

# Safety Data Sheet

Revision Date: 4/9/2019

## Section 1: Chemical Identification

### 1.1 Chemical Identification

**Product Name:** Sterile Filtered DMSO  
**Alternative Name:** Dimethyl sulfoxide, methylsulfinylmethane  
**Catalog Number:** D-361

### 1.2 Relevant Uses and Uses Advised Against

**Recommended use:** This product is not for use in humans. It is for research purposes only.

### 1.3 Supplier Contact Information

**Distributed by:** Gold Biotechnology, Inc.  
1328 Ashby Rd.  
St. Louis, MO 63132  
**Phone:** (314) 890-8778  
**Fax:** (314) 890-0503  
**Email:** [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)

### 1.4 Emergency Contact Information

**Emergency Phone:** (800)248-7609 (Monday-Friday, 9:00 a.m. – 5:00 p.m. CST)

## Section 2: Hazardous Information

### 2.1 GHS Classification

Flammable Liquid (Category 4)

### 2.2 GHS Label Elements, Including Precautionary statements



Warning

### 2.3 Hazard Statements

H227: Combustible liquid

### 2.4 Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P280: Wear protective gloves/protective clothing/eye protection/face protection

P370+378: In case of fire: Use ... for extinction

P403+235: Store in a well ventilated place. Keep cool

P501: Dispose of contents/container to an approved waste disposal plant

**Gold Biotechnology**

St. Louis, MO

**Ph:** (314)890-8778

**Web:** [www.goldbio.com](http://www.goldbio.com)

**Email:** [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)

### **2.5 OSHA Hazards**

Target Organ Effect, Combustible liquid

### **2.8 HMIS Classification**

Health Hazard:	0
Chronic Health Hazard:	*
Flammability:	2
Physical Hazards:	0

### **2.9 NFPA Rating**

Health Hazard:	0
Fire:	2
Reactivity Hazard:	0

## **Section 3: Composition/Information on Ingredients**

### **3.1 Composition**

<b>Identity:</b>	Sterile Filtered DMSO
<b>IUPAC:</b>	methylsulfinylmethane
<b>Synonyms:</b>	Dimethyl sulfoxide, Methyl sulfoxide, Dimethyl sulphoxide, methylsulfinylmethane
<b>CAS Number:</b>	67-68-5
<b>Molecular Formula:</b>	C <sub>2</sub> H <sub>6</sub> SO
<b>Molecular Weight:</b>	78.13 g/mol

## **Section 4: First Aid Measures**

### **4.1 Detailed First Aid Measures**

<b>Inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Skin:</b>	Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician.
<b>Eye:</b>	Immediately rinse out with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician.
<b>Ingestion:</b>	Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.
<b>Notes to Physician:</b>	Treat symptomatically and supportively.

### **4.2 Most Important Symptoms And Effects, Either Acute Or Delayed**

The most important known symptoms and effects are described in the labeling (see section 2). And /or in section 11.

### **4.3 Indication of immediate medical attention and special treatment needed**

Not available

## **Section 5: Fire Fighting Measures**

### **5.1 Conditions of flammability:**

Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

### **5.2 Suitable extinguishing media:**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.3 Specific hazards arising from the chemical**

During a fire, highly toxic gases may be generated by thermal decomposition or combustion – Carbon oxides, Sulfur oxides.

### **5.4 Specific protective actions for fire-fighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## **Section 6: Accidental Release Measures**

### **6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### **6.2 Environmental precautions:**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up:**

Soak up with absorbent material, discard.

## **Section 7: Handling and Storage**

### **7.1 Precautions for safe handling:**

Always wear personal protective equipment (PPE, see section 8).

### **7.2 Conditions for safe storage, including and incompatibilities:**

Keep container tightly closed.

Store desiccated at room temperature.

## **Section 8: Exposure Controls / Personal Protection**

### **8.1 Control Parameters:**

Contains no substances with occupational exposure limit values.

### **8.2: Appropriate engineering controls:**

Contains no substances with occupational exposure limit values.

### **8.3 Personal Protective Equipment (PPE):**

**Eye/Face Protection:** Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as

NIOSH (US) or EN 166(EU).

**Skin Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique - without touching outer surface of glove - to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Other Protective Clothing or Equipment:** Wear appropriate protective clothing to prevent exposure.

**Control Parameters - Workplace**

<b><u>Component:</u></b>	<b><u>CAS-No:</u></b>	<b><u>Value:</u></b>
Dimethyl sulfoxide	67-68-5	TWA

**Control**

<b><u>Parameters:</u></b>	<b><u>Basis:</u></b>
250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

## **Section 9: Physical and Chemical Properties**

### **9.1 General chemical and physical properties**

<b>Appearance:</b>	Clear colorless liquid
<b>Odor:</b>	Sulfurous
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Melting Point:</b>	18.4°C
<b>Freezing Point:</b>	Not Available
<b>Boiling Point/Range:</b>	189°C at 1,013 hPa
<b>Flash Point:</b>	192°C - closed cup - ASTM D 93
<b>Evaporation Rate:</b>	Not Available
<b>Lower Explosion Limit:</b>	3.5% (V)
<b>Upper Explosion Limit:</b>	42% (V)
<b>Vapor Pressure:</b>	0.55 hPa at 20°C / 4 hPa at 50°C
<b>Vapor Density:</b>	2.70 - (Air = 1.0)
<b>Relative Density:</b>	1.1 g/mL at 20°C

<b>Solubility:</b>	Water-soluble
<b>Partition Coefficient n-octanol/water:</b>	log Pow: -1.349
<b>Auto-Ignition Temperature:</b>	300-302°C
<b>Decomposition Temperature:</b>	>190°C
<b>Viscosity:</b>	Not Available

## **Section 10: Stability and Reactivity Data**

### **10.1 Reactivity:**

Not available

### **10.2 Chemical Stability:**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions:**

Not available.

### **10.4 Conditions to avoid:**

Heat, flames and sparks.

### **10.5 Incompatible materials:**

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents.

### **10.6 Hazardous decomposition products:**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulfur oxides.

## **Section 11: Toxicological Information**

### **11.1 Toxicological effects**

#### **Acute toxicity:**

Sterile Filtered DMSO	Oral:	LD <sub>50</sub> (Rat) = 14,500 mg/kg
Sterile Filtered DMSO	Skin:	LD <sub>50</sub> (Rabbit) = >5000 mg/kg
Sterile Filtered DMSO	Inhalation:	LD <sub>50</sub> (Rat) = 4h - 40250 ppm

#### **Skin corrosion/irritation:**

Mild skin irritation.

#### **Respiratory or skin sensitization:**

Not available.

**Germ cell mutagenicity:**

Mouse - lymphocyte - Cytogenetic analysis  
Mouse - lymphocyte - Mutation in mammalian somatic cells  
Rat - Cytogenetic analysis  
Mouse - DNA damage

**Carcinogenicity:**

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:**

Reproductive toxicity - rat - Intraperitoneal  
Effects on Fertility: Abortion.

Reproductive toxicity - rat - Intraperitoneal  
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - rat - Subcutaneous  
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

Reproductive toxicity - mouse - Oral  
Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).  
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).  
Specific Developmental Abnormalities: Musculoskeletal system.

**STOT-single exposure:**

Not available.

**STOT-repeated exposure:**

Not available.

**Aspiration hazard:**

Not available.

**Likely routes of exposure:**

Respiratory organs, mouth, skin, and eyes.

**Symptoms of exposure:**

Effects due to ingestion may include; Nausea, Fatigue, Headache. Exposure to large amounts can cause; redness of skin, Itching, burning, sedation, Headache, Nausea,

Dizziness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information:**

RTECS: PV6210000

Carcinogenicity (Rat) -Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages:

Other: Tumors.

Carcinogenicity (Mouse) -Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and

Appendages: Other: Tumors.

Eyes - Eye disease - Based on Human Evidence

## **Section 12: Ecological Information**

### **12.1 Toxicity:**

Toxicity to fish:

LC50 (*Pimephales promelas*) = 34000 mg/L - 96h

LC50 (*Oncorhynchus mykiss*) = 35000 mg/L - 96h

Toxicity to daphnia: EC50 (*Daphnia magna*) = 24600 mg/L – 48h (OECD Test Guideline 202)

Toxicity to algae: EC50 (*Pseudokirchneriella subcapitata*) = 17000 mg/L – 72h (OECD Test Guideline 201)

### **12.2 Persistence and degradability:**

Biodegradability

Result: 31%

According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D)

### **12.3 Bioaccumulative potential:**

Not available.

### **12.4 Mobility in soil:**

Not available.

### **12.5 Other adverse effects:**

Stability in water - 0.12 - 1.2 h at 30°C

Remarks: Hydrolyses readily.

## **Section 13 Disposal Considerations**

Dispose of product in accordance with local rules and regulations.

## **Section 14: Transport Information**

### **14.1 US Department of Transportation (DOT)**

UN Number: 1993

Proper shipping name: Combustible liquid, n.o.s (Dimethyl sulfoxide)

**Class:** CBL  
**Packing Group:** III  
**Marine Pollutant:** No

#### **14.2 International Maritime Dangerous Goods (IMDG):**

This material is considered to be non-hazardous for transport.

#### **14.2 International Air Transportation Association (IATA)**

This material is considered to be non-hazardous for transport.

### **Section 15: Regulatory Information**

#### **SARA 302 Components:**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components:**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards:**

Fire Hazard, Chronic Health Hazard

#### **Massachusetts Right To Know Components:**

Sterile Filtered DMSO

CAS - No.

67-68-5

#### **Pennsylvania Right To Know Components:**

Sterile Filtered DMSO

CAS - No.

67-68-5

#### **New Jersey Right To Know Components:**

Sterile Filtered DMSO

CAS - No.

67-68-5

#### **California Prop. 65 Components:**

This product does not contain any chemical known to the State of California to cause cancer, birth, or any other reproductive defects.

### **Section 16: Other Information**

While Gold Biotechnology, Inc. believes the information contained herein to be true and accurate, it has relied on information provided by others. Gold Biotechnology, INC. makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or with respect to the results to be obtained from the use of the product. Gold Biotechnology, Inc. disclaims all liability with respect to the use of this product, including without limitation, liability for injury to the user or third-party persons.

#### **Preparation Information**

Gold Biotechnology  
Content/Marketing Department  
(800) 248-7609  
Last updated: 4/9/2019

**Gold Biotechnology**  
St. Louis, MO  
Ph: (314)890-8778  
Web: [www.goldbio.com](http://www.goldbio.com)  
Email: [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)



