Material Safety Data Sheet
Acetone-alcohol, 1:1

Section 1 - Chemical Product and Company Identification

MSDS Name:
Acetone-alcohol, 1:1

Catalog Numbers:
LC10440

Synonyms:
None

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>67-64-1</td>
<td>Acetone</td>
<td>50</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methyl alcohol</td>
<td>2.5</td>
</tr>
<tr>
<td>67-63-0</td>
<td>Isopropyl alcohol</td>
<td>2.5</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>40</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: Clear, colorless solution.

Danger! Flammable liquid. May be fatal or cause blindness if swallowed. Causes severe eye irritation. May cause irritation to skin, respiratory and digestive tracts. May cause central nervous system depression. May cause liver and kidney damage. May cause reproductive and fetal effects.

Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye:
Contact with liquid or vapor causes irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause painful sensitization to light.
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Skin:
May cause skin irritation. Prolonged or repeated contact may cause irritation or dermatitis. Exposure may cause irritation characterized by redness, dryness, and inflammation.

Ingestion:
May cause irritation of the digestive tract. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause systemic toxicity with acidosis. May cause liver and kidney damage. 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:
May cause irritation of the respiratory tract. Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma.

Chronic:
Prolonged or repeated skin contact may cause defatting and dermatitis. Denatured ethanol is associated with respiratory irritation, central nervous system depression, visual impairment, dermatitis, conjunctivitis, sensory and motor impairment.

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, occasionally lifting the upper and lower lids until no evidence of chemical remains. Remove contaminated clothing to reduce further exposure. Get medical aid.

Ingestion:
Do not induce vomiting. If vomiting occurs naturally, keep head lower than 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, give oxygen. Give artificial respiration if necessary. Get medical aid at once.

Notes to Physician:
Treat symptomatically and supportively.

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. Vapor-air mixtures are explosive at temperatures above the flash point. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Containers can build up pressure if exposed to heat and/or fire.

Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:
869°F (465°C)
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Flash Point:
57°F (14°C)

NFPA Rating:
- CAS# 67-64-1: Health-1; Flammability-3; Instability-0
- CAS# 67-56-1: Health-1; Flammability-3; Instability-0
- CAS# 67-63-0: Health-1; Flammability-3; Instability-0
- CAS# 64-17-5: Health-0; Flammability-3; Instability-0

Explosion Limits:
Lower: 2.6  Upper: 19

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, diatomaceous earth, vermiculite, or other suitable absorbent, and transfer to a suitable container labeled for disposal. Label reclaimed spill material as flammable.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, liquid and vapor, and can be dangerous. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:
Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities using or storing this material should be equipped with an eyewash and safety shower. Use adequate general and local exhaust ventilation to keep airborne levels below the permissible exposure limits. Ventilation equipment must be explosion-proof.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>250 ppm TWA; 590 mg/m3 TWA</td>
<td>1000 ppm TWA; 2400 mg/m3 TWA</td>
<td>500 ppm TWA; 750 ppm STEL</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>200 ppm TWA; 260 mg/m3 TWA</td>
<td>200 ppm TWA; 260 mg/m3 TWA</td>
<td>200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
<td>(400 ppm) TWA; (500ppm) STEL</td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm TWA</td>
</tr>
</tbody>
</table>
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OSHA Vacated PELs:
Acetone: 750 ppm TWA; 1800 mg/m3 TWA
Methyl alcohol: 200 ppm TWA; 260 mg/m3 TWA
Isopropyl alcohol: 400 ppm TWA; 980 mg/m3 TWA
Ethyl alcohol: 1000 ppm TWA; 1900 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.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2
requirements or European Standard EN 149 must be followed whenever workplace conditions
warrant respirator use.

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>Solvent odor</td>
</tr>
<tr>
<td>pH:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not available</td>
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<tr>
<td>Freezing/Melting Point:</td>
<td>Not available</td>
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<tr>
<td>Decomposition Temperature:</td>
<td>Not available</td>
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<tr>
<td>Solubility in water:</td>
<td>Soluble</td>
</tr>
<tr>
<td>Specific Gravity/Density:</td>
<td>0.79</td>
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<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:
High temperatures, incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials:
Strong oxidizing agents, alkali metals, nitric acid, sulfuric acid.

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

Hazardous Polymerization:
Has not been reported.
RTECS:
CAS# 67-64-1: AL3150000.
CAS# 67-56-1: PC1400000.
CAS# 67-63-0: NT8050000.
CAS# 64-17-5: KQ6300000.

LD50/LC50:
CAS# 67-64-1:
- Inhalation, rat: LC50 = 50100 mg/m3/8H
- Oral, mouse: LD50 = 3 gm/kg
- Oral, rat: LD50 = 5800 mg/kg
- Skin, rabbit: LD50 = 20 gm/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# 64-17-5:
- Inhalation, rat: LC50 = 20000 ppm/10H
- Oral, mouse: LD50 = 3450 mg/kg
- Oral, rat: LD50 = 7060 mg/kg

Carcinogenicity:
CAS# 67-64-1: 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.
CAS# 64-17-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:
Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome". Among the characteristics of this syndrome are intrauterine and postnatal growth deficiency, a distinctive pattern of physical malformation, and behavioral/cognitive impairment such as fine motor dysfunction and mental retardation. Not all affected children have all of the features of the syndrome. Central Nervous System depressant.

Teratogenicity:
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:
CAS# 64-17-5: DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis:
Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.;
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Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous); Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).

**Neurotoxicity:**
No information found

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**Section 12 - Ecological Information**

No information found

**Section 13 - Disposal Considerations**

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

**Section 14 - Transport Information**

**US DOT**
- **Shipping Name:** Flammable liquid, n.o.s. (Acetone, ethanol)
- **Hazard Class:** 3
- **UN Number:** UN1993
- **Packing Group:** PG II

**Section 15 - Regulatory Information**

**US Federal**
- **TSCA:**
  - CAS# 67-64-1 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# 64-17-5 is listed on the TSCA Inventory.
- **SARA Reportable Quantities (RQ):**
  - CAS# 67-64-1: final RQ = 5000 pounds (2270 kg)
  - CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)
- **CERCLA/SARA Section 313:**
  - This material contains Methyl alcohol (CAS# 67-56-1, 2.5%), and Isopropyl alcohol (CAS# 67-63-0, 2.5%), 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:**
  - Acetone 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.
Ethyl 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 Ethyl alcohol, a chemical known to the state of California to cause birth defects or other reproductive harm.

**European/International Regulations**

**Canadian DSL/NDSL:**
CAS# 67-64-1 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# 64-17-5 is listed on Canada's DSL List.

**Canada Ingredient Disclosure List:**
CAS# 67-64-1 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# 64-17-5 is listed on Canada's Ingredient Disclosure List.

**Section 16 - Other Information**

MSDS Creation Date: November 23, 1997
Revision Date: March 24, 2010
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