1. Identification

Product identifier

Product Name
ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS

Other means of identification

Product Code(s)
E1028

UN/ID no
UN1170

Synonyms
None

Recommended use of the chemical and restrictions on use

Recommended use
No information available

Restrictions on use
No information available

Details of the supplier of the safety data sheet

Supplier Address
Spectrum Chemical Mfg. Corp.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Emergency telephone number

Emergency Telephone
Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 1</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements
Causes serious eye irritation
May damage fertility or the unborn child
May cause respiratory irritation
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
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
Keep cool

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
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
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store locked up.
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other information
No information available.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>100</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.
4. First-aid measures

Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance.

Inhalation
Remove to fresh air. IF exposed or concerned: Get medical advice/attention.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion
Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms
May cause redness and tearing of the eyes. Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Large Fire
Dry chemical. Carbon dioxide (CO2). water spray. Alcohol resistant foam.
CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media
Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical
risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Hazardous combustion products
Carbon Monoxide, Carbon Dioxide.

Explosion data

Sensitivity to mechanical impact
none.

Sensitivity to static discharge
yes.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take
precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**Other information**
Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### 7. Handling and storage

**Precautions for safe handling**
Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. In case of insufficient ventilation, wear suitable respiratory equipment.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up.

### 8. Exposure controls/personal protection

**Control parameters**

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>No data available</td>
<td>1000 ppm TWA</td>
<td>-</td>
</tr>
<tr>
<td>64-17-5</td>
<td></td>
<td>1900 mg/m³ TWA</td>
<td>-</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering controls**
Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Tight sealing safety goggles.

**Hand protection**
Wear suitable gloves. Impervious gloves.
Skin and body protection
Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations
Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>sediment</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>78 - 79 °C / 172.4 - 174.2 °F</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>12 - 14 °C / 53.6 - 57.2 °F</td>
<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability or explosive</td>
<td></td>
<td>None known</td>
</tr>
<tr>
<td>limits</td>
<td>19 %</td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>limits</td>
<td>3.3 %</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>5.7 - 5.866</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>1.59</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.79</td>
<td>None known</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in Benzene</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>-0.31</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>363 - 426 °C / 685.4 - 798.8 °F</td>
<td>None known</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td></td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>no data available</td>
<td>None known</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
</tbody>
</table>

Other information
Explosive properties
Oxidizing properties
Softening point
Molecular weight
VOC Content (%)
Liquid Density
Buik density

10. Stability and reactivity

Reactivity
No information available.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.
Incompatible materials

None known based on information supplied.

Hazardous decomposition products

None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact
Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact
Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.

Ingestion
Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof 64-17-5</td>
<td>= 7060 mg/kg ( Rat )</td>
<td>-</td>
<td>124.7 mg/L ( Rat ) 4 h</td>
</tr>
</tbody>
</table>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
May cause skin irritation.

Serious eye damage/eye irritation
Classification based on data available for ingredients. Causes serious eye irritation.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof 64-17-5</td>
<td>-</td>
<td>Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend

Reproductive toxicity
Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.

Developmental toxicity
May cause harm to the unborn child.

STOT - single exposure
May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure.
Target organ effects: liver, respiratory system, Eyes, Skin, central nervous system, blood, Reproductive System.

Aspiration hazard: No information available.

Other adverse effects: No information available.

Interactive effects: No information available.

12. Ecological information

**Ecotoxicity**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof 64-17-5</td>
<td>-</td>
<td>LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: 13400 - 15100mg/L (96h, Pimephales promelas) LC50: &gt;100mg/L (96h, Pimephales promelas)</td>
<td>-</td>
<td>LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =10800mg/L (24h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)</td>
</tr>
</tbody>
</table>

**Persistence and degradability:** No information available.

**Bioaccumulation:** Inherently biodegradable.

**Component Information**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof 64-17-5</td>
<td>-0.32</td>
</tr>
</tbody>
</table>

Other adverse effects: No information available.

13. Disposal considerations

**Waste treatment methods**

Waste from residues/unused products: Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging: Empty containers pose a potential fire and explosion hazard. Do not cut, puncture of weld containers.

14. Transport information

**DOT**

- UN/ID no: UN1170
- Proper Shipping Name: Ethanol
- Hazard class: 3
- Packing group: II
- Special Provisions: 24, IB2, T4, TP1
- Marine Pollutant: Severe Marine Pollutant
- Description: UN1170, Ethanol, 3, II
- Emergency Response Guide Number: 127

**TDG**

- UN-No: UN1170
- Proper Shipping Name: Ethanol
- Hazard class: 3
- Packing Group: II
Description: UN1170, Ethanol, 3, II

**MEX**
- UN-No: UN1170
- Proper Shipping Name: Ethanol
- Hazard class: 3
- Special Provisions: 144
- Packing Group: II
- Description: UN1170, Ethanol, 3, II

**ICAO (air)**
- UN-No: UN1170
- Proper Shipping Name: Ethanol
- Hazard class: 3
- Packing Group: II
- Special Provisions: A58, A180, A3
- Description: UN1170, Ethanol, 3, II

**IATA**
- UN number: UN1170
- Proper Shipping Name: Ethanol
- Transport hazard class(es): 3
- Packing group: II
- Description: UN1170, Ethanol, 3, II

**IMDG**
- UN number: UN1170
- Proper shipping name: Ethanol
- Transport hazard class(es): 3
- Packing group: II
- EmS-No: F-E, S-D
- Special Provisions: 144
- Marine pollutant: NP1
- Description: UN1170, Ethanol, 3, II, (12°C c.c.)

**RID**
- UN number: UN1170
- Proper Shipping Name: Ethanol
- Transport hazard class(es): 3
- Packing group: II
- Classification code: F1
- Special Provisions: 144, 601
- Description: UN1170, Ethanol, 3, II
- Labels: 3

**ADR**
- UN number: 1170
- Proper Shipping Name: Ethanol
- Transport hazard class(es): 3
- Packing group: II
- Classification code: F1
- Tunnel restriction code: (D/E)
- Special Provisions: 144, 601
- Description: 1170, Ethanol, 3, II, (D/E)
- Labels: 3

**ADN**
- UN/ID No: UN1170
- Proper shipping name: Ethanol
- Transport hazard class(es): 3
- Packing Group: II
- Classification code: F1
- Special Provisions: 144, 601
- Description: UN1170, Ethanol, 3, II
- Hazard label(s): 3
- Limited quantity (LQ): 1 L
15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Complies</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td></td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td></td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td></td>
</tr>
<tr>
<td>ENCS</td>
<td></td>
</tr>
<tr>
<td>IECSC</td>
<td></td>
</tr>
<tr>
<td>KECL</td>
<td></td>
</tr>
<tr>
<td>PICCS</td>
<td></td>
</tr>
<tr>
<td>AICS</td>
<td></td>
</tr>
</tbody>
</table>

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof - 64-17-5</td>
<td>developmental toxicity carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated under applicable state right-to-know regulations.
16. Other information

NFPA
Health hazards  2
Flammability  3
Instability  0
Physical and chemical properties  -
HMIS
Health hazards  2 *
Flammability  3
Physical hazards  0
Personal protection  X

* = Chronic Hazard Star Legend

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend  Section 8: EXPOSURE CONTROLS/PERSOANL PROTECTION
TWA  TWA (time-weighted average)
STEL  STEL (Short Term Exposure Limit)
Ceiling  Maximum limit value

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NL M CIP)
National Library of Medicine's PubMed database (NL M PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date  29-December-2021
Revision Note  No information available.

Disclaimer
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet