

## SAFETY DATA SHEET

---

### SECTION 1: PRODUCT AND COMPANY INFORMATION

**Product name:** Component J2

**Contact:**

Elixirgen Scientific, Inc.  
855 N. Wolfe St., Suite 619  
Baltimore, MD 21205  
Phone: 443-869-5420  
www.elixirgenscientific.com

---

### SECTION 2: HAZARD IDENTIFICATION

**GHS classification of the substance/mixture:**

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

Flammable liquids (Category 4), H227

For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS label elements, including 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 + P378                      In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P235                      Store in a well-ventilated place. Keep cool.  
P501                              Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in the classification or are not covered by the GHS:**

None.

---

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS SUBSTANCE

**Hazardous components**

| <b>component</b>   | <b>Classification</b> | <b>Concentration</b> |
|--------------------|-----------------------|----------------------|
| Dimethyl sulfoxide | Flam. Liq. 4; H227    | <= 100 %             |

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

## **SECTION 4: FIRST AID MEASURES**

### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

### **In case of eye contact**

Flush eyes with water as a precaution.

### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available.

---

## **SECTION 5: FIRE-FIGHTING MEASURES**

### **Suitable extinguishing media:**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

### **Specific hazards arising from the substance or mixture:**

Carbon oxides, Sulphur oxides.

### **Special protective equipment and precautions for firefighters:**

Wear self-contained breathing apparatus for firefighting if necessary.

---

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

### **Environmental precautions:**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

### **Reference to other sections**

For disposal see section 13.

---

## **SECTION 7: HANDLING AND STORAGE**

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

Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

### **Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a dry and well-ventilated place.

### **Specific end uses:**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters:**

#### **Components with workplace control parameters**

Components with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|-------|--------------------|-------|
|           |         |       |                    |       |

|                    |         |     |                |   |
|--------------------|---------|-----|----------------|---|
| Dimethyl sulfoxide | 67-68-5 | TWA | 250.000000 ppm | USA. Workplace Environmental Exposure Levels (WEEL) |
|--------------------|---------|-----|----------------|---|

## Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment:

|                   |  |
|-------------------|--|
| Respiratory:      | In case of insufficient ventilation wear suitable respiratory equipment. |
| Eyes:             | Safety goggles or splash guard safety glasses.                           |
| Body:             | Lab coat and gloves.   |
| Hygiene measures: | Handle in accordance with good industrial hygiene and safety practice.   |

---

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

|   |   |
|---|---|
| Appearance:                                   | Form: liquid, clear<br>Color: colorless                           |
| Odor:   | No data available.  |
| Odor threshold:                               | No data available.  |
| pH:   | No data available.  |
| Melting point/freezing point:                 | Melting point/range: 16 - 19 °C (61 - 66 °F)                      |
| Initial boiling point and boiling range:      | 189 °C (372 °F)   |
| Flash point:                                  | 87 °C (189 °F) - closed cup                                       |
| Evaporation rate:                             | No data available.  |
| Flammability (solid, gas):                    | No data available.  |
| Upper/lower flammability or explosive limits: | Upper explosion limit: 42 %(V)<br>Lower explosion 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(ies):                        | completely miscible   |
| Partition coefficient: n-octanol/water:       | log Pow: -2.03  |
| Auto-ignition temperature:                    | No data available.  |
| Decomposition temperature:                    | No data available.  |
| Viscosity:                                    | No data available.  |
| Explosive properties:                         | No data available.  |
| Oxidizing properties:                         | No data available.  |

### Other safety information

Relative vapour density 2.70 - (Air = 1.0)

---

## SECTION 10: STABILITY AND REACTIVITY

|                                     |  |
|-------------------------------------|--|
| Reactivity:                         | No data available.   |
| Chemical stability:                 | Stable under recommended storage conditions.   |
| Possibility of hazardous reactions: | No data available.   |
| Conditions to avoid:                | Heat, flames, and sparks.  |
| Incompatible materials:             | Acid chlorides, Phosphorus halides, Strong acids/alkalis, Strong oxidizing/reducing agents |
| Hazardous decomposition products:   | Other decomposition products - No data available<br>In the event of fire: see section 5    |

---

## SECTION 11: TOXICOLOGICAL INFORMATION

### **Acute toxicity:**

#### Dimethyl sulfoxide

LD50 Oral - Rat - 14,500 mg/kg

LC50 Inhalation - Rat - 4 h - 40250 ppm

LD50 Dermal - Rabbit - > 5,000 mg/kg

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

No data available.

### **Serious eye damage/eye irritation:**

No data available.

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

No data available.

### **Germ cell mutagenicity**

#### Dimethyl sulfoxide

Mouse

lymphocyte

Cytogenetic analysis

Mouse

lymphocyte

Mutation in mammalian somatic cells.

**Rat**

Cytogenetic analysis

Mouse

DNA damage

### **Carcinogenicity**

#### Dimethyl sulfoxide

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.

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 a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated 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**

#### Dimethyl sulfoxide

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.

Developmental Toxicity - Mouse - Intraperitoneal

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**Dimethyl sulfoxide

RTECS: PV6210000

Exposure may cause irritation of eyes, mucous membranes, upper respiratory tract and skin.

Effects due to ingestion may include: Nausea, Fatigue, Headache

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

Eyes - Eye disease - Based on Human Evidence

---

**SECTION 12: ECOLOGICAL INFORMATION****Toxicity:**Dimethyl sulfoxide

|   |   |
|---|---|
| Toxicity to fish                                    | LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h<br>LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h<br>(OECD Test Guideline 202)   |
| Toxicity to algae                                   | EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h<br>(OECD Test Guideline 201)                              |

**Persistence and degradability**Dimethyl sulfoxide

|                  |   |
|------------------|---|
| Biodegradability | Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable.<br>(OECD Test Guideline 301D) |
|------------------|---|

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other adverse effects**

May be harmful to the aquatic environment.

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

---

## **SECTION 13: DISPOSAL INFORMATION**

### **Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

### **Contaminated packaging**

Dispose of as unused product.

---

## **SECTION 14: TRANSPORT INFORMATION**

### **DOT (US)**

NA-Number: 1993 Class: NONE Packing group: III

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

Poison Inhalation Hazard: No

### **IMDG**

Not dangerous goods.

### **IATA**

Not dangerous goods.

---

## **SECTION 15: REGULATORY INFORMATION**

### **US Federal Regulations:**

#### **SARA 302 Components.**

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

#### **SARA 313 Components**

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**

No SARA Hazards

### **US State regulations:**

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

No components are subject to the Massachusetts Right to Know Act.

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

CAS-No.



Dimethyl sulfoxide

67-68-5

**New Jersey Right To Know Components**

Dimethyl sulfoxide

CAS-No.  
67-68-5

**California Prop. 65 Components**

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

---

**SECTION 16: OTHER INFORMATION**

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 0 |
| Chronic Health Hazard: |   |
| Flammability:          | 2 |
| Physical Hazard:       | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 0 |
| Fire Hazard:       | 2 |
| Reactivity Hazard: | 0 |

**Other comments:**

The information provided herein is based on sources believed to be reliable as of 12/14/2017 and pertains only to the material designated. Elixirgen Scientific, Inc. makes no warranty or representation to its completeness, accuracy, or currency, and assumes no liability resulting from its use. This material is intended for use by persons with pertinent technical skills for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subjected to federal, state or local laws or regulations.

**Restriction of use:** For research use only.