

SAFETY DATA SHEET (SDS)
TrailBio® Hematopoietic Progenitor Cells
1. Product and Company Identification

Product Name: TrailBio® Hematopoietic Progenitor Cell Vial

Product Codes: ME060002020, ME060001020

Product Use: For Research Use Only (RUO), Ultra low temperature (-70° to -196°C) storage of biological material

Manufacturer: Trailhead Biosystems Inc.

23215 Commerce Park Road, Beachwood, Ohio, 44122

SDSs are available at the following website: www.trailbio.com

Company Phone Number: 220-222-9142

Emergency Telephone Number: Medical Emergency (24 h): 1-800-222-1222

Email: sales@trailbio.com

2. Hazards Identification

Classification

Routes of Entry

Oral, Skin, Eyes

Potential Health Effects

Eyes: Irritation **Skin:** Not Applicable **Ingestion:** Nausea **Inhalation:** Not Applicable

Acute Health Hazards: Not Applicable

Chronic Health Hazards: Not Applicable

Medical Conditions Generally Aggravated by Exposure: Not known

Carcinogenicity: None of the components at concentrations equal or greater than 0.1% are listed by NTP, IARC, or OSHA as a carcinogen. To the best of our knowledge, the chemical, physical, toxicological, and carcinogenic properties of DMSO have not been thoroughly investigated.

Precautionary Statements

Prevention

Not applicable.

Response

Not applicable.

Storage

Not applicable.

Disposal

Not applicable.

Hazards not otherwise classified (HNOC):

Not classified.

3. Composition/Information on Ingredients

| Chemical Name | CAS No. | Weight % |
|---------------------------|---------|----------|
| Dimethyl Sulfoxide (DMSO) | 67-68-5 | 7-15%** |

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

4. First Aid Measures

First aid measures for different exposure routes:

General Advice

If symptoms persist call a physician.

Eye Contact

Rinse thoroughly with running water for >10 minutes, also under the eyelids. Get medical attention if irritation persists.

Skin Contact

Wash off immediately with soap and water. Get medical attention if irritation develops and persists.

Inhalation

Move to fresh air. If symptoms persist, call a physician.

Ingestion

If swallowed, give two glasses of water and induce vomiting. Never give anything to an unconscious person. Call a physician.

Most important symptoms/effects, acute, and delayed

None known.

Indication of immediate medical attention and special treatment needed if necessary

Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Dry chemical, CO₂, alcohol-resistant foam, or water spray.

Unsuitable Extinguishing Media:

None known.

Specific hazards arising from the chemical:

None known.

Hazardous Combustion Products

None known.

Explosion Data

Sensitivity to Mechanical Impact

None known.

Sensitivity to Static Discharge

None known.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approval or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Use personal protective equipment. Avoid contact with skin, eyes, or clothing.

Environmental precautions

Prevent product from entering drains.

Methods and materials for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Use personal protective equipment. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. Handling and Storage

Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin, eyes, or clothing. Avoid breathing vapors or mists. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled container.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH | AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs |
|---------------------------|-----------|----------|------------|---|
| Dimethyl Sulfoxide (DMSO) | | | | 250 ppm TWA |

Exposure controls

Engineering Measures

Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields or full splash goggles.

Skin and body protection

Wear protective gloves/clothing. A disposable lab coat is suggested.

Respiratory protection

None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

General Hygiene Considerations

When using, do not eat, drink, or smoke. Take off contaminated clothing and wash before reuse. Regular cleaning of equipment, work area, and clothing is recommended.

9. Physical and Chemical Properties

Appearance: colorless
Odor Threshold: Not available
pH: Not available
Specific Gravity: Not available
Flash Point: Not available
Decomposition temperature: Not available
Melting point/melting range: 32 °F or 0 °C
Flammability Limit in Air: Not available
Oxidizing Properties: Not available **Solubility:**
Soluble in water **Evaporation Rate:** Not available
Vapor Density: Not available
VOC (lb/gal): None
Dynamic Viscosity: Not available
Odor: Slight
Physical State at 20 deg C: Liquid
Molecular Weight: Not available
Autoignition temperature: Not available
Boiling point/boiling range: Not available
Freezing Point: 24.8 °F or -4 °C
Explosive properties: Not available
Partition Coefficient: Not available
Vapor Pressure: Not available
Density: Not available
VOC (g/L): None

10. Stability and Reactivity

Reactivity

Stable under recommended storage conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Excessive heat. Freezing.

Incompatible Materials

Strong oxidizing agents, strong acids, strong bases, and acid chlorides.

Hazardous Decomposition Products

None known.

11. Toxicological Information

Information on likely routes of administration

Product Information

Acute toxicity

| | |
|-------------------|-----------------------------------|
| Inhalation | Non-irritating during normal use. |
| Eyes | Non-irritating during normal use. |
| Skin | Non-irritating during normal use. |
| Ingestion | Non-irritating during normal use. |

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | LC50 (lethal concentration) |
|---------------------------|-------------------|---------------|-----------------------------|
| Dimethyl Sulfoxide (DMSO) | 28300 mg/kg (rat) | 40 g/kg (rat) | > 5.33 mg/L (rat) 4 h |

Information on toxicological effects

No information available.

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

| | |
|---------------------------------|---------------------------|
| Irritation | Mild skin irritant. |
| Corrosivity | No information available. |
| Sensitization | No information available. |
| Mutagenic Effects | No information available. |
| Reproductive Toxicity | No information available. |
| Carcinogenicity | None known. |
| STOT – single exposure | No information available. |
| STOT – repeated exposure | No information available. |
| Target Organ Effects | Skin. |
| Aspiration hazard | No information available. |

Numerical measures of toxicity – Product Information

| | |
|------------------------|-------------|
| ATEmix (oral) | >5000 mg/kg |
| ATEmix (dermal) | >5000 mg/kg |

*ATE: acute toxicity estimate

12. Ecological Information

Ecotoxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name | Algae Toxicity | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to daphnia and other aquatic invertebrates |
|---------------------------|----------------|---|----------------------------|---|
| Dimethyl Sulfoxide (DMSO) | | Pimephales promelas: 34000 mg/L at 96 h | | |

Persistence and degradability

No information available.

Bioaccumulation

| Chemical Name | Octanol Water Partition Coefficient (log pow) |
|---------------------------|---|
| Dimethyl Sulfoxide (DMSO) | -2.03 |

Mobility

No information available.

Other adverse effects

No information available.

13. Disposal Consideration

Waste disposal methods

Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

14. Transport Information

DOT: Not regulated.
TDG: Not regulated.
MEX: Not regulated.
ICAO: Not regulated.
IATA: Not regulated.
IMDG: Not regulated.
ADR/RID: Not regulated.
ADN: Not regulated.

15. Regulatory Information

International Inventories

TSCA Yes
DSL/NDSL Yes
PICCS Yes
EINECS/ELINCS Yes
ENCS Yes
IECSC Yes
KECL Yes
AICS Yes

***Yes – All component(s) of this product are included or are exempt from listing on the inventory.**

***No – Indicated the component(s) of this product are either not listed or have not been determined to be listed on the inventory.**

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 Chemical and Chemical Substances
AICS – Australian Inventory of Chemical Substances

U.S. Federal Regulations

TSCA Sections 4, 5, and 12(b)

This product does not contain any chemicals regulated by TSCA Sections 4, 5, or 12(b)

SARA13

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

Classification is shown in section 2 of this SDS

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 does not contain any Proposition 65 chemicals

US State Right to Know Regulations

| Chemical Name | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---------------------------|---------------|------------|--------------|----------|--------------|
| Dimethyl Sulfoxide (DMSO) | | X | | | |

International Regulations

Canada – NDSL

This product does not contain any NDSL chemicals.

Mexico – Grade

No information available.

Mexico – Carcinogen Status and Exposure Limits

No information available.

Other Regulations

No information available.

16. Other Information

| | Health Hazard | Flammability | Instability | Physical Hazard | Personal protection |
|-------------|---------------|--------------|-------------|-----------------|---------------------|
| NFPA | 1 | 1 | 0 | - | - |
| HMIS | 1 | 1 | - | 0 | B |

Prepared By Trailhead Biosystems

Preparation Date 2025-01-10

Revision Date 2025-01-10

Revision Note No information available.

Disclaimer The information provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. 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.

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