BloodStor® 100

Safety Data Sheet

according to Federal Register / Vol. 89, No. 98 / Monday, May 20, 2024 / Rules and Regulations, Canada Hazardous Products Regulations (HPR) / Règlement sur les produits dangereux (RPD), Mexico NOM-018-STPS-2015
Issue date: 09 Mar 2026 Version: 05

SECTION 1: Identification

1.1. Product identifier

Product form	:	Substance
Name	:	BloodStor® 100
CAS-No.	:	67-68-5
Formula	:	C_2H_6OS

1.2. Other means of identification

Synonyms	:	BS 100

1.3. Recommended use of the chemical and restrictions on use

Recommended use	:	Ultra-low temperature, storage of biological material.
Restrictions on use	:	Any use not specified.

1.4. Supplier's details

BioLife Solutions, Inc.
3303 Monte Villa Parkway
Suite 310
Bothell, WA 98021 United States of America
Tel.: +1 (425) 402-1400 (Monday - Friday, 8:00 am - 5:00 pm Pacific)
Email: info@biolifesolutions.com

1.5. Emergency phone number

Emergency number	:	+1 (866) 424-6543 (Monday - Friday, 8:00 am - 5:00 pm Pacific)

SECTION 2: Hazard Identification

2.1. Classification of the substance or mixture

GHS classification

Flammable liquid, Category 4	H227	Combustible liquid.

Full text of H statements : see section 16

2.2. Label elements

GHS labeling

Signal word (GHS)	:	Warning
Hazard statements (GHS)	:	H227 - Combustible liquid
Precautionary statements (GHS)	:	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P370+P378 - In case of fire: Use media other than water to extinguish. P403 - Store in a well-ventilated place. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available.

2.4. Hazards not otherwise classified

Other hazards not contributing to the classification	:	Exposure may aggravate pre-existing eye, skin, or respiratory conditions. DMSO easily penetrates the skin, and may increase the rate of skin absorption of skin-permeable substances.

2.5. Unknown acute toxicity

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : BloodStor® 100
CAS-No. : 67-68-5

Name	Product identifier	%	GHS US classification
Dimethyl sulfoxide (DMSO)	CAS-No.: 67-68-5	≈ 100	Flam. Liq. 4, H227

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow the victim to rest. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : None under normal conditions. DMSO easily penetrates the skin, and may increase the rate of skin absorption of skin-permeable substances.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.
Explosion hazard : May form flammable/explosive vapor-air mixture.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Absorb spillage to prevent material-damage. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area.

For emergency responders

Protective equipment : Equip cleanup crew with proper protection. For further information refer to Section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area.

Environmental precautions : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak, if possible without risk. Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13, See Heading 8, Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapor. Wear personal protective equipment. No open flames. No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands, forearms and face thoroughly after handling.

Additional hazards when processed : Keep away from Sources of ignition. - No smoking. Handle empty containers with care because residual vapors are flammable.

7.2. Conditions for safe storage, including incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical, lighting, ventilating equipment.

Storage conditions : Keep cool. Protect from sunlight. Keep only in the original container in a cool, well ventilated place away from : Heat-ignition. Keep container closed when not in use. Keep in fireproof place.

Incompatible materials	:	Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Methyl bromide Sodium hydride. Halides. Metal salts of oxoacids. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Boron compounds.
Storage temperature	:	2 – 8 °C
Packaging materials	:	Always store product in container of same material as original container. Do not re-use empty containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Dimethyl sulfoxide (DMSO) (67-68-5)	
USA - AIHA - Occupational Exposure Limits	
WEEL TWA	250 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Industrial and professional. Perform risk assessment prior to use. Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:
Wear recommended personal protective equipment. Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves. Neoprene. Butyl rubber.

Eye protection:
Chemical goggles or safety glasses.

Skin and body protection:
Long sleeved protective clothing.

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. If needed, use an air-purifying respirator with organic vapor cartridges and a dust/mist prefilter.

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear
Color	:	Colorless or slightly yellow
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability	:	Combustible liquid

Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Miscible with water
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Combustible liquid. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Methyl bromide Sodium hydride. Halides. Metal salts of oxoacids. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Boron compounds.

10.6. Hazardous decomposition products

Fumes. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

Likely routes of exposure : Skin and eye contact. Inhalation.

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
LD50 Oral rat	28300 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 Dermal rat	≈ 40000 mg/kg body weight Animal: rat
LC50 Inhalation rat	> 5.33 mg/l Source: ECHA
ATE (oral)	28300 mg/kg body weight

Skin corrosion/irritation : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
Skin corrosion/irritation	Not irritating to rabbits on cutaneous application.
Skin corrosion/irritation, Human experience	Slightly irritating to the skin.

Serious eye damage/irritation : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
Serious eye damage/irritation	Not irritating to rabbits on ocular application.
Serious eye damage/irritation, Human experience	Slightly irritating to eyes.

Respiratory or skin sensitization : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
Skin sensitization, Guinea pig, mouse	No sensitization responses were observed.

Germ cell mutagenicity : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
Additional information	Negative (Bacterial reverse mutation assay (e.g. Ames test), Chromosomal aberration test, Micronucleus test)

Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
NOAELOECD 421, Oral, rat	1000 mg/kg bw/day (Fertility, mating)
NOAELOECD 414, Developmental, maternal, Oral, gavage, rat	1000 mg/kg bw/day (Lower fetal weight)
NOAEL, Developmental, maternal, Oral, gavage, rabbit	1000 mg/kg bw/day (Loss of weight)

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	2.783 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: EPA OPPTS 870.3465 (90-Day Inhalation Toxicity)
NOAEL (oral,rat,90 days)	≥ 1000 mg/kg body weight Animal: rat

Aspiration hazard : Not classified

BloodStor® 100	
Viscosity, kinematic	No data available

Dimethyl sulfoxide (DMSO) (67-68-5)	
Viscosity, kinematic	No data available

Symptoms/effects : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : None under normal conditions. DMSO easily penetrates the skin, and may increase the rate of skin absorption of skin-permeable substances.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Dimethyl sulfoxide (DMSO) (67-68-5)	
LC50 fish	> 25 g/l Test organisms (species): *Danio rerio* (previous name: *Brachydanio rerio*)
EC50 crustacea	24.6 g/l Test organisms (species): *Daphnia magna*
EC50 other aquatic organisms	> 25000 mg/l 96 h *Danio rerio*
ErC50 algae	17000 mg/l 72 h *Pseudokirchneriella subcapitata*

12.2. Persistence and degradability

BloodStor® 100	
Persistence and degradability	Not established.

Dimethyl sulfoxide (DMSO) (67-68-5)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	31 % 28 d

12.3. Bioaccumulative potential

BloodStor® 100	
Bioaccumulative potential	Not established.

Dimethyl sulfoxide (DMSO) (67-68-5)	
Log Pow	-1.35 Source: ECHA
Log Kow	-1.35 @ 20 °C
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Fluorinated greenhouse gases : No.
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information : Do not re-use empty containers. Handle empty containers with care because residual vapors are flammable.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : NA1993
UN-No. (TDG) : Not regulated.
UN-No. (IMDG) : Not regulated.
UN-No. (IATA) : Not regulated.

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	:	Combustible liquid, n.o.s. (Dimethyl sulfoxide)
Proper Shipping Name (TDG)	:	Not regulated.
Proper Shipping Name (IMDG)	:	Not regulated.
Proper Shipping Name (IATA)	:	Not regulated.

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Combustible liquid

TDG
Transport hazard class(es) (TDG) : Not regulated.

IMDG
Transport hazard class(es) (IMDG) : Not regulated.

IATA
Transport hazard class(es) (IATA) : Not regulated.

14.4. Packing group

Packing group (DOT)	:	III
Packing group (TDG)	:	Not regulated.
Packing group (IMDG)	:	Not regulated.
Packing group (IATA)	:	Not regulated.

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

DOT NA No	:	NA1993
DOT Special Provisions (49 CFR 172.102)	:	148 - For domestic transportation, this entry directs to § 173.66 for: a. The standards for transporting a single bulk hazardous material for blasting by cargo tank motor vehicles (CTMV); and b. The standards for CTMVs capable of transporting multiple hazardous materials for blasting in bulk and non-bulk packagings (i.e, a multipurpose bulk truck (MBT)). IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	220 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

TDG
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

SECTION 15: Regulatory information

15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Dimethyl sulfoxide (DMSO)	67-68-5	Present	Active	

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Dimethyl sulfoxide (DMSO) (67-68-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Dimethyl sulfoxide (DMSO) (67-68-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Dimethyl sulfoxide (DMSO) (67-68-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on KECI (Korean Existing Chemicals Inventory) Listed on the TCSI (Taiwan Chemical Substance Inventory) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

according to Federal Register / Vol. 89, No. 98 / Monday, May 20, 2024 / Rules and Regulations, Canada Hazardous Products Regulations (HPR) / Règlement sur les produits dangereux (RPD), Mexico NOM-018-STPS-2015

Issue date : 02/16/2026

Other information : None.

Full text of H-phrases	
H227	Combustible liquid

Abbreviations and acronyms	
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
Log Pow	Partition coefficient n-octanol/water (Log Pow)
N.O.S.	Not Otherwise Specified
TF	Technical function
TWA	Time Weighted Average

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Signature Manifest

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BloodStor® 100 Safety Data Sheet (NA)

Collaboration Step

Name/Signature	Title	Date	Meaning/Reason
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Department Approval

Name/Signature	Title	Date	Meaning/Reason
Matthew Selley (MSELLEY)	Director Aseptic Form & Fill	05 Mar 2026, 12:06:37 PM	Approved

Quality Approval

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Training Approval

Name/Signature	Title	Date	Meaning/Reason
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Document Control Approval

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Misti Long (MLONG)	QA Specialist I	06 Mar 2026, 12:47:42 PM	Approved

Notification

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Michele Haler (MHALER)	Quality Engineer	06 Mar 2026, 12:47:42 PM	Email Sent