SAFETY DATA SHEET
Effective Date 8/3/16

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
Product name : Freezing Medium
Product Number : 040-50
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company : Cell Applications, Inc.
5820 Oberlin Dr. #101
San Diego, CA 92121 USA
Telephone : 858-453-0848
Fax : 858-453-2862

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements
Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures
Hazardous components
Component: Classification: Concentration:
Dimethyl Sulfoxide CAS-No. 67-68-5 Flam. Liq. 4; H227 >= 10 - < 20 %
EC-No. 200-664-3

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapours, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions
No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.:</th>
<th>Value:</th>
<th>Control parameters:</th>
<th>Basis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl sulfoxide</td>
<td>67-68-5</td>
<td>TWA</td>
<td>250.000000 ppm</td>
<td>USA. Workplace Environmental Exposure Levels (WEEL)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Form: liquid</td>
</tr>
<tr>
<td>b) Odour</td>
<td>no data available</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>no data available</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>i) Flammability (solid,</td>
<td>no data available</td>
</tr>
</tbody>
</table>
gas)

j) Upper/lower flammability or explosive limits
   no data available

k) Vapour pressure
   no data available

l) Vapour density
   no data available

m) Relative density
   no data available

n) Water solubility
   no data available

o) Partition coefficient: n-octanol/water
   no data available

p) Auto-ignition temperature
   no data available

q) Decomposition temperature
   no data available

r) Viscosity
   no data available

s) Explosive properties
   no data available

t) Oxidizing properties
   no data available

9.2 Other safety information
   no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
   no data available

10.2 Chemical stability
   Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   no data available

10.4 Conditions to avoid
   Exposure to moisture may affect product quality.

10.5 Incompatible materials
   Strong oxidizing agents

10.6 Hazardous decomposition products
   Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides
   Other decomposition products - No data available

   In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

   Acute toxicity
   no data available
   Inhalation: no data available
   Dermal: no data available
   no data available
Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Eyes - Eye disease - Based on Human Evidence
Eyes - Eye disease - Based on Human Evidence (Dimethyl sulfoxide)

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available
12.5 **Results of PBT and vPvB assessment**
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 **Other adverse effects**
no data available

## 13. DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**

- **Product**
  Offer surplus and non-recyclable solutions to a licensed disposal company.

- **Contaminated packaging**
  Dispose of as unused product.

## 14. TRANSPORT INFORMATION

- **DOT (US)**
  Not dangerous goods

- **IMDG**
  Not dangerous goods

- **IATA**
  Not dangerous goods

## 15. REGULATORY INFORMATION

- **SARA 302 Components**
  No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

- **SARA 313 Components**
  This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

- **SARA 311/312 Hazards**
  Chronic Health Hazard

- **Massachusetts Right To Know Components**
  No components are subject to the Massachusetts Right to Know Act.

- **Pennsylvania Right To Know Components**
  Dimethyl sulfoxide  67-68-5

- **New Jersey Right To Know Components**
  Dimethyl sulfoxide  67-68-5

- **California Prop. 65 Components**
  This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

- **Japan Components**
  Molybdic Acid 4H2O (Ammonium)  12054-85-2
  Copper (II) Sulfate / Cupric(II) Sulfate  7758-99-8
  Ferrous Sulfate 7H2O  7782-63-0
Manganese (II) Sulfate H2O 10034-96-5
Nickel Chloride 6H2O 7791-20-0
Sodium Selenite 10102-18-8
Zinc Sulfate 7H2O 7733-02-0
Ammonium Metavanadate 7803-55-6

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.
Flam. Liq. Flammable liquids
H227 Combustible liquid.

HMIS Rating
Health hazard: 0
Chronic Health Hazard: *
Flammability: 0
Physical Hazard 0

NFPA Rating
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information
For research use only. The above information is believed to be correct but does not purport to
be all inclusive and shall be used only as a guide. The information in this document is based on
the present state of our knowledge and is applicable to the product with regard to appropriate
safety precautions. It does not represent any guarantee of the properties of the product. All
materials and mixtures may present unknown hazards and should be used with caution. Cell
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