COMPANY IDENTIFICATION

Product Identifier
Cell Culture Media-Animal Derived Component Free

Product Use
Cell Culture

Manufacturer’s Name
Abeome Corporation

Supplier’s Name
Abeome Corporation

Street Address
111 Riverbend Road

City
Athens

State
GA

Postal Code
30605

Emergency Telephone
706-542-7889

Date MSDS Prepared
03-26-15

MSDS Prepared By
Quality Control

Phone Number
706-542-0076

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients (specific) %W/W CAS Number
Process Water 0-25 7732-18-5
Amino Acids 0-2 NA
Inorganic Salts 0-40 NA
Vitamins 0-2 NA
Standard Cell Culture Media 0-1 NA
Bovine Blood Component 80% NA
Dimethyl sulfoxide 20% 67-68-5

SECTION 3 — HAZARDS IDENTIFICATION

Route of Entry
Absorbed through skin, eye contact, inhalation and ingestion.

Emergency Overview
This product is a potential irritant to eyes, respiratory system, and skin. This product may also be harmful if ingested. Complete toxicological properties have yet to be determined.

Potential Health Effects
Eye: May cause eye irritation. May result in corneal injury.
Skin: May cause skin irritation. Rapidly absorbed through the skin.
Inhalation: May cause irritation of respiratory tract maybe harmful if inhaled.
Ingestion: May cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. May cause central nervous system effects.

Chronic Effects/Carcinogenicity
Liver and kidney injuries may occur. Experiments have shown reproductive toxicity effects on laboratory animals.

OSHA Regulatory Status
Not Available

SECTION 4 — FIRST AID MEASURES

Skin Contact
In case of contact with skin, wash the affected area with soap and copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Should irritation occur, obtain medical attention.

Eye Contact
In case of contact with eyes, flush thoroughly with water also under eyelids, for at least 15 minutes. Obtain medical attention.

<table>
<thead>
<tr>
<th>Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>If inhaled, remove person to fresh air. If not breathing, give artificial respiration. If breathing becomes difficult, give oxygen. Obtain medical attention.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not induce vomiting Obtain medical attention immediately.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Note to Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat symptomatically and supportively.</td>
</tr>
</tbody>
</table>
SECTION 5 — FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flammable</th>
<th>If yes, under which conditions?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Means of Extinction
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

<table>
<thead>
<tr>
<th>Flashpoint (°C) and Method</th>
<th>Upper Flammable Limit (% by volume)</th>
<th>Lower Flammable Limit (% by volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>87 deg C (188.6 deg F)</td>
<td>42%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Autoignition Temperature (°C)</th>
<th>Explosion Data — Sensitivity to Impact</th>
<th>Explosion Data — Sensitivity to Static Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>301 deg C (573.8 deg F)</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Hazardous Combustion Products
Not available

Fire Fighting Procedures
Wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective clothing to prevent contact with skin. Combustible material. Containers may explode when heated. Thermal decomposition can lead to release of irritation gases and vapors.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures
Wear chemical-resistant personal protective equipment. Absorb spill with inert material (e.g. vermiculite, sand or earth) and place in closed container for disposal. Scoop up with a nonsparking tool. Remove all sources of ignition. Provide adequate ventilation. Avoid contact with skin, eyes, and clothing. Avoid ingestion and inhalation. Take precautionary measures against static discharge. Should not be released into the environment. Wash area thoroughly after clean-up is complete.

SECTION 7-HANDLING AND STORAGE

Handling Procedures and Equipment
Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment. Use only non-sparking tools. Avoid contact with skin, eyes, clothing. Avoid inhalation and ingestion. Take precautionary measures against static discharge. Handle in accordance with good industrial hygiene and safety practice. Product should be handled aseptically and stored in sterile conditions to avoid bacterial contamination.

Storage Requirements
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. Store at -10°C.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION
Exposure Limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

ACGIH TLV Not Available  OSHA PEL Not Available  NIOSH IDLH Immediately dangerous to life or health.

Specific Engineering Controls

Ensure that eyewash and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilation/lighting/equipment.

General Hygiene Considerations

Wash hands after use.

Personal Protective Equipment

Eye: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin Protection:

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European standard EN 149. Wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Odour and Appearance</th>
<th>Odour Threshold (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen solid</td>
<td>Characteristic/Yellow-orange, tan</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Gravity</th>
<th>Vapour Density (air = 1)</th>
<th>Vapour Pressure (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaporation Rate</th>
<th>Boiling Point (°C)</th>
<th>Freezing Point (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>pH</th>
<th>Coefficient of Water/Oil Distribution</th>
<th>Solubility in Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions. Avoid excess heat, ignition sources, incompatible products, exposure to moist air or water.

Incompatibility with Other Substances

Strong oxidizers, strong acids, strong bases.

Reactivity, and under what conditions?

Decomposition can lead to irritating gases and vapors.

Hazardous Decomposition Products

Carbon monoxide. Oxides of sulfur, sulfides, formaldehyde, carbon monoxide. Thermal decomposition can take place above 189°C/372°F.
### SECTION 11 — TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Effects of Acute Exposure</th>
<th>See Below (DMSO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects of chronic exposure</td>
<td>Not Available</td>
</tr>
<tr>
<td>Irritancy of Product</td>
<td>Not Available</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Not Available</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not Available</td>
</tr>
<tr>
<td>Carcinogenicity-IARC</td>
<td>There are now known carcinogenic chemicals in this product.</td>
</tr>
<tr>
<td>Carcinogenicity-ACGIH</td>
<td>There are now known carcinogenic chemicals in this product.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Experiments have shown reproductive toxicity effects on laboratory animals (DMSO)</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>Teratogenic effects have occurred in laboratory animals. (DMSO)</td>
</tr>
<tr>
<td>Embryotoxicity</td>
<td>Not Available</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Mutagenic effects have occurred in experimental animals. (DMSO)</td>
</tr>
<tr>
<td>Name of synergistic products/effects</td>
<td>Not Available</td>
</tr>
<tr>
<td>LD50 (specify species and route)</td>
<td>Dimethyl sulfoxide (DMSO) 14500 mg/kg (Rat) (oral); 40 g/kg (Rat) (Dermal)</td>
</tr>
<tr>
<td>LC50 (specify species and route)</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>Tumorigenic effects have been reported in experimental animals. (DMSO)</td>
</tr>
</tbody>
</table>
SECTION 12 — ECOLOGICAL INFORMATION

Aquatic Toxicity
Do not empty into drains. (DMSO) Full information not available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal
Disposal should be in accordance with all existing practices at your institution. Observe all Federal, Provincial/State and Local Laws.

SECTION 14 — TRANSPORT INFORMATION

Special Shipping Information
Proper Shipping Name: Carbon Dioxide, Solid
PIN Not Available

TDG
UN-No: UN1845, Hazard Class: 9, Packing Group: III

[DOT]
UN-No: UN1845, Hazard Class: 9, Packing Group: III

[IMO]
UN-No: UN1845, Hazard Class: 9, Packing Group: III
[CAS]
Not Available

SECTION 15 — REGULATORY INFORMATION

[WHMIS Classification]
B3 Combustible Liquid (DMSO) Not Applicable

[SARA]
Not Available

[OSHA]
Not Applicable

[TSCA]
Not Applicable

[CERCLA]
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

This product has been classified in accordance with the hazard criteria of the OSHA’s Hazard Communication Standard (HCS) and the MSDS contains all of the information required by HCS.

SECTION 16 — OTHER INFORMATION

Disclaimer
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Abeome Corporation shall not be held liable for any damage resulting from handling or from contact with the product. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text. The information contained in this Material Safety Data Sheet (MSDS) is current as of the date Prepared shown in Section 1 of this document and may be subject to amendment by Abeome Corporation.

Notice
THIS PRODUCT IS FOR RESEARCH ONLY. NOT USED FOR DIAGNOSTIC OR THERAPEUTIC APPLICATIONS.

Prepared By: Regulatory Affairs
Abeome Corporation