SAFETY DATA SHEET
Denatured Alcohol 200 Proof

SECTION 1  IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Synonyms
Duplicating Fluid / Ethyl Alcohol/ Ethanol

Use
Industrial use, Inks and Printing, Paint and Coatings, Raw material for chemical processes, Raw material for industry

Company
Solvents and Petroleum Services, Inc.
1405 Brewerton Rd, Syracuse NY 13208
800-315-4467

Telephone
CHEMTREC North America Transportation Emergency (24-hr) (800) 424-9300

E-mail address
mark@solventsandpetroleum.com

SECTION 2  HAZARDS IDENTIFICATION

GHS Hazards
Flammable liquids Category 2
Eye irritation Category 2A

LABEL ELEMENTS

Hazard symbols

Signal word
Danger

Hazard statements
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.

Precautionary statements

Prevention
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.
P280 Wear protective gloves/ eye protection/ face protection.
P264 Wash skin thoroughly after handling.
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Response
P303 + P361 + P353  IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378  In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
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.

Storage
P403 + P235  Store in a well-ventilated place. Keep cool.

Disposal
P501 Dispose of contents/container to an approved waste disposal plant.

SECTION 3  COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>81</td>
</tr>
<tr>
<td>2-Propanol</td>
<td>67-63-0</td>
<td>18</td>
</tr>
<tr>
<td>Propyl Acetate</td>
<td>109-60-4</td>
<td>1</td>
</tr>
</tbody>
</table>

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4  FIRST AID MEASURES

Eye contact  Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.

Inhalation  Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

Ingestion  If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5  FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES
Fire/explosion  Flash back possible over considerable distance. NFPA Class IB flammable liquid.

Suitable extinguishing media  Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2)

Protective equipment and precautions for firefighters  Wear self-contained breathing apparatus and protective suit. Keep containers and surroundings cool with water spray.
SECTION 6  ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up
Evacuate personnel to safe areas. Remove all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

Spill precautions  Material can create slippery conditions.

SECTION 7  HANDLING AND STORAGE

Safe handling advice  Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition.

Storage/Transport pressure  Ambient

Load/Unload temperature  Ambient

SECTION 8  EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES
Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Wear as appropriate: Goggles, Face-shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Wear suitable protective clothing, gloves and eye/face protection.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.</td>
</tr>
</tbody>
</table>

EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure limit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>ACGIH STEL 1,000 ppm</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL 1,000 ppm 1,900 mg/m3</td>
</tr>
<tr>
<td>2-Propanol</td>
<td>OSHA PEL 400 ppm 980 mg/m3</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 200 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL 400 ppm</td>
</tr>
<tr>
<td>Propyl Acetate</td>
<td>OSHA PEL 200 ppm 840 mg/m3</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 200 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL 250 ppm</td>
</tr>
</tbody>
</table>

PEL= Permissible Exposure Limits  TWA= Time Weighted Average (8 hr.)
SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

Appearance  liquid;
Colour clear
Form liquid
Odour alcohol-like
Odour Threshold no data available
Flash point 13 °C, 55.4 °F;
Flammability Upper explosion limit: 20.0 %(V)
   Lower explosion limit: 4.0 %(V)
Boiling point/boiling range 74 - 80 °C, 165.2 - 176 °F;
Melting point/range < -88 °C, < -127.3 °F; Propanol
Auto-ignition temperature ca. 400 °C, 752 °F; ASTM D 2155;
Decomposition temperature no data available
Flammability (solid, gas) no data available
Vapour pressure ca. 66.661 hPa @ 20 °C, 68 °F;
Vapour density no data available
Density 0.79 g/cm3
Specific gravity no data available
Water solubility completely soluble
Viscosity no data available
pH no data available
Evaporation rate no data available
SECTION 10 STABILITY AND REACTIVITY

Reactivity         Stable at normal ambient temperature and pressure.
Chemical stability No decomposition if stored and applied as directed.
Conditions to avoid Keep away from heat and sources of ignition.
Hazardous decomposition products Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.
Materials to avoid Can react with strong oxidizers, inorganic acids, and halogens.
Hazardous polymerisation None.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute dermal toxicity LD50 rabbit: > 2,000 mg/kg; OECD Test Guideline 402
Test substance: Ethanol; (literature value)
LD50 rabbit: > 2,000 mg/kg
Test substance: Isopropanol; (literature value)
LD50 rat: > 2,000 mg/kg
Test substance: Propyl Acetate; (literature value)

Acute inhalation toxicity
LC50 mouse (4 hours): > 20 mg/l
Test substance: Ethanol; (literature value)
LC50 rat (8 hours): > 20 mg/l
Test substance: Isopropanol; (literature value)

Acute oral toxicity LD50 rat: 2,000 mg/kg; OECD Test Guideline 401
Test substance: Ethanol; (literature value)
LD50 rat: > 2,000 mg/kg
Test substance: Isopropanol; (literature value)
LD50 rat: > 2,000 mg/kg
Test substance: Propyl Acetate; (literature value)

Skin corrosion/irritation
(rabbit): OECD Test Guideline 404
Test substance: Ethanol
Not irritating, (literature value)

(rabbit)
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Test substance: Isopropanol
Not irritating, (literature value)

(rabbit)
Test substance: Propyl Acetate
Slight irritation, (literature value)

Eye damage/irritation (rabbit): OECD Test Guideline 405
Test substance: Ethanol
Irritating, (literature value)

(rabbit)
Test substance: Isopropanol
Irritating, (literature value)

(rabbit)
Test substance: Propyl Acetate
Irritating, (literature value)

Respiratory or skin sensitization
guinea pig: not sensitizing; Maximisation Test
Ethanol, (literature value)

guinea pig: not sensitizing; Buehler Test
Isopropanol, (literature value)

Germ cell mutagenicity
Genotoxicity in vitro:
Type: Ames test; OECD Test Guideline 471
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects.
Test substance: Ethanol
(literature value)
Type: Ames test
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects.
Test substance: Isopropanol
(literature value)

Genotoxicity in vivo:
no data available

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

Reproductive toxicity
Reproductive toxicity:
no data available

Assessment Reproductive toxicity:
no data available

Teratogenicity:
no data available

Assessment teratogenicity:
no data available
SAFETY DATA SHEET

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STOT - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure
rat; Oral; 90-day;
NOAEL: 1,730 mg/kg
LOAEL: 3,160 mg/kg
Test substance: Ethanol
Based on available data, the classification criteria are not met.

rat; Oral; 90-day;
NOAEL: 1,730 mg/kg
LOAEL: 3,160 mg/kg
Test substance: Isopropanol
Based on available data, the classification criteria are not met.

Aspiration toxicity
no data available

Carcinogenicity
Assessment carcinogenicity:
Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Toxicity to fish
LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test
Test substance: Ethanol
(literature value)

LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test
Test substance: Isopropanol
(literature value)

LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 10 - 100 mg/l; static test
Test substance: Propyl Acetate
(literature value)

Toxicity to aquatic invertebrates
EC50 (Ceriodaphnia Dubia (water flea)) 48 hours: > 100 mg/l; static test
Test substance: Ethanol
(literature value)

EC50 (Daphnia magna (Water flea)) 24 hours: > 100 mg/l; static test
Test substance: Isopropanol
(literature value)

EC50 (Daphnia magna (Water flea)) 48 hours: > 10 - 100 mg/l; static test
Test substance: Propyl Acetate
(literature value)

Toxicity to algae
EC50 (Chlorella vulgaris) 72 hours: > 100 mg/l; static test; OECD Test Guideline 201
Test substance: Ethanol
(literature value)

EC50 (Scenedesmus quadricauda (Green algae)) 7 d: > 100 mg/l; static test
## SAFETY DATA SHEET
### Denatured Alcohol 200 Proof

<table>
<thead>
<tr>
<th>Test substance: Isopropanol (literature value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (Pseudokirchneriella subcapitata (green algae)) 72 hours: &gt; 100 mg/l; static test</td>
</tr>
<tr>
<td>Test substance: Propyl Acetate (literature value)</td>
</tr>
</tbody>
</table>

**Chronic toxicity to aquatic invertebrates**

<table>
<thead>
<tr>
<th>Test substance: Isopropanol (literature value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOEC (Ceriodaphnia Dubia (water flea)) 10 d: 9.6 mg/l; semi-static test</td>
</tr>
<tr>
<td>Test substance: Ethanol (literature value)</td>
</tr>
</tbody>
</table>

**Biodegradation**

<table>
<thead>
<tr>
<th>Test substance: Ethanol (literature value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test Guideline 301B (28 d): &gt; 60 %</td>
</tr>
<tr>
<td>Test substance: Isopropanol (literature value)</td>
</tr>
<tr>
<td>BOD5 (5 d): 53 %</td>
</tr>
<tr>
<td>Test substance: Propyl Acetate (literature value)</td>
</tr>
<tr>
<td>OECD Test Guideline 301D (20 d): &gt; 60 %</td>
</tr>
</tbody>
</table>

**Bioaccumulation**

<table>
<thead>
<tr>
<th>Test substance: Ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>No bioaccumulation is to be expected (log Pow &lt;= 4).</td>
</tr>
<tr>
<td>Test substance: Isopropanol</td>
</tr>
<tr>
<td>No bioaccumulation is to be expected (log Pow &lt;= 4).</td>
</tr>
</tbody>
</table>

**Mobility in soil**

| no data available |

**Other adverse effects**

| no data available |

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### SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste Code**

D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.

**Disposal methods**

Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.
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Empty containers. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT UN 1170, Ethanol solutions, 3, II
IATA UN 1170, Ethanol solutions, 3, II
IMDG UN 1170, Ethanol solutions, 3, II

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks no data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA Hazards (HCS 1994)
Flammable liquid, Eye irritation, Skin irritation

TSCA Inventory Listing

Components CAS-No.
Ethanol 64-17-5
2-Propanol 67-63-0
Acetic acid, propyl ester 109-60-4

SARA 302 Status

Components CAS-No. Weight percent
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification
"Fire hazard", "Immediate (acute) health hazard"

SARA 313 Chemical

Components CAS-No. Weight percent
2-Propanol 67-63-0 18 %

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components Reportable Quantity Weight percent
none none none
SAFETY DATA SHEET
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INTERNATIONAL REGULATIONS

WHMIS Classification
Class B, Division 2: Flammable liquid.
Class D, Division 2, Subdivision B: Toxic material.

European Union
Classification according to Regulation (EU) 1272/2008.
Flammable liquids, Category 2
Eye irritation, Category 2

Australia. Inventory of Chemical Substances (AICS) Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS) Listed
Japan. Industrial Safety & Health Law (ISHL) Inventory Listed
Canada. Domestic Substances List (DSL) Inventory Listed
Canadian Non-Domestic Substance Listing (NDSL) Not listed
European Inventory of Existing Commercial Chemical Substances (EINECS) Listing Listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS) Listed
Korea. Existing Chemicals Inventory (KECI) Listed
China. Inventory of Existing Chemical Substances (IECSC) Listed
Mexico. National Inventory of Chemical Substances (INSQ) Listed
New Zealand. Inventory of Chemicals (NZIoC) Listed
Switzerland. Inventory of Notified New Substances (CHINV) Listed
Taiwan. National Existing Chemical Inventory (NECI) Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components
none

SECTION 16 OTHER INFORMATION
SAFETY DATA SHEET
Denatured Alcohol 200 Proof

HAZARD RATINGS

<table>
<thead>
<tr>
<th></th>
<th>HMIS®</th>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard/Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
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</table>

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