



# SAFETY DATA SHEET

01706 - Dimethylsulphoxide (DMSO)

Revision Date 09-Jul-2021

Revision Number 3

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

### Product identifier

Product Name Dimethylsulphoxide (DMSO)

### Other means of identification

Catalog Number 01706  
UN/ID no. 1993  
Document Number DX20824  
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)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Flammable liquids	Category 4

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements



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## 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 CO<sub>2</sub>, 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)



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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance

Chemical name	CAS No.	Weight-%
dimethyl sulfoxide	67-68-5	100

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

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Get medical attention immediately if symptoms occur. Remove to fresh air.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	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.
<b>Self-protection of the first aider</b>	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 (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

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



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**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



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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. 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.



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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	No information available
Odor	No data available
Odor threshold	No data available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	16 -19 °C / 61 - 66 19 °F	
Boiling point / boiling range	189 °C / 372 °F	
Flash point	87 °C / 189 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	42 %(V)	
Lower flammability limit:	3.5 %(V)	
Vapor pressure	0.55 hPa (0.41 mmHg) at 20 °C (68 °F)	
Vapor density	2.70 - (Air = 1.0)	
Relative density	1.1 g/mL	
Water solubility	completely miscible	
Solubility in other solvents	No data available	None known
Partition coefficient	log Pow: -1.35	
Autoignition temperature	300 - 302 °C	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No information available	

### Other Information

Softening point	No information available
Molecular weight	78.13 g/mol
Molecular formula	C <sub>2</sub> H <sub>6</sub> OS
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

## 10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.



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<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Acid chlorides. Phosphorus halides. Strong reducing agents.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions: Carbon oxides, Sulphur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Irritating to eyes. Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).
<b>Skin contact</b>	Causes skin irritation. (based on components). Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	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

<b>Symptoms</b>	Redness. May cause redness and tearing of the eyes.
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### Numerical measures of toxicity

#### Acute toxicity

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

<b>ATEmix (oral)</b>	14,500.00 mg/kg
<b>ATEmix (dermal)</b>	40,000.00 mg/kg

<b>Unknown acute toxicity</b>	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)
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### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
dimethyl sulfoxide 67-68-5	= 14500 mg/kg ( Rat ) = 28300 mg/kg ( Rat )	= 40 g/kg ( Rat )	> 5.33 mg/L ( Rat ) 4 h

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

**Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.

Product Information

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.

Product Information

**Respiratory or skin sensitization** No information available.

Product Information

**Germ cell mutagenicity** No information available.

Product Information

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

Product Information

**Developmental toxicity** Developmental Toxicity - Mouse - Intraperitoneal Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

**STOT - single exposure** No information available.

Product Information

**STOT - repeated exposure** No information available.

Product Information

**Aspiration hazard** No information available.

**RTECS #** PV6210000

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical name	Product Information			
	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
dimethyl sulfoxide	EC50: 12350 -	LC50: >40g/L (96h,	-	EC50: =7000mg/L (24h,





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67-68-5	25500mg/L (96h, Skeletonema costatum)	Lepomis macrochirus) LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: =41.7g/L (96h, Cyprinus carpio) LC50: =34000mg/L (96h, Pimephales promelas)	Daphnia species)
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical name	Partition coefficient
dimethyl sulfoxide 67-68-5	-2.03

**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**

UN/ID no.	1993
Proper shipping name	Combustible liquid, n.o.s. (Dimethyl sulfoxide)
Hazard class	None
Packing Group	III

**TDG**

Not regulated

**MEX**

Not regulated

**ICAO (air)**

Not regulated



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<b><u>IATA</u></b>	Not regulated
<b><u>IMDG</u></b>	Not regulated
<b><u>RID</u></b>	Not regulated
<b><u>ADR</u></b>	Not regulated
<b><u>ADN</u></b>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

### **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**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	Yes
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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



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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.

### U.S. State Right-to-Know Regulations

#### **US State Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
dimethyl sulfoxide 67-68-5	X	-	-

### 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 09-Jul-2021

Revision Note No information available.

### Disclaimer

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**