SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier

Product code: E1028
Product Name: ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS

Other means of identification

Synonyms: Absolute ethanol, Alcohol, Alcohol dehydrated, Alcohol, anhydrous, Alcool ethylique (French), Absolute Ethanol 200 proof, Ethanol, Ethyl alcohol anhydrous, Ethyl hydrate, Ethyl hydroxide, Fermentation alcohol, Dehydrated Alcohol, Ethanol, undenatured 200 proof, Ethanol 200 proof, Ethyl alcohol, Alcohol etílico (Spanish)

CAS #: 64-17-5
RTECS #: KQ6300000
CI#: Not available

Recommended use of the chemical and restrictions on use

Uses advised against: No information available

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000
Order Online At: https://www.spectrumchemical.com
Emergency telephone number: Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</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>

**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

**Hazards not otherwise classified (HNOC)**
Not Applicable

**Other hazards**
Can burn with an invisible flame  
Causes mild skin irritation

**Precautionary Statements - Prevention**
Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wash face, hands and any exposed skin thoroughly after handling  
Do not breathe mist or vapors  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground container and receiving equipment  
Use explosion-proof equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Keep cool

**Precautionary Statements - Response**
*IF exposed or concerned: Get medical attention*
In case of fire: Use CO2, dry chemical, or foam to extinguish.  
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 attention.  
If skin irritation occurs: Get medical attention  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

**Precautionary Statements - Storage**

**Product code:** E1028  
**Product name:** ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS
Precautionary Statements - Disposal
Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures
General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms
- Causes eye irritation
- May cause skin irritation
- May cause irritation of respiratory tract
- Dyspnea (Difficulty breathing and shortness of breath)
- Central nervous system effects
- Dizziness
- Drowsiness
- Headache
- Ataxia
- Staggering gait
- Nausea
- Vomiting
- May cause cardiovascular effects

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Alcohol-resistant
Unsuitable Extinguishing Media:
Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous combustion products
Carbon Monoxide, Carbon Dioxide.

Specific hazards
Flammable. May be ignited by heat, sparks or flames. Material can burn with invisible flame. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods: No information available
Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling
Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

**Safe Handling Advice:**
Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

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

**Technical Measures/Storage Conditions:**
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Sensitive to light. Store in light-resistant containers. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**
- Oxidizing agents
- Acids
- Alkali Metals
- Halogens
- Caustics
- Isocyanates
- Metals
- Bases
- Acid anhydrides
- Acid chlorides

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**National occupational exposure limits**

**United States**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WEEL</th>
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<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWA</td>
<td>1000 ppm STEL</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1900 mg/m³ TWA</td>
<td>1900 mg/m³ TWA</td>
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**Canada**

<table>
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<th>Component</th>
<th>CAS No</th>
<th>Canada - Alberta</th>
<th>Canada - British Columbia</th>
<th>Canada - Ontario</th>
<th>Canada - Quebec</th>
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<tbody>
<tr>
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<td>64-17-5</td>
<td>1000 ppm TWA</td>
<td>1000 ppm STEL</td>
<td>1000 ppm STEL</td>
<td>1000 ppm TWAEV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1880 mg/m³ TWA</td>
<td></td>
<td></td>
<td>1880 mg/m³ TWAEV</td>
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</table>

**Australia and Mexico**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA</td>
<td>1000 ppm STEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1880 mg/m³ TWA</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering measures to reduce exposure:**
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective limits.

**Product code:** E1028

**Product name:** ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS
Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Appearance: No information available.
Color: Clear. Colorless.


Molecular/Formula weight (g/mole): 46.07
Formula: CH3CH2OH

Flash Point Tested according to:
Closed cup
Autoignition Temperature (°C/°F):
363-426 °C/685.4-798.8 °F
Open cup

Upper Explosion Limit (%): 19%
Melting point/range (°C/°F):
-114.1-117.3 °C/-173.38-179.14 °F

Boiling point/range (°C/°F):
78-79 °C/172.4-174.2 °F
Bulk density: No information available

Specific gravity: 0.789 @ 20 °C
pH: No information available
Evaporation rate: No information available
Vapor density: 1.59

Odor threshold (ppm):
5-10 (recognition)
84 (tolerance)
Partition coefficient (n-octanol/water):
-0.31

Miscibility:
Miscible with water
Miscible with Acetone
Miscible with Ether
Miscible with Benzene
Miscible with glacial Acetic Acid
Miscible with many organic solvents

Miscibility:
Solubility:
Very soluble in water
Soluble in Benzene
10. STABILITY AND REACTIVITY

Reactivity
When Ethanol comes in contact with Sodium, it liberates flammable hydrogen gas
It can react vigorously or explosively with acid hydrides or acid chlorides
It reacts with alkali metals to liberate flammable hydrogen gas
It reacts with acetyl bromide to evolve hydrogen bromide
It reacts with ammonia + silver nitrate to form silver nitrate and silver fulminate
Ethyl alcohol can react with freshly cut/etched/scratched aluminum with the evolution of heat and release of hydrogen gas. The Ethyl alcohol has to be on the aluminum surface as it is being cut/scratched/etched
Ethyl Alcohol reacts vigorously with acetyl chloride.
Ethanol ignites and then explodes on contact with the following compounds: acetic anhydride + sodium hydrosulfate, disulfuric acid + nitric acid, phosphorus (III) oxide, platinum, potassium tert-butoxide + acids
Ethanol rapidly absorbs moisture from the air. It can react vigorously/explosively with oxidizers. Ethanol can react vigorously/explosively with the following: ammonium hydroxide & silver oxide, chlorine or chlorine oxides, perchlorates (barium perchlorate, chloryl perchlorate, magnesium perchlorate (forms ethyl perchlorate), nitrosyl perchlorate, potassium perchlorate, silver perchlorate, uranyl perchlorate), acetic anhydride, acetyl bromide (evolves hydrogen bromide), acetyl chloride, aluminum sesquibromide ethylate, bromine pentafluoride, calcium hypochlorite, chromic anhydride, chromium trioxide, chromyl chloride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, manganese perchlorate + 2,2-dimethoxy propane, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, manganese heptoxide, iodine + methanol + mercuric oxide, iodine + Phosphorus (forms ethane iodide), mercuric nitrate, nitric acid, perchloric acid, permanganic acid, peroxodisulfuric acid, platinum black, potassium dinigrosulfate, potassium permanganate, potassium superoxide, potassium tert-butoxide, ruthenium(VIII) oxide, silver +nitric acid (forms silver fulminate), silver nitrate (forms ethyl nitrate), silver oxide, sodium hydrazide, hydrogen peroxide + sulfuric acid, sulfuric acid + mercuric oxide, tetrachlorisilane + water, silver & nitric acid, tetraphosphorus hexaoxide

Chemical stability
Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization does not occur
Incompatible Materials: Oxidizing agents
Acids
Alkali Metals
Halogens
Caustics
isocyanates
Metals
Bases
Acid anhydrides
Acid chlorides

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Principal Routes of Exposure:
Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Ethyl Alcohol 200 proof</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No</td>
</tr>
<tr>
<td>LD50/oral/rat</td>
</tr>
<tr>
<td>LD50/oral/mouse</td>
</tr>
<tr>
<td>LD50/dermal/rabbit</td>
</tr>
<tr>
<td>LD50/dermal/rat</td>
</tr>
<tr>
<td>LC50/inhalation/rat</td>
</tr>
<tr>
<td>LC50/inhalation/mouse</td>
</tr>
<tr>
<td>Other LD50 or LC50 information</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

Product Information

LD50/oral/rat =
Value - Acute Toxicity = 7060 mg/kg

LD50/oral/mouse =
Value - Acute Tox = 3450 mg/kg

LD50/dermal/rabbit
Value - Acute Toxicity = No information available

LD50/dermal/rat
VALUE - Acute Tox = No information available

LC50/inhalation/rat
VALUE-Vapor = 124.7 mg/l (4-hr)
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/inhalation/mouse
VALUE-Vapor = 39 mg/l (4-hr)
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Mildly to moderately irritating to the skin.

Eye Contact: Causes serious eye irritation. Causes moderate to severe eye irritation.

Inhalation: May cause irritation of respiratory tract. Symptoms may include coughing and shortness of breath. May cause nausea and headache. It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). May affect respiration (respiratory depression). Inhalation of high concentrations of
vapor may cause anesthetic effects. Inhalation of high concentrations of vapors may cause dizziness or suffocation. May affect the brain.

**Ingestion**
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause gastritis. May cause loss of appetite. May cause flushed skin. May affect the cardiovascular system (change in heart rate). May affect the cardiovascular system (hypotension or hypertension, tachycardia, dysrhythmias). It may affect behavior/central nervous system (excitation, mild euphoria, excessive talking, fatigue, headache, dizziness, drowsiness, staggering gait, ataxia, hallucinations, slurred speech, amnesia, confusion, release of inhibitions, agressive behavior, convulsions, coma). May affect respiration (dyspnea, respiratory depression). It may affect the brain. May affect liver. May affect the blood. May affect the endocrine system. It may affect the spleen. May affect urinary system (kidneys).

**Aspiration hazard**
No information available.

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

**Chronic Toxicity**
Prolonged or repeated skin contact may cause dermatitis, and dryness and cracking of the skin. Prolonged or repeated ingestion may affect behavior/central nervous system. Prolonged or repeated ingestion may affect metabolism (cause anorexia, weight loss). Prolonged or repeated ingestion may affect the liver (fatty liver degeneration, cirrhosis of the liver). Prolonged or repeated ingestion may affect the cardiovascular system. Prolonged or repeated inhalation may affect the liver.

**Sensitization:**
No information available.

**Mutagenic Effects:**
May affect genetic material based on animal test data
Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects
Cytogenic analysis - hamster ovary
Cytogenic Analysis (Hamster embryo)
Cytogenic analysis - human leukocyte
Cytogenic Analysis: human lymphocyte
Sister Chromatid Exchange - Hamster ovary
Sister Chromatid Exchange (human lymphocyte)

**Carcinogenic effects:**
Equivocal tumorigenic agent by Registry of Toxic Effects of Chemical Substances (RTECS) criteria. Confirmed Animal Carcinogen with Unknown Relevance to Humans.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages</td>
<td>A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans</td>
<td>Not listed</td>
<td>Present</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**ACGIH (American Conference of Governmental Industrial Hygienists)**
A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**
Group 1 - Carcinogenic to Humans
Reproductive toxicity: May damage fertility or the unborn child

Reproductive Effects: Causes adverse reproductive effects
Developmental Effects: May cause harm to the unborn child
May cause adverse developmental effects
Teratogenic Effects: Causes birth defects (teratogenic effects)

Specific Target Organ Toxicity:
STOT - single exposure: respiratory system, central nervous system.
STOT - repeated exposure: Causes damage to organs through prolonged or repeated exposure.
Target Organs: Skin, Liver, Central nervous system, Nervous system, Heart, Reproductive System.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ecotoxicity effects: Aquatic environment.

Ethyl Alcohol 200 proof - 64-17-5
Fish
LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L (96h, Pimephales promelas)
Crustacea
LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna) EC50: =10800mg/L (24h, Daphnia magna)

Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility in soil: No information available
Other adverse effects: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tbody>
</table>

14. TRANSPORT INFORMATION

Product code: E1028
Product name: ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS
DOT
 UN-No: UN1170
 Proper Shipping Name: Ethanol
 Hazard Class: 3
 Subsidiary Class: No information available
 Packing group: II
 Emergency Response Guide Number: 127
 Marine Pollutant: No data available
 DOT RQ (lbs): No information available
 Special Provisions: 24, IB2, T4, TP1
 Symbol(s): No information available
 Description: UN1170, Ethanol, 3, II

TDG (Canada)
 UN-No: UN1170
 Proper Shipping Name: Ethanol
 Hazard Class: 3
 Subsidiary Risk: No information available
 Packing Group: II
 Marine Pollutant: No Information available
 Description: UN1170, Ethanol, 3, II

ADR
 UN Number: UN1170
 Proper Shipping Name: Ethanol
 Transport hazard class(es): 3
 Packing group: II
 Subsidiary Risk: No information available
 Special Provisions: 144, 601
 Description: UN1170, Ethanol, 3, II

IMDG
 UN-No: UN1170
 Proper Shipping Name: Ethanol
 Hazard Class: 3
 Subsidiary Risk: No information available
 Packing Group: II
 Marine Pollutant: No information available
 EMS: F-E
 Special Provisions: 144
 Description: UN1170, Ethanol, 3, II

RID
 UN Number: UN1170
 Proper Shipping Name: Ethanol
 Transport hazard class(es): 3
 Subsidiary Risk: 3
 Packing group: II
 Special Provisions: 144, 601
 Description: UN1170, Ethanol, 3, II

ICAO (air)
 UN-No: UN1170
 Proper Shipping Name: Ethanol
 Hazard Class: 3
 Subsidiary Risk: No information available

Product code: E1028  Product name: ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS
Packing Group: II  
Description: UN1170, Ethanol, 3, II  
Special Provisions A58, A180, A3

IATA  
UN Number UN1170  
Proper Shipping Name: Ethanol  
Transport hazard class(es) 3  
Subsidiary Risk: No information available  
Packing group II  
Precautionary Statements - Response 3L  
Special Provisions No information available  
Description: UN1170, Ethanol, 3, II

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>China IECSC</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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<tbody>
<tr>
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<td>64-17-5</td>
<td>Present(ACTIVE)</td>
<td>KE-13217</td>
<td>Present(2)-202</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Present 200-578-6</td>
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</table>

U.S. Regulations

Ethyl Alcohol 200 proof  
Massachusetts RTK: Present  
New Jersey RTK Hazardous Substance List: 0844  
Pennsylvania RTK: Present  
Minnesota - Hazardous Substance List: Present  
Louisiana Reportable Quantity List for Pollutants: Present (listed as Volatile Organic Compounds)  
California Directors List of Hazardous Substances: Present  
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1293  
FDA - 21 CFR - Total Food Additives 169.175, 169.176, 169.177, 169.181, 172.340, 172.560, 172.580, 175.105, 176.180, 176.200, 177.1200, 177.1650, 178.1010, 184.1293, 73.30, 73.345, 73.345, 73.615  

Chemicals Known to the State of California to Cause Cancer:  
⚠️WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

Chemicals Known to the State of California to Cause Reproductive Toxicity:  
⚠️WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>carcinogen (Ethanol in alcoholic beverages)</td>
<td>developmental toxicity (Ethyl alcohol in alcoholic beverages)</td>
<td>Not Listed</td>
<td>Not Listed</td>
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</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>CERCLA - Hazardous Substances and their Reportable</th>
<th>Section 302 Extremely Hazardous Substances</th>
<th>Section 302 Extremely Hazardous Substances and</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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</table>

Product code: E1028  
Product name: ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS  
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### Quantities and TPQs

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

### U.S. TSCA

### Canada

**WHIMIS 2015 - GHS Classifications**

<table>
<thead>
<tr>
<th>Component</th>
<th>WHMIS 2015 Hazard Classification Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2B: H320 Causes eye irritation.</td>
</tr>
</tbody>
</table>

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR.

### DSL/NDSL

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

### EU Classification

**EU GHS - SV - CLP 1272/2008**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>EU GHS - SV - CLP (1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.603-002-00-5</td>
</tr>
</tbody>
</table>

**EU - CLP (1272/2008)**

**R-phrase(s)**

R11 - Highly flammable

**S-phrase(s)**

S7 - Keep container tightly closed.
S16 - Keep away from sources of ignition - No smoking

**Product code:** E1028  **Product name:** ETHYL ALCOHOL, ABSOLUTE, 200 PROOF, REAGENT, ACS
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol 200 proof</td>
<td>64-17-5</td>
<td>F; R11</td>
<td>No information</td>
<td>S(2) S7 S16</td>
</tr>
</tbody>
</table>

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
F - Highly flammable

![Flame Icon]

### 16. OTHER INFORMATION

**Preparation Date:** 9/27/2013  
**Revision date:** 8/26/2019  
**Prepared by:** Sonia Owen

**Disclaimer:** All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**