SAFETY DATA SHEET

100-0623 - PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

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

Product identifier

Product Name: PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

Other means of identification

Catalog Number: 100-0623

Document Number: 10000010712

Synonyms: None

Recommended use of the chemical and restrictions on use

Recommended Use: Laboratory reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: STEMCELL Technologies Canada Inc.
         Suite 500 - 1618 Station Street
         Vancouver, British Columbia V6A 1B6 Canada

Emergency telephone number

Emergency Telephone: 1-800-667-0322

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)

Not applicable

Label elements
SAFETY DATA SHEET

100-0623 - PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

Warning

Hazard statements
Causes skin irritation
Causes serious eye irritation
Combustible liquid

Appearance Clear Physical state Liquid Odor No data available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Keep away from flames and hot surfaces. - No smoking
Wear protective gloves/eye protection/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
Not applicable

Unknown acute toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
SAFETY DATA SHEET

100-0623 - PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable.

Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide</td>
<td>67-68-5</td>
<td>&gt;99%</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance.

Inhalation
Get medical attention immediately if symptoms occur. Remove to fresh air.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider
Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms
Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.
5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact: None.
Sensitivity to Static Discharge: Yes.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other Information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions
Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment
Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.
7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Take off contaminated clothing and wash before reuse. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in accordance with information listed on the Product Information Sheet (PIS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Hand protection
Impervious gloves. Wear suitable gloves.

Skin and body protection
Long sleeved clothing. Wear suitable protective clothing.
Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>light yellow</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>87 °C / 189 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Softening point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

Softening point: No information available
Molecular weight: No information available
10. STABILITY AND REACTIVITY

Reactivity
- No information available.

Chemical stability
- Stable under normal conditions.

Possibility of hazardous reactions
- None under normal processing.

Conditions to avoid
- Heat, flames and sparks.

Incompatible materials
- Strong acids. Strong oxidizing agents.

Hazardous decomposition products
- None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact
- Irritating to eyes. Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).

Skin contact
- Causes skin irritation. (based on components). Specific test data for the substance or mixture is not available.

Ingestion
Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
- Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute toxicity
The following values are calculated based on chapter 3.1 of the GHS document:

<table>
<thead>
<tr>
<th></th>
<th>ATEmix (oral)</th>
<th>ATEmix (dermal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14,567.40 mg/kg</td>
<td>40,185.90 mg/kg</td>
</tr>
</tbody>
</table>

**Unknown acute toxicity**

- 0% of the mixture consists of ingredient(s) of unknown toxicity
- 0% of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0% of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50 (Rat)</th>
<th>Dermal LD50 (Rat)</th>
<th>Inhalation LC50 (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide 67-68-5</td>
<td>14500 mg/kg</td>
<td>40 g/kg</td>
<td>&gt; 5.33 mg/L</td>
</tr>
</tbody>
</table>

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Irritating to skin.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Irritating to eyes.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>No information available.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td>No information available.</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>No information available.</td>
</tr>
</tbody>
</table>
12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide 67-68-5</td>
<td>EC50: 12350 - 25500mg/L (96h, Skeletonema costatum)</td>
<td>LC50: &gt;40g/L (96h, Lepomis macrochirus)</td>
<td>-</td>
<td>EC50: =7000mg/L (24h, Daphnia species)</td>
</tr>
</tbody>
</table>

Persistence and degradability
No information available.

Bioaccumulation
There is no data for this product.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide 67-68-5</td>
<td>-2.03</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products
Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging
Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT
Not regulated
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Does not comply</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>IECSC</td>
<td>Does not comply</td>
</tr>
<tr>
<td>KECL</td>
<td>Does not comply</td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not comply</td>
</tr>
<tr>
<td>AICS</td>
<td>Does not comply</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

100-0623 - PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

Revision Date 25-Jun-2021
Revision Number 1.1

Chronic Health Hazard No
Fire hazard Yes
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trade secret -</td>
</tr>
<tr>
<td></td>
<td>Developmental</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

US State Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl sulfoxide 67-68-5</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Prepared By, Quality Control. STEMCELL Technologies Canada Inc.
Revision Date 25-Jun-2021
Revision Note No information available.
Disclaimer

Page 11 / 12
SAFETY DATA SHEET

100-0623 - PneumaCult™ Apical-Out Airway Organoid 1000X Supplement

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

End of Safety Data Sheet