1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product code: HUXUC-01101
Product name: Human Umbilical Cord Mesenchymal Stem Cells with GFP

Company/Undertaking Identification

Cyagen Biosciences Inc.
574 East Weddell Dr, Suite 6
Sunnyvale, CA 94089, U.S.A.
Tel: 800-921-8931

For research use only

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous/Non-hazardous Components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>67-68-5</td>
<td>10</td>
</tr>
</tbody>
</table>

The product contains no substances which at their given concentration, are considered to be hazardous to health.

3. HAZARDS IDENTIFICATION

Emergency Overview
Components of the product may be absorbed into the body through the skin

Form
Liquid
3. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Principle Routes of Exposure/</th>
<th>Potential Health effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Mild eye irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>moderate skin irritation. Components of the product may be absorbed into the body through the skin.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No information available</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
</tbody>
</table>

Specific effects

- Carcinogenic effects: No information available
- Mutagenic effects: No information available
- Reproductive toxicity: No information available
- Sensitization: No information available

Target Organ Effects: No information available

HMIS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

- Skin contact: Wash off immediately with plenty of water
- Eye contact: Rinse thoroughly with plenty of water, also under the eyelids.
- Ingestion: Never give anything by mouth to an unconscious person
- Inhalation: Move to fresh air
- Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Dry chemical
- Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions: Use personal protective equipment
- Methods for cleaning up: Soak up with inert absorbent material

7. HANDLING AND STORAGE

- Handling: No special handling advice required
- Storage: Keep in properly labelled containers

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls

- Exposure limits
  - Chemical Name: dimethyl sulfoxide
  - OSHA PEL (TWA): -
  - OSHA PEL (Ceiling): -
  - ACGIH OEL (TWA): -
  - ACGIH OEL (STEL): -

- Engineering measures: Ensure adequate ventilation, especially in confined areas

Page 2 / 5
Personal protective equipment

- **Respiratory protection**: In case of insufficient ventilation wear suitable respiratory equipment.
- **Hand protection**: Impervious butyl rubber gloves. Nitrile gloves are not recommended. Some brands of Nitrile gloves have breakthrough times of five minutes.
- **Eye protection**: Safety glasses with side-shields.
- **Skin and body protection**: Light weight protective clothing.
- **Hygiene measures**: Handle in accordance with good industrial hygiene and safety practice.
- **Environmental exposure controls**: Prevent product from entering drains.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### General Information
- **Form**: Liquid

#### Important Health Safety and Environmental Information

<table>
<thead>
<tr>
<th>Property</th>
<th>°C No data available</th>
<th>°F No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point/range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
<td></td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

- **Stability**: Stable
- **Materials to avoid**: No information available
- **Hazardous decomposition products**: No information available
- **Polymerization**: Hazardous polymerisation does not occur.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat/mouse)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LD50 (inhalation, rat/mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>14500 mg/kg (Rat)</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### Principle Routes of Exposure/

#### Potential Health effects

- **Eye**: Mild eye irritation.
- **Skin**: Moderate skin irritation. Components of the product may be absorbed into the body through the skin.
- **Inhalation**: No information available.
- **Ingestion**: May be harmful if swallowed.
Specific effects

Carcinogenic effects: No information available.
Mutagenic effects: No information available.
Reproductive toxicity: No information available.
Sensitization: No information available.

Target Orcia Effects: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: No information available.
Mobility: No information available.
Biodegradation: Inherently biodegradable.
Bioaccumulation: Does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

IATA
Proper shipping name: Not classified as dangerous in the meaning of transport regulations.
Hazard Class: No information available.
Subsidiary Class: No information available.
Packing group: No information available.
UN-No: No information available.

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>PICCS</th>
<th>ENCS</th>
<th>DSL</th>
<th>NDSL</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
<td>-</td>
<td>Listed</td>
</tr>
</tbody>
</table>

U.S. Federal Regulations

SARA 313
This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain HAPs.

U.S. State Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts-RTK</th>
<th>New Jersey - RTK</th>
<th>Pennsylvania - RTK</th>
<th>Illinois - RTK</th>
<th>Rhode Island - RTK</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65
This product does not contain chemicals listed under Proposition 65.

WHMIS hazard class:
D2B Toxic materials
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

This material is sold for research and development purposes only. It is not for any human or animal therapeutic or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potentially hazardous chemicals must supervise the use of this material.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may be present unknown hazards and should be used with caution. Since Cyagen Biosciences Inc. cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

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End of Safety Data Sheet