1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Dimethyl sulfoxide
Product Number: 08418
Brand: Sigma
Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: DMSO
Formula: C2H6OS
Molecular Weight: 78.13 g/mol
CAS-No. 67-68-5
EC-No. 200-664-3
Index-No. -
Concentration % -

3. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Combustible Liquid
Delayed target organ effects
Mild skin irritant
Mild eye irritant
Target Organ
Eyes; Skin
HMIS Classification
Health Hazard: 1
Chronic Health Hazard: *
Flammability: 2
Physical hazard: 0
NFPA Rating
Health Hazard: 1
Fire: 2
Reactivity Hazard: 0

4. FIRST AID MEASURES

General advice
Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Flammable properties
Flash point: 87 °C (189 °F) - closed cup
Ignition temperature: 301 °C (574 °F)
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid breathing vapors, mist or gas.
Environmental precautions
Do not let product enter drains.
Methods for cleaning up
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Keep away from sources of ignition. No smoking. Take measures to prevent the build-up of electrostatic charge.
Storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
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</tr>
<tr>
<td>Form</td>
<td>liquid, clear</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
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<tr>
<td><strong>Safety data</strong></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>16.4 °C (61.1 °F)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>189 °C (372 °F) at 1,013 hPa (760 mmHg)</td>
</tr>
<tr>
<td>Flash point</td>
<td>87 °C (189 °F) - closed cup</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>301 °C (574 °F)</td>
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<tr>
<td>Lower explosion limit</td>
<td>2.5 % (V)</td>
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<tr>
<td>Upper explosion limit</td>
<td>42 % (V)</td>
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<tr>
<td>Vapour pressure</td>
<td>0.55 hPa (0.41 mmHg) at 20 °C (68 °F)</td>
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<tr>
<td>Density</td>
<td>1.1 g/cm³</td>
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<tr>
<td>Water solubility</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>log Pow: 2.03</td>
</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
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</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

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

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. Carbon oxides, Sulphur oxides.

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

LD₅₀ Oral - rat: 3,300 mg/kg
LC₅₀ Inhalation - rat: 4 h - 40250 ppm
LD₅₀ Dermal - rabbit: > 5,000 mg/kg

**Irritation and corrosion**

Skin - rabbit: Mild skin irritation - 24 h
Eyes - rabbit: Mild eye irritation

**Sensitization**

No data available

### 12. ECOLOGICAL INFORMATION

**Elimination information (persistence and degradability)**

No data available

**Ecotoxicity effects**

- Toxicity to fish: LC₅₀ - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h
- LC₅₀ - Oncorhyncus mykiss (rainbow trout) - 35,000 mg/l - 96 h
- Toxicity to daphnia and other aquatic invertebrates: EC₅₀ - Daphnia pulex (Water flea) - 27,500 mg/l
- Toxicity to algae: EC₅₀ - Leponia marcochirius (Bluegill) - > 400,000 mg/l - 96 h

**Further information on ecology**

No data available

### 13. DISPOSAL CONSIDERATIONS

**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

**DOT (US)**

UN-No: 1993 Class: CBL Packing group: III

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

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 15. REGULATORY INFORMATION

**OSHA Hazards**

Combustible liquid, Delayed target organ effects, Mild skin irritant, Mild eye irritant

Sigma-Aldrich Corporation
www.sigma-aldrich.com
TSCA Status
On TSCA Inventory

DSL Status
All components of this product are on the Canadian DSL list.

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, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
No Components Listed

Pennsylvania Right To Know Components
<table>
<thead>
<tr>
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<th>CAS-No.</th>
<th>Revision Date</th>
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New Jersey Right To Know Components
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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information
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