SAFETY DATA SHEET

Product Name: BloodStor® 100

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: BloodStor® 100
Synonyms: N/A
Product Codes: 410301, 410302
Manufacturer: BioLife Solutions, Inc.
Address: 3303 Monte Villa Pkwy, Suite 310, Bothell, WA 98021 USA
Emergency Phone: 911
Other Calls: 866.424.6543
Fax: 425.402.1433
Product Use: Ultra low temperature (-70°C to -196°C) storage of biological material (cells, tissues, and organs)

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: Combustible liquid

GHS Label:
- Pictogram:
- Signal Word: Warning
+ H315 Causes skin irritation.
+ H319 Causes serious eye irritation.
Precautionary Statements: P210 Keep away from heat/sparks/open flames/hot surfaces-No smoking.
+ P264 Wash thoroughly after handling.
+ P280 Wear protective gloves/eye protection/face protection.

Response:
- If on Skin: P302 & 352 Wash with plenty of soap and water.
- If in Eyes: P305, 351, & 338 Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.
- If on Cloths: P362 Take off contaminated clothing and wash before reuse.

Storage: P403 & 235 Store in a well ventilated place. Keep cool.
Disposal: P501 Dispose of contents/container in accordance with local/national regulations.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Physical Appearance: Clear liquid
Routes of Entry: Oral, Skin, Eyes
Odor: Essentially Odorless

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Dimethyl Sulfoxide (DMSO)
CAS NO: 67-68-5
MF: C2H6OS
%Vol 99%+
SECTION 4: FIRST AID MEASURES

General: Never give fluids or induce vomiting if patient is unconscious or is having convulsions. When symptoms persist, seek medical attention.

NOTE: BloodStor® 100 in general is not dangerous to people, but like any other chemical; it should be treated with care, respect, and common sense.

Eyes: Flush with running water for >15 minutes.

Skin: Wash skin thoroughly with soap and water. Wash contaminated clothing before reuse.

Ingestion: Seek immediate medical attention. Do NOT induce vomiting.

Inhalation: Remove to fresh air. If breathing has stopped, provide artificial respiration. Keep the victim warm and seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

100% DMSO HAS COMBUSTIBLE LIQUID AND VAPOR.

Extinguishing Media: Foam, carbon dioxide, dry powder, and water spray

Special Protective Equipment: Wear a Self-Contained Breathing Apparatus (SCBA) rubber gloves, rubber suit

Special Exposure Hazards: Burning product may produce poisonous gasses (sulfur oxides)

Flashpoint: 89°C (192°F) closed cup; 95°C (203°F) open cup

ERG Guide Number: 128

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: In case of mist formation, use a respirator or Self-Contained Breathing Apparatus (SCBA). Wear appropriate PPE (see Section 8).

Spills: Consult environmental supervisor. Remove ignition sources. Ventilate the area. Do not breathe vapor or get liquid on skin/eyes/clothing.

Disposal: Observe all local waste regulations prior to disposal. Dilute and flush to wastewater treatment or absorb with inert material. Do not allow to enter streams or waterways.

SECTION 7: HANDLING AND STORAGE

Handling: Keep away from sources of ignition. Use good laboratory practices while handling. Avoid inhaling vapors or mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Wear appropriate PPE (see Section 8).


Engineering Controls: NA

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: NA

Ventilation: NA

Respiratory Protection: This material does not have established workplace exposure limits. Wear an appropriate NIOSH/MSHA approved air purifying respirator or positive pressure air supplied respirator in situations where a respirator is judged appropriate to prevent inhalation of vapors or mist.

Eye Protection: Chemical laboratory safety goggles or as recommended by internal laboratory.

Skin Protection: Latex/Non-Latex gloves or as recommended by internal laboratory.

Other Protective Clothing or Equipment: Wear impervious clothing such as apron, boots, jumpsuit, or whole body suit as appropriate to avoid exposure.

Work Hygienic Practices: Use good laboratory precautions and practices. Wash hands following handling of material.

Exposure Guidelines: Wash exposed area thoroughly. Refer to Section 4 First Aid Measures for details.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance:</td>
<td>Colorless liquid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Essentially odorless</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>Not available</td>
</tr>
<tr>
<td>pH:</td>
<td>8.5 (50/50 in water)</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>18°C (64°F)</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>189°C (372°F)</td>
</tr>
<tr>
<td>Flashpoint and method:</td>
<td>89°C (192°F) closed cup</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammable Limits (% in air):</td>
<td>LEL: 3.0 – 3.5% by volume</td>
</tr>
<tr>
<td></td>
<td>UEL: 42-63% by volume</td>
</tr>
<tr>
<td>Auto-ignition Temperature:</td>
<td>300-302°C (572-575°F)</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>0.55 mbar (0.46 mmHg) @</td>
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<tr>
<td></td>
<td>20°C (68°F)</td>
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</table>

Vapor Density (Air=1): 2.7

Specific Gravity (H2O=1): 1.1 at 20°C (68°F)

Solubility in Water at 20°C: Miscible

Vapor Pressure: 0.55 mbar (0.46 mmHg) @ 20°C (68°F)

Octanol/Water Partition Coefficient: \( \log P_{ow} = -2.03 \)

Viscosity at 25°C (77°F): 2.0 mPAs or cP

Evaporation Rate: 0.026 (n-butyl acetate=1)

Sensitivity to Static Discharge: Material is unlikely to accumulate a static charge, which could act as an ignition source.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous polymerization will not occur

Stability: Stable

Possibility of Hazardous Reactions: No data available

Conditions to Avoid: Prolonged heating above 150°C (302°F) can cause rapid, exothermic decomposition

Incompatibility (Material to Avoid): Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions of alkali bromides

Hazardous Decomposition Products: Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio) methane.

Hazardous Polymerization: Will not occur. No stabilizers are needed or present.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:
- LD50 Oral – rat: 14,500 mg/kg
- LC50 Inhalation – rat: 40250 ppm
- LD50 Dermal – rabbit: > 5,000 mg/kg, Category 5

SECTION 12: ECOLOGICAL INFORMATION

Aquatic Toxicity:
- LC50 - Pimephales promelas (fathead minnow): 34,000 mg/l: 96 h
- LC50 - Oncorhynchus mykiss (rainbow trout): 35,000 mg/l: 96 h
- EC50 - Daphnia pulex (Water flea): 27,500 mg/l

Persistence and Degradability: No data available.

Bioaccumulative Potential: Not measured.

Mobility in Soil: No data available.

Other Adverse Effects: Biological Oxygen Demand: Theoretical Oxygen Demand at 10ppm: 123mg oxygen

Chemical Oxygen Demand at 10ppm: 107mg/L

Biological Oxygen Demand-5 at 10ppm: ≤1.0mg/L

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Observe all federal, state, and local environmental regulations.
### SECTION 14: TRANSPORT INFORMATION

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<th>UN Number:</th>
<th>DOT (Domestic Surface Transportation)</th>
<th>IMO/IMDG (Ocean Transportation)</th>
<th>IMO/IMDG (Ocean Transportation)</th>
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<tr>
<td>&gt;119 gallons: NA1993</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
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<tr>
<td>&lt;119 gallons: Not regulated</td>
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<table>
<thead>
<tr>
<th>UN Proper Shipping Name:</th>
<th>BloodStor®100</th>
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<tr>
<th>Transportation Hazard Class:</th>
<th>DOT Hazard Class: 3</th>
<th>DOT Label: Combustible Liquid</th>
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<tbody>
<tr>
<td>&lt;119 gallons: Not regulated</td>
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<td></td>
<td></td>
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<tr>
<td>&gt;119 gallons: Combustible</td>
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<table>
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<tr>
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<tr>
<th>Environmental Hazard:</th>
<th>Marine Pollutant: No</th>
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<table>
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<th>Special Precautions for User:</th>
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### SECTION 15: REGULATORY INFORMATION

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<th>WHMIS Classification:</th>
<th>B3 D2B</th>
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<tr>
<td>US EPA Tier II Hazards:</td>
<td>Fire: Yes</td>
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<tr>
<td></td>
<td>Sudden Release of Pressure: No</td>
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<tr>
<td></td>
<td>Reactive: No</td>
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<tr>
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<td>Immediate (acute): Yes</td>
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<tr>
<td></td>
<td>Delayed (Chronic): No</td>
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### SECTION 16: OTHER INFORMATION

<table>
<thead>
<tr>
<th>Other Information:</th>
<th>The data on this Safety Data Sheet relate only to the specific material herein and do not relate to use in combination with any other material or process.</th>
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<tbody>
<tr>
<td>Preparation Information:</td>
<td>This information is believed to be accurate and represents the best information available to date.</td>
</tr>
<tr>
<td>Disclaimer:</td>
<td>We make no warranty or assume any liability from its use. Users should make their own investigations to determine the suitability of the information.</td>
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