SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers and users of this product.

PRODUCT NAME: Grade A Solvent

PRODUCT USE: Flexographic Ink Solvent

PANNIER P/N: Grade A-I000A-S010

CAS NO.: N/A Mixture

DOT HAZARD CLASS: Flammable Liquid, N.O.S.

UN/NA ID NO.: UN 1993

HMIS CODES: 3H, 3F, 0R

Not recommended for: Consumer Use

Manufacturer/Supplier:

PANNIER CORPORATION
207 SANDUSKY STREET
PITTSBURGH, PA 15212-5823 U.S.A.
412-323-4900

SECTION I - GENERAL INFORMATION

24 Hr Emergency Telephone Number: Infotrac 1-800-535-5053

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification (GHS-US)

- Flammable liquids: H225
- Category: 2
- Carcinogenicity: H350
- Category: 1A
- Specific target organ: H373
toxicity (repeated exposure): Category 2

Full text of H statements: see section 16

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Signal word (GHS-US): Danger

Hazard statements (GHS-US): H225 - Highly flammable liquid and vapor
H350 - May cause cancer (oral)
H373 - May cause damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS-US): P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, sparks, open flames. - No smoking
P233 - Keep container tightly closed
P240 – Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe fume, mist, spray, vapors
Grade A Solvent

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P280 - Wear eye protection, face protection, face shield, protective clothing, protective gloves
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P308+P313 - If exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P370+P378 - In case of fire: Use ABC-powder, alcohol resistant foam, an extinguishing blanket, carbon dioxide (CO2), sand to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store lacked up
P501 - Dispose of contents/container to a hazardous or special waste collection paint, an approved waste disposal plant, an authorized waste collection point, an industrial incineration plant, hazardous or special waste collection paint, in accordance with local, regional, national and/or international regulation

Other hazards
Na additional information available
Unknown Acute Toxicity (GHS US)
Not applicable

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

<table>
<thead>
<tr>
<th>NAME</th>
<th>PRODUCT IDENTIFIER</th>
<th>PERCENTAGE</th>
<th>OCCUPATIONAL EXPOSURE LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>(CASNo) 64-17-5</td>
<td>81-100</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carc. 1A, H35D</td>
</tr>
<tr>
<td>methyl isobutyl ketone</td>
<td>(CASNo) 108-1.0-1</td>
<td>1.9 -1.0</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Inhalation.dust.nist).H332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Carc. 2, H351</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td>methanol</td>
<td>(CASNo) 67-56-1 .</td>
<td>0.9-5</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td>ethyl acetate</td>
<td>(CASNo) 141-78-6</td>
<td>1 - 5</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3. H336</td>
</tr>
<tr>
<td>hexane</td>
<td>(CASNo) 110-54-3</td>
<td>1 - 5</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2. H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3. H336</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT RE 2, H373</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Asp. Tox. 1, H304</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

Full text of I-phrases: see section 16

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

First-aid measures general Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First aid measures after inhalation Allow victim to breathe fresh air. Allow the victim to rest.
First aid measures after skin contact Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion Rinse mouth. DO NOT induce vomiting. Obtain emergency medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries Not expected to present a significant hazard under anticipated conditions of normal use.

Indication of any immediate medical attention and special treatment needed No additional information available
SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing media
Unsuitable extinguishing media Do not use a heavy water stream
Special hazards arising. from the substance or mixture No additional information available
Advice for firefighters Firefighting Instructions Use water spray or fog for cooling exposed containers, Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Emergency procedures Evacuate unnecessary personnel.
For emergency responders
Protective equipment Equip cleanup crew with proper protection
Emergency procedures Ventilate area.

Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and material for containment and cleaning up
Methods for cleaning up Soak up spills with inert solids; such as clay or diatomaceous earth as soon as possible.
Collect spillage. Store away from other materials.

Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling
Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Conditions for safe storage, Including any incompatibilities
Storage conditions Keep only in the original container in a cool, well ventilated place away from: Direct sunlight.
Heat sources. open flames. Sources of ignition. Keep container closed when not in use.

Incompatible products Strong bases. Strong acids.
Incompatible materials Sources of ignition. Direct sunlight.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters
ethanol (64-17-5)
ACGIH ACGIH STEL (ppm) 1000 ppm
ACGIH Remark (ACGIH) URT irr
OSHA OSHA PEL (TWA) (mg/m³) 1900 mg/m³
OSHA OSHA PEL (TWA) (ppm) 1000 ppm
methanol (67-56-1)
ACGIH ACGIH TWA (ppm) 200 ppm
ACGIH ACGIH STEL (ppm) 250 ppm
ACGIH Remark (ACGIH) Headache; eye dam; dizziness; nausea
OSHA OSHA PEL (TWA) (mg/m³) 260 mg/m³
OSHA OSHA PEL (TWA) (ppm) 200 ppm
methyl isobutyl ketone (108-10-1)
ACGIH ACGIH TWA (ppm) 20ppm
ACGIH ACGIH STEL (ppm) 75ppm
ACGIH Remark (ACGIH) URT irr; dizziness; headache
OSHA OSHA PEL (TWA) (mg/m³) 410 mg/m³
OSHA OSHA PEL (TWA) (ppm) 100 ppm
ethyl acetate (141-78-6)
ACGIH ACGIH TWA (ppm) 400 ppm
ACGIH ACGIH STEL (ppm) 400 ppm
Grade A Solvent  

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ACGIH Remark (ACGIH)  
URT & eye irr

ethyl acetate (141-78-6)

OSHA  
OSHA PEL (TWA) (mg/m³) 1400 mg/m³  
OSHA PEL (TWA) (ppm) 400 ppm

hexane (1’10-54-3)

ACGIH  
ACGIH TWA (ppm) 50ppm  
ACGIH STEL (ppm) 50 ppm  
Remark (ACGIH) CNS impair; peripheral  
OSHA PEL (TWA) (mg/m³) 1800 mg/m³  
OSHA PEL (TWA) (ppm) 500 ppm

Exposure controls

Personal protective equipment  
Avoid all unnecessary exposure  
Hand protection  
Wear protective gloves  
Eye protection  
Chemical goggles or safety glasses  
Respiratory protection  
Wear appropriate mask.  
Other information  
Do not eat, drink or smoke during use

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state  
Liquid  
Appearance  
Liquid.  
Color  
Colorless  
Odor  
characteristic  
Odor threshold  
100 ppm  
188 mg/m³  
pH  
7 (10 g/l)  
pH solution  
10 g/l  
Melting point  
-114 ·C  
Freezing point  
No data available  
Boiling point  
78.2 ·C  
Critical temperature  
243 ·C  
Critical pressure  
63840 hPa  
Flash point  
12 ·C  
Relative evaporation rate (butyl acetate= 1)  
2.4  
Relative evaporation rate (ether=1)  
8.3  
Flammability (solid, gas)  
No data available  
Explosion limits  
3.3 - 15.0 vol %  
Explosive properties  
No data available  
Oxidizing properties  
No data available  
Vapor pressure  
59 hPa  
Relative density  
0.79  
Relative vapor density at 20 ·C  
1.03  
Relative density of saturated gas/air mixture  
1.04  
Specific gravity / density  
785 kg/m³  
Molecular mass  
46.07 g/mol  
Solubility  
Soluble in water. Soluble in ether, Soluble in acetone. Soluble in chloroform. Soluble in oils/fats. Soluble in methanol. Soluble in acids  
Log Pow  
-0.35 (Experimental value; OECD 107: Partition Coefficient -(n-octanol/water): Shake Flask Method; 24°C)  
Auto-ignition temperature  
363°C  
Decomposition temperature  
No data available  
Viscosity, kinematic  
No data available  
Viscosity, dynamic  
No data available  
Other information  
1.19 mPa.s (20° C)  
specific conductivity.  
130000 pS/m  
Saturation concentration  
112g/m³  
VOC content  
100% (By volume calculated)
SECTION 10 - STABILITY AND REACTIVITY

Reactivity
No additional information available

Chemical Stability
Not established.

Possibility of hazardous reactions
Not established.

Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

Incompatible materials
Strong acids. Strong bases.

Hazardous decomposition products

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Ethanol (64-17-5)
LD50 oral rat 10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit > 16000 mg/kg (Rabbit; Literature study)
ATE US (oral) 10740.000 mg/kg body weight

Methanol (67-56-1)
L050 oral rat > 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit 15800 mg/kg (Rabbit; Literature study)
Le50 inhalation rat (mg/l) 85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm) 64000 ppm/4h (Rat; Literature study)
ATE US (dermal) 15800.000 mg/kg body weight
ATE US (gases) 64000.000 ppmV/4h
ATE US (vapors) 85.000 mg/l/4h
ATE US (dust, mist) 85.000 mg/l/4h

Methyl isobutyl ketone (108-10-1)
L050 oral rat 2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
L050 dermal rat >= 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit > 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l) 8.2-16.4, Rat; Experimental value
LCSO inhalation rat (ppm) 2000 - 4000 ppm/4h (Rat; Experimental value)
ATE US (oral) 2080.000 mg/kg body weight
ATE US (gases) 2000.000 ppmV/4h
ATE US (vapors) 1.500 mg/l/4h
ATE US (dust, mist) 1.500 mg/l/4h

Ethyl acetate (141-78-6)
LD50 oral rat 5620 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; 10200 mg/kg bodyweight; Rat)
LD50 dermal rabbit > 18000 mg/kg (Rabbit; Experimental value; 24-hour cuff method; >20000 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l) 70.56 mg/l/4h (Rat)
LC50 inhalation rat (ppm) 19600 ppm/4h (Rat)
ATE US (oral) 5620.000 mg/kg body weight
ATE US (gases) 19600.000 ppmV/4h
ATE US (vapors) 70.560 mg/U4h
ATE US (dust, mist) 70.560 mg/l/4h

Hexane (110-54-3)
LD50 oral rat 25000 mg/kg (Rat; Literature study)
LD50 dermal rabbit 3000 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (ppm) 48000 ppm/4h (Rat; Literature study)
ATE US (oral) 25000.000 mg/kg body weight
ATE US (dermal) 3000.000 mg/kg body weight
ATE US (gases) 48000,000 ppmV/4h

Skin corrosion/irritation
Not classified
pH: 7 (10 g/)
## Grade A Solvent

<table>
<thead>
<tr>
<th>Serious eye damage/irritation</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>May cause cancer (oral).</td>
</tr>
</tbody>
</table>

### Ethanol (64-17-5)

<table>
<thead>
<tr>
<th>IARC group</th>
<th>1 - Carcinogenic to humans</th>
</tr>
</thead>
</table>

### Methyl isobutyl ketone (108-10-1)

<table>
<thead>
<tr>
<th>IARC group</th>
<th>2B - Possibly carcinogenic to humans</th>
</tr>
</thead>
</table>

### Reproductive toxicity

Not classified

### Specific target organ toxicity (Single exposure)

Not classified

### Specific target organ toxicity (repeated exposure)

May cause damage to organs (central nervous system, liver, kidneys) through prolonged or repeated exposure (oral).

### Aspiration hazard

Not classified

### Potential Adverse human health effects and symptoms

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

## SECTION 12 - ECOLOGICAL INFORMATION

### Toxicity

**Ethanol (64-17-5)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>14200 mg/l (96 h; Pimephales promelas; Nominal concentration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>9300 mg/l (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>13000 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss))</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>10800 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>65 mg/l (72 h; Protozoa)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)</td>
</tr>
</tbody>
</table>

**Methanol (67-56-1)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>15400 mg/l (96 h; Lepomis macrochirus; Lethal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 10000 mg/l (48 h; Daphnia magna; Lethal)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>10800 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss))</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>24500 mg/l (48 h; Daphnia magna; Locomotor effect)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>6600 mg/l (16 h; Pseudomonas putida)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>530 mg/l (192 h; Microcystis aeruginosa)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>8000 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
</tbody>
</table>

**Methyl isobutyl ketone (108-10-1)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>505 mg/l (96 h; Pimephales promelas; GLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>170 mg/l (48 h; Daphnia magna; Static system)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms</td>
<td>1400 mg/l (96 h; Selenastrum capricornutum; Growth rate) 600</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>&lt; 1000 mg/l (48 h; Daphnia magna; GLP)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>136 mg/l (Microcystis aeruginosa)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>725 mg/l (8 days; Scenedesmus quadricauda; Nominal concentration)</td>
</tr>
</tbody>
</table>

**Ethyl acetate (141-78-6)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>454.7 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss))</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>2500 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>230 mg/l (96 h; Pimephales promelas)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>154 mg/l (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>100 - 1000,96 h; Pisces</td>
</tr>
<tr>
<td>TLM other aquatic organisms</td>
<td>100 - 1000,96 h</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>2000 mg/l (96 h; Selenastrum capricornutum; Biomass)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>15 mg/l (192 h; Scenedesmus quadricauda; Growth rate)</td>
</tr>
</tbody>
</table>

**Hexane (110-54-3)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>2.5 mg/l (96 h; Pimephales promelas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>2.1 mg/l (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>LCSO fish 2</td>
<td>4 mg/l (24 h; Carassius auratus)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>0.4 mg/l (96 h; Chaetogammarus marinus)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms</td>
<td>9.049 mg/l (Protozoa)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>10 mg/l (Laminariales; Photosynthesis)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>26 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)</td>
</tr>
</tbody>
</table>
### Grade A Solvent

**Persistence and degradability**

**Grade A Solvent (Mixture)**

**ethanol (64-17-5)**

**Persistence and degradability**

- **Biochemical oxygen demand (BOD)**
- **Chemical oxygen demand (COD)**
- **ThOD**

**methanol (67-56-1)**

**Persistence and degradability**

- **Biochemical oxygen demand (BOD)**
- **Chemical oxygen demand (COD)**
- **ThOD**
- **BOD (% of ThOD)**

**methyl isobutyl ketone (108-10-1)**

**Persistence and degradability**

- **Biochemical oxygen demand (BOD)**
- **Chemical oxygen demand (COD)**
- **ThOD**
- **BOD (% of ThOD)**

**ethyl acetate (141-78-6)**

**Persistence and degradability**

- **Biochemical oxygen demand (BOD)**
- **Chemical oxygen demand (COD)**
- **ThOD**

**hexane (110.54-3)**

**Persistence and degradability**

- **ThOD**
- **BOD (% of ThOD)**
- **Grade A Solvent (Mixture)**
- **Log Pow**

### Bioaccumulative potential

**methanol (67-56-1)**

- **BCF fish 1**
- **BCF fish 2**
- **Log Pow**

**methyl isobutyl ketone (108-10-1)**

- **BCF fish 1**
- **Log Pow**

**ethyl acetate (141-78-6)**

- **BCF fish 1**
- **Log Pow**

**hexane (110-54-3)**

- **BCF fish 1**
- **Log Pow**

---

**SAFETY DATA SHEET**

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- Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.

#### Log Pow

- **methanol (67-56-1)**
- **methyl isobutyl ketone (108-10-1)**
- **ethyl acetate (141-78-6)**
- **hexane (110.54-3)**

#### BCF fish

- **methanol (67-56-1)**
- **methyl isobutyl ketone (108-10-1)**
- **ethyl acetate (141-78-6)**
- **hexane (110-54-3)**

---

**Not established.**

**Readily biodegradable in water.**

**Biodegradable in the soil.**

**Highly mobile in soil.**

**Biodegradable in the soil under anaerobic conditions.**

**Low potential for adsorption in soil.**

**Photolysis in the air.**

**Log Pow**

**Bioaccumulative potential**

- **methanol (67-56-1)**
- **methyl isobutyl ketone (108-10-1)**
- **ethyl acetate (141-78-6)**
- **hexane (110-54-3)**
Grade A Solvent

Bio accumulative potential
Mobility In soil
ethanol (64-17-5)
Surface tension I 0.0245 N/m (20° C)
methanol (67-56-1)
Surface tension
methyl isobutyl ketone (108-10-1)
Surface tension
ethyl acetate (141-78-6)
Surface tension
hexane (110.54-3)
Surface tension

Other adverse effects
Effect on the global warming
No known ecological damage caused by this product.
Other information
Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste disposal recommendations Dispose in a safe manner in accordance with local/national regulations, an approved hazardous waste plant and/or drum reconditioner.

Ecology - waste materials
Avoid release to the environment.

SECTION 14 - TRANSPORT INFORMATION

Department of Transportation (DOT)
In accordance with DOT
Transport document description
UN-No.(DOT)
Alcohols, N.O.S.
Proper Shipping Name (DOT)
Class (DOT)
3 - Class 3 - Flammable and combustible liquid
Hazard labels (DOT)
3 - Flammable liquid

Packing group (DOT)
T7 - 4 178.274(d)(2) Normal. 178.275(d)(3)
DOT Packaging Non-Bulk (49 CFR 173.xxx)
DOT Packaging Bulk (49 CFR 173.xxx)
DOT Special Provisions (49 CFR 172.102)

DOT Packaging Exceptions (49 CFR 173.xxx)
4b;150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) 5L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) 60 L
DOT Vessel Stowage Location

B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (II) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(I) of this section is exceeded.

Emergency Response Guide (ERG) Number 127
Other information No supplementary information available
TOG No additional information available
Transport by sea No additional information available
Air transport No additional information available

SECTION 15 - REGULATORY INFORMATION

US Federal regulations
- ethanol (64-17-5)
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
- methanol (67-56-1)
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
  Subject to reporting requirements of United States SARA Section 313
  CERCLARQ 1 5000lb
- methyl isobutyl ketone (108-10-1)
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
  Subject to reporting requirements of United States SARA Section 313
  CERCLARQ 5000lb
- ethyl acetate (141-78-6)
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
  Not subject to reporting requirements of the United States SARA Section 313
  CERCLARQ 5000lb
- hexane (110-54-3)
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
  Subject to reporting requirements of United States SARA Section 313
  CERCLARQ 5000lb

international regulations
- Canada
  No additional information available
- EU-Regulations
  No additional information available
- National regulations
- ethanol (64-17-5)
  Listed on IARC (International Agency for Research on Cancer)
- methyl isobutyl ketone (108-10-1)
  Listed on IARC (International Agency for Research on Cancer)

US State regulations
- methanol (67-56-1)
  U.S. - California – Proposition 65 - Carcinogens List No
  U.S. - California – Proposition 65 - Developmental Toxicity Yes
  U.S. - California – Proposition 65 - Reproductive Toxicity - Female No
  U.S. - California – Proposition 65 - Reproductive Toxicity - Male No
  No significant risk level (NSRL)
- methyl isobutyl ketone (108-10-1)
  U.S. - California – Proposition 65 - Carcinogens List Yes
  U.S. - California – Proposition 65 - Developmental Toxicity No
  U.S. - California – Proposition 65 - Reproductive Toxicity - Female No
  U.S. - California – Proposition 65 - Reproductive Toxicity - Male No
  No significant risk level (NSRL)
- ethanol (64-17-5)
  U.S. - New Jersey - Right to Know Hazardous Substance List
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methanol (67-56-1)
U.S. - Massachusetts - Right to Know List
U.S. - New Jersey - Right to Know Hazardous Substance List

methyl isobutyl ketone (108-10-1)
U.S. - Massachusetts - Right to Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

ethyl acetate (141-78-6)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

hexane (110-54-3)
U.S. - Massachusetts - Right to Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 - OTHER INFORMATION

Abbreviations and acronyms

Full text of H-phrases:
H225 Highly flammable liquid and vapor
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H350 May cause cancer
H351 Suspected of causing cancer
H373 May cause damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long lasting effects

NFPA health hazard 2 - Intense or continued exposure could cause Temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health 2 Moderate Hazard - Temporary or minor injury may occur
Flammability 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73°F and boiling points above 100°F. as well as liquids with flash points between 73°F and 100°F. (Classes IB & IC)
Physical 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT
react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

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