



## Material Safety Data Sheet

(Prepared according to 1907/2006/EC, Article 31)

Revision Date: 09-Nov-2018



### 1. IDENTIFICATION OF THE SUBSTANCE /COMPANY DETAILS

#### 1.1 Product Details:

**Trade Name: Dimethyl Sulfoxide (DMSO)**

**Catalog Number:**

BR0215-S

BR0215

BR0216

BR0218

#### **CANVAX BIOTECH, S.L.**



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#### **Toxicological Information Service:**

European emergency number: 112

Spain:

CHEMTREC 900-868538

CHEMTREC (Barcelona) +(34)-931768545

***For research use only. Not intended for diagnostic.***

### 2. CHEMICAL CHARACTERISATION

**CAS-No.:** 67-68-5

**EC-No.** 200-664-3

**Molecular Formula** C<sub>2</sub> H<sub>6</sub> O S

### 3. HAZARDS IDENTIFICATION

**Classification of substance or mixture**

Flammable liquids (Category 4), H227

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227

**Label elements and precautionary statements**

**Pictogram** : None



**Signal word** : Warning

**Hazard statement(s)**: H227 - Combustible liquid

**Precautionary statement(s)** : 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 dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

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

**Hazards not otherwise classified (HNOC) or not covered by GHS**

This product is rapidly absorbed through skin.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**If swallowed:** Rinse mouth with water; never give anything by mouth to an unconscious person; get medical attention.

**If inhaled:** Move person to fresh air; if person is not breathing, give artificial respiration; get medical attention

**In case of skin contact:** Wash off with soap and plenty of water; remove contaminated clothes; get medical attention

**In case of eye contact:** Rinse immediately with plenty of water for at least 15 min; remove contact lenses if present and easy-to-do; get medical attention.

**General advice:** Get medical attention; show this data sheet to the doctor in attendance

### 4.2 Most important symptoms and effects, both acute and delayed

Not applicable

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

None

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media: Water spray, alcohol-resistant foam, dry chemical, and carbon dioxide extinguishers are suitable.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, sulfur oxides.

### 5.3 Advice for fire fighters

Standard procedure for chemical fires

## 6. ACCIDENTAL RELEASE MEASURES

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

Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment.

### 6.2 Environmental precautions

No special environmental precautions required

### 6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material; keep container tightly closed for disposal.

## 7. HANDLING AND STORAGE



## 7.1 Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary

## 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions** : Store upright, closed container in arid, ventilated environment.

**Incompatible materials** : Acid chlorides, phosphorus, strong acids, strong oxidizing agents, and strong reducing agents are incompatible with this product.

## 7.3 Specific end use(s)

For research use only.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Exposure Limits** Contains no substances with occupational exposure limit values.

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

### 8.2 Exposure controls

#### Personal protective equipment

**Eye/face protection**: Wear safety goggles (EN 166).

**Skin protection**: Use proper lab gloves; gloves must be inspected prior to use.

**Body Protection**: Wear lab coat or other impervious clothes; type of protection equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**: In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : Clear, colorless

**Physical states** : Liquid

**Odor** : Sulfurous

**Odor threshold** : Not available

**Melting point** : 16-19°C

**Boiling point range** : 189°C

**pH** : Not available

**Density** : Not available

**Flash point** : 87°C - closed cup

**Evaporation rate** : Not available

**Flammability** : Not available

**Upper/lower flammability or explosive limits**:: Upper explosion limit: 42 %(V)

**Lower explosion limit**: 3.5 %(V)

**Vapor pressure** : 0.55 hPa @ 20°C 4 hPa @ 50°C

**Vapor density** : 2.70 - (Air = 1.0)

**Relative density** : 1.1 g/mL

**Water solubility** : Completely Miscible

**Partition coefficient:n-octanol/water** : log Pow: -1.349

**Autoignition temperature** : 300-302°C

**Decomposition temperature** : > 190°C

**Kinematic viscosity** : Not available

**Explosive properties** : Not explosive

**Oxidizing properties** : The substance or mixture is not classified as oxidizing.

**Solubility in other solvents** : Alcohol - soluble; Diethylether - soluble



Surface tension : 43.5 mN/m @ 20°C

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

None known.

### 10.2 Chemical stability

Stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

Hazardous reaction has not been reported.

### 10.4 Incompatible materials

Acid chlorides, phosphorus, strong acids, strong oxidizing agents, and strong reducing agents are incompatible with this product.

### 10.5 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

**LD50/LC50:**

**CAS# 67-68-5:**

**Draize test, rabbit, eye:** 100 mg;

**Draize test, rabbit, eye:** 500 mg/24H Mild;

**Draize test, rabbit, skin:** 500 mg/24H Mild;

**Oral, mouse:** LD50 = 7920 mg/kg;

**Oral, rat:** LD50 = 14500 mg/kg;

**Skin, rat:** LD50 = 40 gm/kg;<BR.

**Carcinogenicity:**

**CAS# 67-68-5:** Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Neurotoxicity:** No information available.

**Mutagenicity:** No information available.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Aquatic: Dimethyl sulfoxide disproportionate in water to dimethyl sulfide and dimethyl sulfone, a reaction catalyzed by light.

### 12.2 Persistence and degradability

Exists primarily in the vapor phase and be removed by both wet and dry deposition. It will react with photochemically-produced hydroxyl radicals with a half-life of about 7 hr. DMSO is very difficult to biodegrade.

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

Expected to be mobile in soil, due to its high-water solubility. Some volatilization from dry soil and surfaces may be expected.



## 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## 12.6 Other adverse effects

No data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. Offer surplus and non-recyclable solutions to a licensed disposal company.

No mixing with other waste.

Contaminated packaging: dispose of as unused product

## 14. TRANSPORT INFORMATION

### IATA / ADR / DOT-US / IMDG

Not regulated.

### 14.1 UN-number

Not regulated.

### 14.2 UN proper shipping name

Not regulated.

### 14.3 Transport hazard class(es)

Not regulated.

### 14.4 Packaging group

Not regulated.

### 14.5 Environmental hazards

No hazards identified

### 14.6 Special precautions for user

No special precautions required

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

## 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

### Substances of Very High Concern

None.

### Restricted substances under EC 1907/2006, Annex XVII

None.

### Substances listed under Annex I of Regulation (EC) No 689/2008

None.

### Restricted substances under Annex V of Regulation (EC) No 689/2008

None.

### Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

None.

### German Water hazard classes (Wassergefährdungsklassen)

Not classified.



## Other International Inventories

No information available

## Chemical Safety Assessment

No Chemical safety assessment has been carried out.

## Safety, health and environmental regulations/legislation specific for the substance or mixture

### EU regulations

|   |                              |
|---|------------------------------|
| Major Accident Hazard Legislation                                       | SEVESO III<br>Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | not regulated                |

|   |               |
|---|---------------|
| Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC | not regulated |
|---|---------------|

|  |  |
|--|--|
| Substances of very high concern (SVHC) | This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w). |
|--|--|

### National legislation

|         |               |
|---------|---------------|
| Storage | class 10 - 13 |
|---------|---------------|

*The above information is believed to be accurate, but does not purport to be all inclusive and shall be used only as a guide. **Canvax Biotech** makes no warranty, express or implied, and assumes no responsibility as to the accuracy or suitability of such information or application to the User's intended purpose or for consequences of its use. The Users should make independent decisions regarding the completeness of information based on all sources available.*