Material Safety Data Sheet
Phenolphthalein Solutions, Alcoholic

Section 1 - Chemical Product and Company Identification

**MSDS Name:**
Phenolphthalein Solutions, Alcoholic

**Catalog Numbers:**
LC18200, LC18220

**Synonyms:**
Phenolphthalein indicator solutions, phenolphthalein in ethanol

**Company Identification:**
LabChem, Inc.
200 William Pitt Way
Pittsburgh, PA 15238

**Company Phone Number:**
(412) 826-5230

**Emergency Phone Number:**
(800) 424-9300

**CHEMTREC Phone Number:**
(800) 424-9300 or
011-703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>balance</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>50 - 90</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methyl alcohol</td>
<td>2.5 - 5</td>
</tr>
<tr>
<td>67-63-0</td>
<td>Isopropyl alcohol</td>
<td>2.5 - 5</td>
</tr>
<tr>
<td>77-09-8</td>
<td>Phenolphthalein</td>
<td>0.5 - 1</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**Emergency Overview**

**Appearance:** Clear, colorless liquid.

**Danger!** Flammable. Poison. Causes eye, skin, and respiratory tract irritation. May be fatal or cause blindness if swallowed. May cause central nervous system depression. May cause liver, kidney, and heart damage. Causes adverse reproductive and fetal effects. Cannot be made non-poisonous. May cause cancer.

**Target Organs:** Kidneys, heart, central nervous system, liver, gastrointestinal system, cardiovascular system, eyes.

**Potential Health Effects**
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Eye:
Causes eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage.

Skin:
Causes skin irritation. May be absorbed through the skin.

Ingestion:
May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting, and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma, and possible death due to respiratory failure.

Inhalation:
Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness, and coma. Causes respiratory tract irritation. May cause visual impairment and possible permanent blindness. Vapors may cause suffocation.

Chronic:
Prolonged or repeated skin contact may cause defatting and dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage. Phenolphthalein is a cancer hazard.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.

Skin:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

Ingestion:
Do not induce vomiting. If vomiting occurs naturally, keep head below hips to prevent aspiration into lungs. Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once.

Inhalation:
Move victim to fresh air immediately. If breathing is difficult, administer oxygen. Give artificial respiration if necessary. Get medical aid at once.

Notes to Physician:
Ethanol may inhibit methanol metabolism.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable liquid. Vapors may form an explosive mixture with air. Vapors are heavier than air and can travel a source of ignition and flash back. Use water spray to keep fire-exposed containers cool.
Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Water may not cool substance below flash point. Straight streams of water may spread material. Cool containers with flooding quantities until well after fire is out.

Autoignition Temperature:
698°F (370°C)

Flash Point:
75 - 80°F (24 - 27°C)

NFPA Rating:
Health-2, Flammability-3, Instability-0

Explosion Limits:
Lower: 4% Upper: 19%
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<table>
<thead>
<tr>
<th>Chemical Name:</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWA; 1900 mg/m³ TWA; 3300 ppm IDLH</td>
<td>1000 ppm TWA; 1900 mg/m³ TWA</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>200 ppm TWA; 250 ppm STEL</td>
<td>200 ppm TWA; 260 mg/m³ TWA; 6000 ppm IDLH</td>
<td>200 ppm TWA; 260 mg/m³ TWA</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>200 ppm TWA; 400 ppm STEL</td>
<td>400 ppm TWA; 980 mg/m³ TWA; 2000 ppm IDLH</td>
<td>400 ppm TWA; 980 mg/m³ TWA</td>
</tr>
<tr>
<td>Phenolphthalein</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:**
Ethyl alcohol: 1000 ppm TWA; 1900 mg/m³ TWA
Methyl alcohol: 200 ppm TWA; 260 mg/m³ TWA
Isopropyl alcohol: 400 ppm TWA; 980 mg/m³ TWA

**Personal Protective Equipment**

**Eyes:**
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

**Skin:**
Wear appropriate protective gloves to prevent skin exposure.

**Clothing:**
Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**
Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor:</td>
<td>Alcohol-like</td>
</tr>
<tr>
<td>pH:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>59 mbar @ 20°C</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>1.59</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>1.2 mPas @ 20°C</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>78°C</td>
</tr>
<tr>
<td>Freezing/Melting Point:</td>
<td>-114°C</td>
</tr>
<tr>
<td>Decomposition Temperature:</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in water:</td>
<td>Soluble.</td>
</tr>
<tr>
<td>Specific Gravity/Density:</td>
<td>0.88 – 0.93</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
**Section 10 - Stability and Reactivity**

**Chemical Stability:**
Stable under normal temperatures and pressures.

**Conditions to Avoid:**
Incompatible materials, excess heat.

**Incompatibilities with Other Materials:**
Strong oxidizing agents, alkali metals, halogens, silver nitrate.

**Hazardous Decomposition Products:**
Carbon monoxide, carbon dioxide, formaldehyde.

**Hazardous Polymerization:**
Has not been reported

**Section 11 - Toxicological Information**

**RTECS:**
- CAS# 7732-18-5: ZC0110000.
- CAS# 64-17-5: KQ6300000.
- CAS# 67-56-1: PC1400000.
- CAS# 67-63-0: NT8050000.
- CAS# 77-09-8: SM8380000.

**LD50/LC50:**
- **CAS# 7732-18-5:**
  - Oral, rat: LD50 = >90 mL/kg.
  - CAS# 64-17-5:
    - Inhalation, mouse: LC50 = 39 g/m3/4H
    - Inhalation, rat: LC50 = 20000 ppm/10H
    - Oral, mouse: LD50 = 3450 mg/kg
    - Oral, rabbit: LD50 = 6300 mg/kg
    - Oral, rat: LD50 = 7060 mg/kg
  - CAS# 67-56-1:
    - Inhalation, rat: LC50 = 64000 ppm/4H
    - Oral, rat: LD50 = 5600 mg/kg
    - Skin, rabbit: LD50 = 15800 mg/kg
  - CAS# 67-63-0:
    - Inhalation, rat: LC50 = 72600 mg/m3
    - Oral, rat: LD50 = 5000 mg/kg
    - Skin, rabbit: LD50 = 12800 mg/kg
  - CAS# 77-09-8:
    - Not available.

**Carcinogenicity:**
- CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
- CAS# 64-17-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
- CAS# 67-56-1: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
- CAS# 67-63-0: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
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65.
CAS# 77-09-8: Listed as a carcinogen by IARC, NTP, OSHA, and CA Prop 65.

Epidemiology:
Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems. Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Teratogenesis:
CAS# 64-17-5: Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.

Reproductive:
CAS# 64-17-5: Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).

Mutagenicity:

Neurotoxicity:
No information found.

Section 12 - Ecological Information

Ecotoxicity:
Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified) Bacteria: Phytophtherium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test CAS# 64-17-5: When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

Environmental:
CAS# 64-17-5: When released to the atmosphere, it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Ethanol solution
Hazard Class: 3
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UN Number: UN1170
Packing Group: PGII

Section 15 - Regulatory Information

US Federal
TSCA:
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 64-17-5 is listed on the TSCA Inventory.
CAS# 67-56-1 is listed on the TSCA Inventory.
CAS# 67-63-0 is listed on the TSCA Inventory.
CAS# 77-09-8 is listed on the TSCA inventory.

SARA Reportable Quantities (RQ):
CAS# 67-56-1: 5000 lb. final RQ (2270 kg)

CERCLA/SARA Section 313:
This material contains Methyl alcohol (CAS# 67-56-1, 2.5 – 3.5%), and Isopropyl alcohol (CAS# 67-63-0, 2.5 – 3.5%), which are subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

OSHA - Highly Hazardous:
None of the components are on this list.

US State
State Right to Know:
Ethyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Methyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Isopropyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations:
WARNING: This product contains Phenolphthalein, a chemical known to the state of California to cause cancer.

European/International Regulations
Canadian DSL/NDSL:
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 64-17-5 is listed on Canada's DSL List.
CAS# 67-56-1 is listed on Canada's DSL List.
CAS# 67-63-0 is listed on Canada's DSL List.
CAS# 77-09-8 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 64-17-5 is listed on Canada's Ingredient Disclosure List.
CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.
CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.
CAS# 77-09-8 is not listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information
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MSDS Creation Date: January 31, 1999
Revision Date: September 6, 2011

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