Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name/Trade Name: Benzalkonium Chloride Solution, 17%

Catalog Number(s): B1069

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Water

CL#: Not available.

Manufacturer: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Commercial Name(s): Not available.

Synonym: Not available.

Chemical Name: Not applicable.

Chemical Family: Not available.

Chemical Formula: Not applicable.

Supplier: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Benzalkonium chloride</td>
<td>8001-54-5</td>
<td></td>
<td></td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Benzalkonium chloride:

- ORAL (LD50): Acute: 240 mg/kg [Rat].
- ORAL (LD50): Water: Acute: >90ml/kg [Rat]

Section 3. Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, permeator). Slightly hazardous in case of eye contact (corrosive), of inhalation (lung sensitizer). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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**Benzalkonium Chloride Solution, 17%**

**Section 4. First Aid Measures**

**Eye Contact**
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact**
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation**
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion**
Not available.

**Section 5. Fire and Explosion Data**

**Flammability of the Product**
Non-flammable.

**Auto-Ignition Temperature**
Not applicable.

**Flash Points**
Not applicable.

**Flammable Limits**
Not applicable.

**Products of Combustion**
Not available.

**Fire Hazards in Presence of Various Substances**
Not applicable.

**Explosion Hazards in Presence of Various Substances**
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions**
Not applicable.

**Special Remarks on Fire Hazards**
Not available.

**Special Remarks on Explosion Hazards**
Not available.
## Section 6. Accidental Release Measures

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Spill</td>
<td>Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.</td>
</tr>
<tr>
<td>Large Spill</td>
<td>Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.</td>
</tr>
</tbody>
</table>

## Section 7. Handling and Storage

### Precautions
- Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

### Storage
- Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

## Section 8. Exposure Controls/Personal Protection

### Engineering Controls
- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

### Personal Protection
- Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits
- Not available.

## Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state and appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic. (Slight.)</td>
</tr>
<tr>
<td>Taste</td>
<td>Bitter.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear Colorless.</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>The lowest known value is 100°C (212°F) (Water).</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Weighted average: 1 (Water = 1)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>The highest known value is 2.3 kPa (@ 20°C) (Water).</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>The highest known value is 0.62 (Air = 1) (Water).</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Water/Oil Dist. Coeff.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ionicity (in Water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Dispersion Properties</td>
<td>See solubility in water, acetone.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in cold water, hot water. Soluble in acetone. Very slightly soluble in diethyl ether.</td>
</tr>
</tbody>
</table>
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Excess heat, dust generation, moisture, incompatible materials. (Benzalkonium chloride)</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Slightly reactive to reactive with oxidizing agents.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Non-corrosive in presence of glass, of stainless steel(304), of stainless steel(316).</td>
</tr>
</tbody>
</table>

**Special Remarks on Reactivity**
- Also incompatible with nitrates, anion detergents (Benzalkonium chloride)

**Special Remarks on Corrosivity**
- Not available.

**Polymerization**
- Will not occur.

### Section 11. Toxicological Information

**Routes of Entry**
- Absorbed through skin. Dermal contact. Eye contact. Ingestion.

**Toxicity to Animals**
- Acute oral toxicity (LD50): 1412 mg/kg (Rat) (Calculated value for the mixture).

**Chronic Effects on Humans**
- **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Benzalkonium chloride]. Mutagenic for bacteria and/or yeast. [Benzalkonium chloride].
- **DEVELOPMENTAL TOXICITY:** Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Benzalkonium chloride].
- Contains material which may cause damage to the following organs: kidneys, liver, heart, gastrointestinal tract, cardiovascular system, central nervous system (CNS).

**Other Toxic Effects on Humans**
- Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung corrosive).

**Special Remarks on Toxicity to Animals**
- Not available.

**Special Remarks on Chronic Effects on Humans**
- May affect genetic material (mutagen) and cause adverse reproductive effects (fetotoxicity, fertility (female)) based on laboratory experiments on animals. (Benzalkonium chloride)

**Special Remarks on other Toxic Effects on Humans**
- Corrosive
  - Severely irritates eyes, upper respiratory tract, skin, and mucous membranes.
  - Harmful if swallowed, inhaled, or absorbed through skin.
  - Acute Potential Health Effects:
    - Skin: Causes severe skin irritation and possible burns.
    - Eyes: Causes severe eye irritation and possible burns.
    - Ingestion: Harmful if swallowed. Causes digestive tract irritation with possible burns. May affect behavior (central nervous system depression, depression) and metabolism. May produce burning pains in the mouth, throat, and abdomen, profuse salivation, muscle weakness. May also affect the respiratory system and cardiovascular system, liver and kidneys.
    - Inhalation: May cause severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, and delayed lung edema.
  - Chronic Potential Health Effects:
    - Prolonged or repeated skin contact may cause dermatitis.
    - Repeated or prolonged exposure may cause allergic reactions in sensitive individuals. May cause cyanosis of the skin and lips caused by lack of oxygen.
Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Products of Biodegradation
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation
Not available.

Special Remarks on the Products of Biodegradation
Not available.

Section 13. Disposal Considerations

Waste Disposal
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification
Class 8: Corrosive material

Identification
Corrosive liquids n.o.s. (Benzalkonium Chloride, solution, 17%) (Benzalkonium chloride) UNNA: 1760  PG: III

Special Provisions for Transport
Not available.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
No products were found.

California Proposition 65
Warnings

Other Regulations
WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
CLASS D-2B: Material causing other toxic effects (TOXIC).
CLASS E: Corrosive liquid.

DSCL (EEC) R34- Causes burns.
S1/2- Keep locked up and out of the reach of children.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37- Wear suitable protective clothing and gloves.
S39- Wear eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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Benzalkonium Chloride Solution, 17%

HMIS (U.S.A.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Specific hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

- Gloves.
- Full suit.
- Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Face shield.

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### Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>BAK17</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Verified by Sonia Owen.  

**CALL (310) 516-8000**

**Notice to Reader**

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.