Safety Data Sheet

Ethyl Alcohol, 95%, 190 Proof, CD

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ethyl Alcohol 95%, 190 Proof, CD
Synonyms/Generic Names: Not Available
Product Number: 2125
Product Use: Industrial, Manufacturing or Laboratory use
Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925
For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)
In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable liquid, Target organ effect, Irritant
Target Organs: Nerves, Liver, Heart
Signal Words: Danger
Pictograms

GHS Classification:

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Specific target organ toxicity-single exposure-eyes</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity-single exposure-respiratory tract</td>
<td>Category 3</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label Elements, including precautionary statements:

Hazard Statements:

- H225: Highly flammable liquid and vapor.
- H304: May be fatal if swallowed and enters airways.
- H315+H320: Causes skin and eye irritation.
- H335: May cause respiratory irritation.
- H371: Causes damage to organs (eyes).
Precautionary Statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/Bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.
P331 Do NOT induce vomiting.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use appropriate media to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulations.

Potential Health Effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Causes eye irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. Causes respiratory tract irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>Harmful if absorbed through skin. Causes skin irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Toxic if swallowed.</td>
</tr>
</tbody>
</table>

NFPA Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Specific hazard</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

HMIS Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>3</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Personal</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight %</th>
<th>CAS #</th>
<th>EINECS# / ELINCS#</th>
<th>Formula</th>
<th>Molecular Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>84-85</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>C₂H₅OH</td>
<td>46.07 g/mol</td>
</tr>
<tr>
<td>Water</td>
<td>6-7</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>H₂O</td>
<td>18.00 g/mol</td>
</tr>
<tr>
<td>Methyl Alcohol</td>
<td>4-5</td>
<td>67-56-1</td>
<td>200-659-6</td>
<td>CH₃OH</td>
<td>32.04 g/mol</td>
</tr>
<tr>
<td>Methyl Isobutyl Ketone</td>
<td>1-2</td>
<td>108-10-1</td>
<td>203-550-1</td>
<td>C₆H₁₂O</td>
<td>100.16 g/mol</td>
</tr>
<tr>
<td>Ethyl Acetate</td>
<td>1-2</td>
<td>141-78-6</td>
<td>205-500-4</td>
<td>C₄H₈O₂</td>
<td>88.11 g/mol</td>
</tr>
<tr>
<td>Light Aliphatic Solvent Naphtha</td>
<td>&lt;1</td>
<td>64742-89-8</td>
<td>289-220-8</td>
<td>Mixture</td>
<td>Mixture</td>
</tr>
</tbody>
</table>
4. FIRST-AID MEASURES

<table>
<thead>
<tr>
<th></th>
<th>Eyes</th>
<th>Inhalation</th>
<th>Skin</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rinse with plenty of water for at least 15 minutes and seek medical attention.</td>
<td>Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.</td>
<td>Flush with plenty of water for at least 15 minutes and wash using soap. Get medical attention.</td>
<td>Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.</td>
</tr>
</tbody>
</table>

5. FIRE-FIGHTING MEASURES

| Suitable (and unsuitable) extinguishing media | Flammable liquid. Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material. Cool unopened containers with water. |
| Special protective equipment and precautions for firefighters | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas. |
| Specific hazards arising from the chemical | Emits toxic fumes (carbon oxides) under fire conditions. Vapors can travel to a source of ignition and flash back. Containers may explode in a fire. Sensitive to static discharge. (See also Stability and Reactivity section) |

6. ACCIDENTAL RELEASE MEASURES

| Personal precautions, protective equipment and emergency procedures | See section 8 for recommendations on the use of personal protective equipment. |
| Environmental precautions | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements. |
| Methods and materials for containment and cleaning up | Absorb spill with vermiculite or other noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. |

7. HANDLING AND STORAGE

Precautions for safe handling
Use with adequate ventilation and grounding. Wash thoroughly after using. Keep container closed when not in use. Keep away from sources of ignition. No smoking. Take measure to prevent the buildup of electrostatic charge.

Conditions for safe storage, including any incompatibilities
Store in tightly closed, original containers in a cool, dry, well ventilated area. Store between 55-100°F for product stability. Do not store with strong oxidizing agents, strong acids, peroxides, aldehydes, halogens, ammonia, acid anhydrides or alkali metals.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
<th>Basis</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>1000 ppm 1900 mg/m³</td>
<td>REL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>1000 ppm 1900 mg/m³</td>
<td>PEL</td>
<td>OSHA</td>
</tr>
<tr>
<td></td>
<td>1000 ppm 1880 mg/m³</td>
<td>STEL</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>3300 ppm</td>
<td>IDLH</td>
<td>OSHA</td>
</tr>
<tr>
<td>Methyl Isobutyl Ketone</td>
<td>20 ppm</td>
<td>TLV</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>75 ppm</td>
<td>STEL</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>100 ppm</td>
<td>PEL</td>
<td>OSHA</td>
</tr>
<tr>
<td>Ethyl Acetate</td>
<td>400 ppm</td>
<td>PEL</td>
<td>OSHA</td>
</tr>
</tbody>
</table>

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Wear chemical safety glasses or goggles. Use face shield if splashing is likely to occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.</td>
</tr>
<tr>
<td>Skin</td>
<td>Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.</td>
</tr>
<tr>
<td>Other</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance (physical state, color, etc.)</th>
<th>Clear, colorless liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Alcohol like</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>80°C (176°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>14°C (57.2°F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limit</td>
<td>Lower: 6%</td>
</tr>
<tr>
<td></td>
<td>Upper: 36.5%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>43.13 mmHg (@ 20°C)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>1.58</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.7900</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>Completely soluble in water</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Chemical Stability</th>
<th>Stable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility of Hazardous Reactions</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Keep away from heat, flame and sparks.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Alkali metals, Ammonia, Oxidizing agents, peroxides.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Carbon oxides.</td>
</tr>
</tbody>
</table>

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

<table>
<thead>
<tr>
<th>Skin</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Not Available</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Not Available</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

#### Carcinogenicity

<table>
<thead>
<tr>
<th>IARC</th>
<th>No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>A3: Confirmed animal carcinogen with unknown relevance to humans. (Ethyl Alcohol)</td>
</tr>
<tr>
<td>NTP</td>
<td>No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</td>
</tr>
<tr>
<td>OSHA</td>
<td>No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</td>
</tr>
</tbody>
</table>

#### Signs & Symptoms of Exposure

<table>
<thead>
<tr>
<th>Skin</th>
<th>Irritation, redness, itchiness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Irritation, redness, watering eyes, itchiness.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Irritation, coughing, wheezing, dizziness, drowsiness.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Irritation, nausea, vomiting, diarrhea, dizziness, drowsiness.</td>
</tr>
</tbody>
</table>

#### Chronic Toxicity

<table>
<thead>
<tr>
<th>Ingestion may cause blindness.</th>
</tr>
</thead>
</table>

#### Teratogenicity

<table>
<thead>
<tr>
<th>Not Available</th>
</tr>
</thead>
</table>

#### Mutagenicity

<table>
<thead>
<tr>
<th>Not Available</th>
</tr>
</thead>
</table>

#### Embryotoxicity

<table>
<thead>
<tr>
<th>Pre-and Post-implant mortality.</th>
</tr>
</thead>
</table>

#### Specific Target Organ Toxicity

<table>
<thead>
<tr>
<th>Not Available</th>
</tr>
</thead>
</table>

#### Reproductive Toxicity

<table>
<thead>
<tr>
<th>Not Available</th>
</tr>
</thead>
</table>

#### Respiratory/Skin Sensitization

<table>
<thead>
<tr>
<th>Not Available</th>
</tr>
</thead>
</table>

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

<table>
<thead>
<tr>
<th>Aquatic Vertebrate</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Invertebrate</td>
<td>Not Available</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>Not Available</td>
</tr>
</tbody>
</table>
### 13. DISPOSAL CONSIDERATIONS

<table>
<thead>
<tr>
<th>Waste Product or Residues</th>
<th>Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Containers</td>
<td>Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.</td>
</tr>
</tbody>
</table>

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

### 14. TRANSPORTATION INFORMATION

<table>
<thead>
<tr>
<th>US DOT</th>
<th>UN1170, Ethanol solutions, 3, pg II</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDG</td>
<td>UN1170, ETHANOL SOLUTIONS, 3, PG II</td>
</tr>
<tr>
<td>IMDG</td>
<td>UN1170, ETHANOL SOLUTIONS, 3, PG II</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>No</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>UN1170, Ethanol solutions, 3, pg II</td>
</tr>
</tbody>
</table>

### 15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>TSCA Inventory Status</th>
<th>All ingredients are listed on the TSCA inventory.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSCL (EEC)</td>
<td>All ingredients are listed on the DSCL inventory.</td>
</tr>
<tr>
<td>California Proposition 65</td>
<td>Listed: Ethyl Alcohol (in alcoholic beverages), Methyl Alcohol, Methyl Isobutyl Ketone</td>
</tr>
<tr>
<td>SARA 302</td>
<td>Not Listed</td>
</tr>
<tr>
<td>SARA 304</td>
<td>Not Listed</td>
</tr>
<tr>
<td>SARA 311</td>
<td>Fire Hazard, Acute Health Hazard, Chronic Health Hazard</td>
</tr>
<tr>
<td>SARA 312</td>
<td>Fire Hazard, Acute Health Hazard, Chronic Health Hazard</td>
</tr>
<tr>
<td>SARA 313</td>
<td>Listed: Ethyl Alcohol, Methyl Alcohol, Methyl Isobutyl Ketone</td>
</tr>
<tr>
<td>WHMIS Canada</td>
<td>Class B-2: Flammable and combustible liquid- Flammable liquid</td>
</tr>
</tbody>
</table>
## 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision 1</td>
<td>08-15-2011</td>
</tr>
<tr>
<td>Revision 2</td>
<td>04/01/2014</td>
</tr>
<tr>
<td>Revision 3</td>
<td>02/23/2015</td>
</tr>
<tr>
<td>Revision 4</td>
<td>12/19/2016</td>
</tr>
</tbody>
</table>

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