 68°F |
| Explosive limits | : Lower explosive limit (LEL): 3.3 vol % Upper explosive limit (UEL): 19 vol % |
| Explosive properties | : No data available |

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Oxidising properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition. Direct sunlight

10.5. Incompatible materials

Strong oxidizers

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Formaldehyde. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Ethyl alcohol (64-17-5)

| | |
|---------------------|---------------|
| LD50 oral rat | 7060 mg/kg |
| LC50 inhalation rat | 124.7 mg/L/4h |

Skin corrosion/irritation : Causes skin irritation

Serious eye damage/irritation : Causes eye irritation

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.

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

Carcinogenicity : Based on available data, the classification criteria are not met.

Reproductive toxicity : Based on available data, the classification criteria are not met.

STOT-single exposure : May cause respiratory irritation.

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

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

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

| Ethyl alcohol (64-17-5) | |
|-------------------------|---|
| LC50 fish 1 | 12 – 16 mL/L (Exposure time: 96 h - Species: <i>Oncorhynchus mykiss</i> [static]) |
| EC50 Daphnia 1 | 9268 – 14221 mg/L (Exposure time: 48 h - Species: <i>Daphnia magna</i>) |
| LC50 fish 2 | > 100 mg/L (Exposure time: 96 h - Species: <i>Pimephales promelas</i> [static]) |
| EC50 Daphnia 2 | 2 mg/L (Exposure time: 48 h - Species: <i>Daphnia magna</i> [Static]) |

12.2. Persistence and degradability

| ETOH | |
|-------------------------------|-----------------|
| Persistence and degradability | Not established |

12.3. Bioaccumulative potential

| ETOH | |
|---------------------------|-----------------|
| Bioaccumulative potential | Not established |

| Ethyl alcohol (64-17-5) | |
|---------------------------------------|-------|
| Partition coefficient n-octanol/water | -0.32 |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

UN-No.(DOT/TDG) : UN1170
Proper Shipping Name (DOT/TDG) : Ethanol
Class (DOT/TDG) : 3
Hazard labels (DOT/TDG) :



Packing group (DOT/TDG) : II

Additional information

Other information : No supplementary information available.
Special transport precautions : Do not handle until all safety precautions have been read and understood.

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SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2 US State regulations

No additional information available

SECTION 16: Other information

| | |
|---------------|--------------------------|
| Issue date | : 2020-09-30 |
| Revision date | : 2020-09-30 |
| Version # | : 1.0 |
| Prepared by | : Nexreg Compliance Inc. |

DISCLAIMER:

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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