MATERIAL SAFETY DATA SHEET

Section 1. Company Identification and Product Information

Product Name or Identity: Deoxycholate Citrate Agar

Manufacturer’s Name: Acumedia Manufacturers, Inc.
740 East Shiawassee
Lansing, Michigan 48912

Emergency Phone No.: 517/372-9200
Fax No.: 517/372-0108

Date Prepared or Revised: December 2007

Section 2. Composition / Information on Hazardous Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS-No.</th>
<th>%</th>
<th>EG-Number</th>
<th>Hazard Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Citrate</td>
<td>6132-04-3</td>
<td>27.4%</td>
<td>N/A</td>
<td>Xi (Irritant)</td>
</tr>
<tr>
<td>Ferric Citrate</td>
<td>3522-50-7</td>
<td>1.4%</td>
<td>N/A</td>
<td>Xi (Irritant)</td>
</tr>
<tr>
<td>Sodium Deoxycholate</td>
<td>302-95-4</td>
<td>6.8%</td>
<td>206-132-7</td>
<td>Xn (Harmful)</td>
</tr>
</tbody>
</table>

Section 3. Health Hazard Identification

Route(s) of Entry: Inhalation? Yes  Skin? Yes  Ingestion? Yes

Health Hazards: (Acute and Chronic) HARMFUL. May be harmful if absorbed through the skin or ingested. Irritating to eyes, skin, and respiratory system.

Carcinogenicity: IARC Monographs? No  OSHA Regulated? No

Signs and Symptoms of Exposure: May cause irritation to the eyes, mucous membranes, and upper respiratory tract. May be harmful if inhaled. Ingestion can produce gastrointestinal disturbances.

Medical Conditions Generally Aggravated by Exposure: Inhalation of large amounts of dust may cause irritation to the respiratory tract and mucous membranes. Possible irritation on prolonged contact with moist or sensitive areas of the skin.

Section 4. First Aid Measures

Emergency / First Aid Procedures:

General Information: Immediately remove contaminated clothing. Show physician product label.

Ingestion: If swallowed, wash mouth out with water provided person is conscious. Seek medical attention immediately.

Inhalation: If inhaled, supply fresh air or oxygen. Seek medical attention. If breathing is difficult, give oxygen. In case of unconsciousness, place patient on side position for transportation.

Eye Contact: Rinse opened eye for at least 15 minutes under running water, lifting lower and upper eyelids occasionally. Seek medical attention.

Skin Contact: Remove contaminated clothing immediately. Wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Wash clothing before reuse.

Section 5. Fire and Explosion Hazard Data

Flash Point (Method Used): Closed Cup: N/A

Flammable Limits:
LEL: (Lower Explosive Limit): N/A  UEL: (Upper Explosive Limit): N/A

Extinguishing Media: Use water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Emits toxic fumes under fire conditions. Firefighters should wear protective equipment and self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: During heating or in case of fire, poisonous gases are produced. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard.
Section 6. Accidental Release Measures

**Personal Precautions:** Shut off all sources of ignition, ventilate spill area. Consider need for evacuation. Wear suitable protective clothing, gloves, and eye protection. Avoid inhalation and contact with skin and eyes. Wear self-containing breathing apparatus, rubber boots, and heavy rubber gloves. Place contaminated material in a chemical waste container.

**Environmental Precautions:** Prevent dispersion of material. Do not allow to enter drains or water courses.

**Clean-up Methods:** Contact safety officer and ventilate area. Absorb spill with inert material, including dry-lime, sand, or soda ash, then place into a chemical waste container using non-sparking tools. Wash spill site after material pickup is complete.

Section 7. Handling and Storage

**Handling:** Ensure good ventilation / exhaust and do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched.

**Storage:** Keep container tightly closed, protect from light, moist air, and steam. Store away from oxidizing agents. Keep away from heat, sparks, and open flame. Storage area should be cool, dry, and away from incompatible materials. Containers of this material may be hazardous when empty since they retain product residues.

Section 8. Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>OES:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Engineering Measures:** Do not use compressed air by filling, discharging or handling the product. Proper ventilation, safety shower, and eye bath required. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Respiratory Protection (Specify Type):** Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Proper ventilation, safety shower, and eye bath required.

**Ventilation:**
- Local Exhaust: 50 – 100 CFM
- Mechanical (General): N/A
- Other: Safety shower and eye bath.

**Protective Gloves:** Compatible chemical-resistant gloves.

**Eye Protection:** Safety glasses or chemical goggles to EN 166, 167, and 168.

**Other Protective Clothing or Equipment:** Uniform, lab coat, or disposable lab wear.

**Work / Hygienic Practices:** Follow the usual precautionary measure for handling chemicals / powder. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin, and clothing.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Boiling Point:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity:</td>
<td>1.7 g/cm$^3$ (Sodium Citrate)</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg):</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>150ºC (Sodium Citrate)</td>
</tr>
<tr>
<td>Vapor Density (AIR = 1):</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>72 g / 100 g of water (Sodium Citrate)</td>
</tr>
</tbody>
</table>

**Appearance and Odor:** White powder, odorless (Sodium Citrate), Solid (Sodium Deoxycholate).

Section 10. Stability and Reactivity

**Stability:**
- Unstable
- Stable
- X

**Conditions to Avoid:** Heat, flames, ignition sources, light, and dust.

**Incompatibility (Materials to Avoid):** Strong oxidizing agents and strong bases.

**Hazardous Decomposition or Byproducts:** Carbon monoxide, Carbon dioxide, Iron oxides, Sodium oxides, and strong oxidizing agents.

**Hazardous Polymerization:**
- May Occur
- Will Not Occur
- X

**Conditions to Avoid:** Moisture, light, and incompatible materials.
### Section 11. Toxicological Information

**LD$_{50}$:** ORL-RAT, 1,370 mg/kg (Sodium Deoxycholate)

### Section 12. Ecological Information

**Ecotoxicity Tests:** 

| LC$_{50}$: 48 hours, 115 mg/L, (Oryzias latipes), (Sodium Deoxycholate) |

### Section 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with all applicable federal, state, and local environmental regulations. If any questions arise, contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Container Information:** Do not remove labels from containers.

### Section 14. Transport Information

**Sodium Citrate, Ferric Citrate, Sodium Deoxycholate:**

| UN #: --* |
| Class: -- |
| Packing Group: -- |
| Hazard Class: -- |
| IATA: Non-Hazardous for Air Transport |

*These chemicals are considered to be non-hazardous for transport.

### Section 15. Regulatory Information

**EU Regulations**

**Hazard Symbol(s):**

| Sodium Citrate: Xi (Irritant) |
| Ferric Citrate: Xi (Irritant) |
| Sodium Deoxycholate: Xn (Harmful) |

**Risk Phrases:**

| Sodium Deoxycholate: R 22 / 37, Harmful if swallowed, Irritating to the respiratory system. |

**Safety Phrases:**

N/A

### Section 16. Other Information

This document is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Acumedia Manufacturer, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. These suggestions should not be confused with state, municipal or insurance requirements, and constitute NO WARRANTY.