SECTION 1: Identification

1.1. Product Identifier

   **Trade Name or Designation:** Carnoy’s Solution (Fixative)

   **Product Number:** R1851000

   **Other Identifying Product Numbers:** R1851000-1C, R1851000-4C, R1851000-500C

1.2. Recommended Use and Restrictions on Use

   General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

   **Company:** Ricca Chemical Company

   **Address:**
   448 West Fork Drive
   Arlington, TX 76012 USA

   **Telephone:** 888-467-4222

1.4. Emergency Telephone Number (24 hr)

   CHEMTREC (USA) 800-424-9300
   CHEMTREC (International) 1+ 703-527-3887
## SECTION 2: Hazard(s) Identification

### 2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

*For the full text of the Hazard and Precautionary Statements listed below, see Section 16.*

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
<th>Hazard Statement</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>Category 4</td>
<td>H302</td>
<td>P264, P270, P301+P312, P330, P501</td>
</tr>
<tr>
<td>Acute Toxicity - Inhalation</td>
<td>Category 3</td>
<td>H331</td>
<td>P261, P271, P304+P340, P311, P321, P403+P233, P405, P501</td>
</tr>
<tr>
<td>Skin Corrosion / Irritation</td>
<td>Category 2</td>
<td>H315</td>
<td>P264, P280, P302+P352, P321, P332+P313, P362</td>
</tr>
<tr>
<td>Eye Damage / Irritation</td>
<td>Category 1</td>
<td>H318</td>
<td>P280, P305+P351+P338, P310</td>
</tr>
<tr>
<td>Respiratory Sensitizer</td>
<td>Category 1</td>
<td>H334</td>
<td>P261, P285, P304+P341, P342+P311, P501</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>Category 1</td>
<td>H340</td>
<td>P201, P202, P280, P308+P313, P405, P501</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1</td>
<td>H350</td>
<td>P201, P202, P280, P308+P313, P405, P501</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1</td>
<td>H360</td>
<td>P201, P202, P280, P308+P313, P405, P501</td>
</tr>
<tr>
<td>Specific Target Organs/Systemic Toxicity Following Single Exposure</td>
<td>Category 1</td>
<td>H370</td>
<td>P260, P264, P270, P307+P311, P321, P405, P501</td>
</tr>
<tr>
<td>Specific Target Organs/Systemic Toxicity Following Repeated Exposure</td>
<td>Category 1</td>
<td>H372</td>
<td>P260, P264, P270, P314, P501</td>
</tr>
<tr>
<td>Hazardous to the Aquatic Environment (Acute)</td>
<td>Category 2</td>
<td>H401</td>
<td>P273, P501</td>
</tr>
<tr>
<td>Hazardous to the Aquatic Environment (Chronic)</td>
<td>Category 2</td>
<td>H401</td>
<td>P273, P501</td>
</tr>
</tbody>
</table>

### 2.2. GHS Label Elements

**Pictograms:**

![Pictograms](image)

**Signal Word:** Danger
## Hazard Statements:

<table>
<thead>
<tr>
<th>Hazard Number</th>
<th>Hazard Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapor.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child.</td>
</tr>
<tr>
<td>H370</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H401</td>
<td>Toxic to aquatic life.</td>
</tr>
</tbody>
</table>
## Safety Data Sheet

### Precautionary Statements:

<table>
<thead>
<tr>
<th>Precautionary Number</th>
<th>Precautionary Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>P201</td>
<td>Obtain special instructions before use.</td>
</tr>
<tr>
<td>P202</td>
<td>Do not handle until all safety precautions have been read and understood.</td>
</tr>
<tr>
<td>P210</td>
<td>Keep away from heat, sparks and open flame. No smoking.</td>
</tr>
<tr>
<td>P233</td>
<td>Keep container tightly closed.</td>
</tr>
<tr>
<td>P240</td>
<td>Ground container and receiving equipment.</td>
</tr>
<tr>
<td>P241</td>
<td>Use explosion-proof equipment.</td>
</tr>
<tr>
<td>P242</td>
<td>Use only non-sparking tools.</td>
</tr>
<tr>
<td>P243</td>
<td>Take precautionary measures against static discharge.</td>
</tr>
<tr>
<td>P260</td>
<td>Do not breathe dust, fumes or mist.</td>
</tr>
<tr>
<td>P261</td>
<td>Avoid breathing dust, fumes or mist.</td>
</tr>
<tr>
<td>P264</td>
<td>Wash arms, hands and face thoroughly after handling.</td>
</tr>
<tr>
<td>P270</td>
<td>Do not eat, drink or smoke when using this product.</td>
</tr>
<tr>
<td>P271</td>
<td>Use only outdoors or in a well-ventilated area.</td>
</tr>
<tr>
<td>P273</td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves and eye protection.</td>
</tr>
<tr>
<td>P285</td>
<td>In case of inadequate ventilation wear respiratory protection.</td>
</tr>
<tr>
<td>P301+P312</td>
<td>IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.</td>
</tr>
<tr>
<td>P302+P352</td>
<td>IF ON SKIN: Wash with plenty of soap and water.</td>
</tr>
<tr>
<td>P303+P361+P353</td>
<td>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.</td>
</tr>
<tr>
<td>P304+P340</td>
<td>IF INHALED: Remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td>P304+P341</td>
<td>IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td>P305+P351+P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>P307+P311</td>
<td>IF exposed: Call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P308+P313</td>
<td>IF exposed or concerned: Get medical attention.</td>
</tr>
<tr>
<td>P310</td>
<td>Immediately call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P311</td>
<td>Call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P314</td>
<td>Get medical attention if you feel unwell.</td>
</tr>
<tr>
<td>P321</td>
<td>Specific treatment (Wash areas of contact with water). Rinse mouth.</td>
</tr>
<tr>
<td>P330</td>
<td>If skin irritation occurs: Get medical attention.</td>
</tr>
<tr>
<td>P342+P311</td>
<td>If experiencing respiratory symptoms: Call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P362</td>
<td>Take off contaminated clothing and wash it before reuse.</td>
</tr>
<tr>
<td>P403+P233</td>
<td>Store in a well-ventilated place. Keep container tightly closed.</td>
</tr>
<tr>
<td>P405</td>
<td>Store locked up.</td>
</tr>
<tr>
<td>P501</td>
<td>Dispose of contents in accordance with local, state, federal and international regulations.</td>
</tr>
</tbody>
</table>
Safety Data Sheet

2.3. WHMIS Classification
WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

2.4. Hazards not Otherwise Classified or Covered by GHS
Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Formula</th>
<th>Molecular Weight</th>
<th>CAS Number</th>
<th>Weight%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>CHCl₃</td>
<td>119.37 g/mol</td>
<td>67-66-3</td>
<td>43.22%</td>
</tr>
<tr>
<td>Ethyl Alcohol</td>
<td>CH₂CH₂OH</td>
<td>46.06 g/mol</td>
<td>64-17-5</td>
<td>42.16%</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>CH₃COOH</td>
<td>60.05 g/mol</td>
<td>64-19-7</td>
<td>10.19%</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>CH₃CHOHCH₃</td>
<td>60.09 g/mol</td>
<td>67-63-0</td>
<td>2.33%</td>
</tr>
<tr>
<td>Methyl Alcohol</td>
<td>CH₃OH</td>
<td>32.04 g/mol</td>
<td>67-56-1</td>
<td>2.11%</td>
</tr>
</tbody>
</table>

SECTION 4: First-Aid Measures

4.1. General First Aid Information

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

**Inhalation:** IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

**Skin Contact:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Results in drying and cracking which can lead to secondary infections and dermatitis.

**Ingestion:** IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Dilute immediately with water or milk. Induce vomiting. Call a physician.

4.2. Most Important Symptoms and Effects, Acute and Delayed

DANGER! Flammable and Toxic. Contains Chloroform, a suspected carcinogen. Keep away from heat, sparks, and open flames. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Use with adequate ventilation. If swallowed, dilute with water and induce vomiting. Call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: Results in drying and cracking which can lead to secondary infections and dermatitis.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water).
SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use extinguishing media appropriate for surrounding fire. Water spray, dry chemical, alcohol foam, carbon dioxide

5.2. Specific Hazards Arising from the Substance or Mixture

Flammable liquid and vapor. Combustible liquid. Combustion may produce irritants and toxic gases. (glacial) Not combustible, but if involved in a fire reacts to produce hydrogen chloride and phosgene.

5.3. Special Protective Equipment for Firefighters

Wear special protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber, Teflon, Viton, or Saranex barrier recommended. (glacial) Wear special protective clothing and positive pressure self-contained breathing apparatus. Polyvinyl alcohol or Viton barrier recommended.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

6.2. Cleanup and Containment Methods and Materials

Approach release from upwind. Stop or control the leak, if this can be done without undue risk. Control runoff and isolate discharged material for proper disposal. Use water spray to cool and disperse vapors, protect personnel, and dilute spills to form nonflammable mixtures. Use soda ash to neutralize spills. Control runoff and isolate discharged material for proper disposal. (glacial)

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.
8.1. Control Parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Limit Type</th>
<th>Country</th>
<th>Exposure Limit</th>
<th>Information Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid (64-19-7)</td>
<td>TWA</td>
<td>USA</td>
<td>10 ppm TWA 25 mg/m³ TWA</td>
<td>U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)</td>
</tr>
<tr>
<td>Acetic Acid (64-19-7)</td>
<td>TLV-STELOS</td>
<td>USA</td>
<td>15 ppm STEL</td>
<td>ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STELOS)</td>
</tr>
<tr>
<td>Acetic Acid (64-19-7)</td>
<td>TLV-TWA</td>
<td>USA</td>
<td>10 ppm TWA</td>
<td>ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)</td>
</tr>
<tr>
<td>Chloroform (67-66-3)</td>
<td>TLV-TWA</td>
<td>USA</td>
<td>10 ppm TWA</td>
<td>ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)</td>
</tr>
<tr>
<td>Chloroform (67-66-3)</td>
<td>PEL-Ceiling</td>
<td>USA</td>
<td>50 ppm Ceiling 240 mg/m³ Ceiling</td>
<td>U.S. - OSHA - Final PELs - Ceiling Limits</td>
</tr>
<tr>
<td>Ethyl Alcohol (64-17-5)</td>
<td>TWA</td>
<td>USA</td>
<td>1000 ppm TWA 1900 mg/m³ TWA</td>
<td>U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)</td>
</tr>
<tr>
<td>Ethyl Alcohol (64-17-5)</td>
<td>TLV-STELOS</td>
<td>USA</td>
<td>1000 ppm STEL</td>
<td>ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STELOS)</td>
</tr>
<tr>
<td>Isopropyl Alcohol (67-63-0)</td>
<td>TWA</td>
<td>USA</td>
<td>400 ppm TWA 980 mg/m³ TWA</td>
<td>U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)</td>
</tr>
<tr>
<td>Isopropyl Alcohol (67-63-0)</td>
<td>TLV-STELOS</td>
<td>USA</td>
<td>400 ppm STEL</td>
<td>ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STELOS)</td>
</tr>
<tr>
<td>Isopropyl Alcohol (67-63-0)</td>
<td>TLV-TWA</td>
<td>USA</td>
<td>200 ppm TWA</td>
<td>ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)</td>
</tr>
<tr>
<td>Methyl Alcohol (67-56-1)</td>
<td>TWA</td>
<td>USA</td>
<td>200 ppm TWA 260 mg/m³ TWA</td>
<td>U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)</td>
</tr>
<tr>
<td>Methyl Alcohol (67-56-1)</td>
<td>TLV-STELOS</td>
<td>USA</td>
<td>250 ppm STEL</td>
<td>ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STELOS)</td>
</tr>
<tr>
<td>Methyl Alcohol (67-56-1)</td>
<td>TLV-TWA</td>
<td>USA</td>
<td>200 ppm TWA</td>
<td>ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)</td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

Engineering Controls: Use only outdoors or in a well-ventilated area. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.
SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

- **Appearance:** Colorless liquid
- **Physical State:** Liquid
- **Odor:** Data not available.
- **Odor Threshold:** Data not available.
- **pH:** Data not available.
- **Melting/Freezing Point:** Data not available.
- **Initial Boiling Point /Range:** Data not available.
- **Flash Point:** Approximately 24°C
- **Evaporation Rate:** Data not available.
- **Flammability:** Data not available.
- **Flammability/Explosive Limits:** Data not available.
- **Vapor Pressure:** Data not available.
- **Vapor Density:** Data not available.
- **Relative Density:** 1.03
- **Solubility:** Data not available.
- **Partition Coefficient (n-Octanol/Water):** Data not available.
- **Auto-Ignition Temperature:** Data not available.
- **Decomposition Temperature:** Data not available.
- **Viscosity:** Data not available.
- **Explosive Properties:** Data not available.
- **Oxidizing Properties:** Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Oxidizers, platinum, Sodium, Potassium Dioxide, Bromine Pentfluoride, Acetyl Bromide, Acetyl Chloride, heat, sparks, open flame.
10.4. Hazardous Decomposition Products
Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:
Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Dermal Exposure:
Not applicable.

Acute Toxicity - Inhalation Exposure:
Toxic if inhaled. Avoid breathing dust, fumes or mist. Use only outdoors or in a well-ventilated area. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Other Information:
LD50, Oral, Rat: (Methanol) 5628 mg/kg; (Ethanol) 7060 mg/kg. Details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: (Isopropanol) 5045 mg/kg, behavioral effects noted. LC50, Inhalation, Rat: (Isopropanol) 16000 ppm/8hrs. No toxic effect noted. LD50, Oral, Rat: (Chloroform) 695 mg/kg, behavioral and respiratory effects noted; LD50, Dermal, Rabbit: >20,000 mg/kg, details of toxic effects not reported other than lethal dose value. Investigated as a tumorigen (Chloroform). LD50, Oral, Rat (Acetic Acid): 3310 mg/kg; LD50, Dermal, Rabbit (Acetic Acid): 1.06 L/kg, details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:
Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

Serious Eye Damage and Irritation:
Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Respiratory Sensitization:
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing dust, fumes or mist. In case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Dispose of contents in accordance with local, state, federal and international regulations.

Skin Sensitization:
Not applicable.
Safety Data Sheet

Germ Cell Mutagenicity:
May cause genetic defects. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Carcinogenicity:
May cause cancer. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Reproductive Toxicity:
May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:
Causes damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Repeated Exposure:
Causes damage to organs through prolonged or repeated exposure. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:
Not applicable.

Additional Toxicology Information:
Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity
Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations. Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability
Data not available.

12.3. Bioaccumulative Potential
Data not available.

12.4. Mobility in Soil
Data not available.

12.5. Other Adverse Ecological Effects
Data not available.
Safety Data Sheet

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods
Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

Sizes: 1 L, 4 L, 500 mL
UN Number: UN1992
Proper Shipping Name: Flammable liquid, toxic, n.o.s. (Ethanol, Chloroform)
Hazard Class: 3 (6.1)
Packing Group: III
Hazard Placard Labels:

14.2. Transportation by Air - International Air Transport Association (IATA)

Sizes: 1 L, 4 L, 500 mL
UN Number: UN1992
Proper Shipping Name: Flammable liquid, toxic, n.o.s. (Ethanol, Chloroform)
Hazard Class: 3 (6.1)
Packing Group: III
Hazard Placard Labels:
15.1. Occupational Safety and Health Administration (OSHA) Hazards
Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances
Chloroform (CAS # 67-66-3): 10 lb EPCRA RQ
Chloroform (CAS # 67-66-3): 10000 lb TPQ

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals
Acetic Acid (CAS # 64-19-7): 5000 lb final RQ; 2270 kg final RQ
Methyl Alcohol (CAS # 67-56-1): 5000 lb final RQ; 2270 kg final RQ
Chloroform (CAS # 67-66-3): 1 lb final RQ; 0.454 kg final RQ
Chloroform (CAS # 67-66-3): 10 lb final RQ; 4.54 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)
Methyl Alcohol (CAS # 67-56-1): 1.0 % de minimis concentration
Isopropyl Alcohol (CAS # 67-63-0): 1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)
Chloroform (CAS # 67-66-3): 0.1 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List
Ethyl Alcohol (CAS # 64-17-5): Teratogen
Acetic Acid (CAS # 64-19-7): Present
Methyl Alcohol (CAS # 67-56-1): Present
Isopropyl Alcohol (CAS # 67-63-0): Present
Chloroform (CAS # 67-66-3): Carcinogen; Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances
Ethyl Alcohol (CAS # 64-17-5): Present
Acetic Acid (CAS # 64-19-7): Environmental hazard
Acetic Acid (CAS # 64-19-7): Present
Methyl Alcohol (CAS # 67-56-1): Environmental hazard
Methyl Alcohol (CAS # 67-56-1): Present
Isopropyl Alcohol (CAS # 67-63-0): Environmental hazard
Isopropyl Alcohol (CAS # 67-63-0): Present
Isopropyl Alcohol (CAS # 67-63-0): Special hazardous substance
Chloroform (CAS # 67-66-3): Environmental hazard
Chloroform (CAS # 67-66-3): Environmental hazard; Special hazardous substance
Chloroform (CAS # 67-66-3): Present
15.7. New Jersey Worker and Community Right-to-Know Components
Ethyl Alcohol (CAS # 64-17-5): carcinogen; flammable - third degree; mutagen; teratogen
Ethyl Alcohol (CAS # 64-17-5): sn 0844
Acetic Acid (CAS # 64-19-7): corrosive
Acetic Acid (CAS # 64-19-7): sn 0004
Methyl Alcohol (CAS # 67-56-1): flammable - third degree; teratogen
Methyl Alcohol (CAS # 67-56-1): sn 1222
Methyl Alcohol (CAS # 67-56-1): SN 1222 500 lb TPQ
Isopropyl Alcohol (CAS # 67-63-0): flammable - third degree
Isopropyl Alcohol (CAS # 67-63-0): sn 1076
Isopropyl Alcohol (CAS # 67-63-0): SN 1076 500 lb TPQ (manufacturing - strong acid process only)
Chloroform (CAS # 67-66-3): carcinogen
Chloroform (CAS # 67-66-3): sn 0388
Chloroform (CAS # 67-66-3): SN 0388 500 lb TPQ

15.8. California Proposition 65
Ethyl Alcohol (CAS # 64-17-5): carcinogen, 4/29/2011 (in alcoholic beverages)
Ethyl Alcohol (CAS # 64-17-5): carcinogen, 7/1/1988 (when associated with alcohol abuse)
Ethyl Alcohol (CAS # 64-17-5): developmental toxicity, 10/1/1987 (in alcoholic beverages)
Methyl Alcohol (CAS # 67-56-1): developmental toxicity, 3/16/2012
Chloroform (CAS # 67-66-3): 20 µg/day NSRL (oral); 40 µg/day NSRL (inhalation)
Chloroform (CAS # 67-66-3): carcinogen, 10/1/1987
Chloroform (CAS # 67-66-3): developmental toxicity, 8/7/2009

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)
Ethyl Alcohol (CAS # 64-17-5): Present (DSL)
Ethyl Alcohol (CAS # 64-17-5): Present (NDSL)
Acetic Acid (CAS # 64-19-7): Present (DSL)
Acetic Acid (CAS # 64-19-7): Present (NDSL)
Methyl Alcohol (CAS # 67-56-1): Present (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (NDSL)
Isopropyl Alcohol (CAS # 67-63-0): Present (DSL)
Isopropyl Alcohol (CAS # 67-63-0): Present (NDSL)
Chloroform (CAS # 67-66-3): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List
Ethyl Alcohol (CAS # 64-17-5): Present
Acetic Acid (CAS # 64-19-7): Present
Methyl Alcohol (CAS # 67-56-1): Present
Isopropyl Alcohol (CAS # 67-63-0): Present
Chloroform (CAS # 67-66-3): Present
15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)
Not listed.

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. No smoking. Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). Rinse mouth. If skin irritation occurs: Get medical attention. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.
Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.
Safety Data Sheet

16.3. National Fire Protection Association (NFPA) Rating

Health: 1
Flammability: 3
Reactivity: 0
Special Hazard:
16.4. Document Revision

Last Revision Date: 5/1/2015

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.