Material Safety Data Sheet

Section 1: Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Frozen Bone Marrow—Marrow Stromal Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Abbreviation Code</td>
<td>ABM-MSC</td>
</tr>
<tr>
<td>Catalog Number</td>
<td>MSC-001F, MSC-001F-M</td>
</tr>
<tr>
<td>OSHA Standard Number</td>
<td>1910.1030(b)</td>
</tr>
</tbody>
</table>

WHMIS Classification

BIOHAZARD/ Class D: Division 3

Manufacturer

AllCells, LLC
1301 Harbor Bay Parkway, Suite 200
Alameda, CA 94502

Emergency telephone number

510-521-2600

Product Use

For in vitro research use only. BM-MSC are not approved for human or animal use.

MSDS Prepared by

AllCells, LLC

Section 2: Composition/Information on Ingredients

| Hazardous components                      | Name                        | CAS-No. |
|-------------------------------------------|                            |         |
| Bone Marrow Stromal Cells                 | None                       |         |
| Dimethyl sulfoxide (DMSO)— 10% of total solution | 67-68-5                    |         |

| Other components                          | Name                        | CAS-No. |
|-------------------------------------------|                            |         |
| Iscove’s Medium (IMDM)                    | None                       |         |
| Fetal Bovine Serum (FBS)                  | None                       |         |

Cells are suspended in a solution containing 50% IMDM, 40% FBS, and 10% DMSO.

Section 3: Hazards Identification

Emergency Overview

Caution: Mild irritation might result with eye contact and/or ingestion. Although the bone marrow donors have been screened against and found to be negative for HIV I, Hepatitis B and C, the sample should still be treated as potentially infectious.

OSHA Hazards

Target organ effect (DMSO)

Target Organs

Eyes, Skin

Primary route(s) of entry

Skin contact

Symptoms of exposure

Mild irritation

Inhalation

None known

Eye contact

May cause mild irritation.

Skin contact

Possible mild irritation.

Ingestion

May cause irritation to gastro-intestinal tract, adverse health effects.

Medical conditions aggravated by exposure

None known.

Listed as carcinogen or potential carcinogen

None known

Section 4: First Aid Measures

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Skin Contact: Wash thoroughly with copious amounts of water. If skin is broken, seek medical advice.

Eye Contact: Hold eye open. Flush with copious amounts of water for at least 15 minutes. Call a physician if irritation develops.

Inhalation: Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures
- Flash Point: Not applicable
- Autoignition Temperature: Not applicable
- Flammability: Not applicable
- Extinguishing Media: Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.
- Firefighting Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6: Accidental Release Measures
- Leak and Spill Procedures: Wear chemical-resistant gloves. Absorb spill and place in closed container for disposal. Ventilate and wash area thoroughly after clean up is complete.

Section 7: Handling and Storage
- Handling: Trained personnel observing good laboratory practice should handle product. Always wear protective gloves and lab coats when handling product. Avoid skin contact or swallowing.
- Storage: Store in the vapor phase of liquid nitrogen storage

Section 8: Exposure Controls/Personal Protection
- Exposure Limit: ACGIH TLV: Not available. OSHA PEL: Not available.
- Engineering Controls: General Hygiene Considerations: Wash hands after use. Local Exhaust: Use with adequate ventilation.
- Personal Protective Equipment: Eye Protection: Safety glasses. Skin Protection: Lab coat, latex gloves

Section 9: Physical and Chemical Properties
- Physical State: Frozen
- Color: Yellow/orange color with a slight pink hue
- pH: Approximately 7
- Melting Point: No data available
- Boiling Point: Approximately 100°C
- Freezing Point: Approximately 0°C
- Flash Point: No data available
- Ignition temperature: No data available
- Lower explosion limit: No data available
- Upper explosion limit: No data available
- Water solubility: No data available

Section 10: Stability and Reactivity
- Storage Stability: Stable
- Materials to Avoid: Strong oxidizing agent
- Hazardous Decomposition Products: Carbon monoxide, carbon dioxide
- Hazardous Polymerization: Will not occur
Section 11: Toxicological Information

| Effects of Short-Term Exposure | No information available. |
| Effects of Long-Term Exposure | No information available. |
| Irritancy of Product | No information available. |
| Skin Sensitization | No information available. |
| Respiratory Sensitization | No information available. |
| Carcinogenicity | No information available. |
| Reproductive Toxicity | No information available. |
| Teratogenicity | No information available. |
| Embryotoxicity | No information available. |
| Mutagenicity | No information available. |
| Name of Synergistic Products/Effects | No information available. |

Section 12: Ecological Information

| Ecotoxicity | No information available. |
| Persistence/degradability | No information available. |

Section 13: Disposal Considerations

| RCRA hazardous waste code | Not regulated |
| Special instructions | Observe all federal, state and local laws and regulations. |

Section 14: Transport Information

| DOT (US) | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

Section 15: Regulatory Information

| OSHA Hazards | DMSO-Target Organ Effect |
| DSL Status | This product contains the following components that are not on the Canadian SDL nor NDSL lists. |
| Fetal Bovine Serum |

Section 16: Other Information

| Preparation Information | Section 1: OSHA standard number, Section 2: cell suspension information. |
| Original Issue Date: | March 17, 2010 |

Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. AllCells, LLC shall not be held liable for any damage resulting from handling or from contact with the product. 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 AllCells, LLC.

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