

**EPICENTRE TECHNOLOGIES**  
**726 Post Road, MADISON WI 53713**  
**Tel: 608-258-3080 or 800-284-8474**

## MATERIAL SAFETY DATA SHEET

Prepared 9/12/02

### Section I: Product Identification

**Product:** DMSO; a component of catalog numbers C901ML, C902ML, and C905ML

### Section II: Hazardous Ingredients

<u>Component</u>	<u>CAS No</u>	<u>% Wt</u>
Dimethyl sulfoxide (DMSO)	67-68-5	10 %

### Section III: Physical data

**Chemical Formula:** (CH<sub>3</sub>)<sub>2</sub>SO

**Molecular Weight:** 78.13

**Boiling Point:** 189°C

**Vapor Pressure (mm Hg):** 0.37 mm

**Vapor Density (air = 1):** not available

**Solubility in water:** Miscible

**Appearance and odor:** Clear, very viscous, colorless liquid. Slightly bitter taste with sweet aftertaste.

**Specific Gravity:** 1.100

**Melting Pt.:** 18.45°C

**Evaporation Rate (butyl acetate =1):** not available

### Section IV: Fire and Explosion Data

**Flash Point (method used):** 203°C (oc)

**Flammable limits (method used)**

**Autoignitions point:** 419°F **LEL:** 2.6% **UEL:** 28.5%

**Extinguishing Media:** water, alcohol foam, carbon dioxide, dry chemical

**Special fighting Procedures:** Wear full protective equipment, including a self-contained breathing apparatus.

**Unusual fire or explosion hazards:** Emits toxic fumes when heated to decomposition. Can react with oxidizing agents.

### Section VI: Reactivity Data

**Stability:** stable under normal conditions

**Conditions to avoid:** Heat, oxidants

**Incompatibility (materials to avoid):** acetyl chloride; benzenesulfonyl chloride; benzyl chloride; *p*-bromobenzyl acetamide; cyanuric chloride; iodine; pentafluoride; magnesium perchlorate; methyl bromide; perchloric acid; periodic acid; phenyl chloride; phosphorous oxychloride; silver fluoride; sodium hydroxide. Can react with oxidizing agents.

**Hazardous decomposition products:** Emits toxic fumes when heated to decomposition.

**Hazardous polymerization:** Will not occur under normal conditions

**Routes of entry:** contact, inhalation, ingestion.

Freely penetrates skin and acts as a primary irritant on skin causing redness, burning, itching and scaling. Also causes utecaria.

**Health hazards:**

Has caused corneal clouding in experimental animals.

**Toxicity Data**

**Threshold limit value (TLV/TWA):** not available

**LD<sub>50</sub> (oral in rat):** 17,500 mg/kg

**LD<sub>50</sub> (ipr in rat):** 8 gm/kg

**Carcinogenicity:** No

**Signs and symptoms of overexposure:** Systemic symptoms: nausea, vomiting, chills, cramps and lethargy.

**Medical conditions aggravated by exposure:** None known

**Emergency and first procedures:**

**Eyes:** flush with copious water for at least 15 minutes and get medical attention.

**Skin:** flush with copious water followed by thorough soap and water washes. If any adverse signs or symptoms appear, get medical attention.

**Inhalation:** Remove from exposure into fresh air. If not breathing, give artificial respiration. Rest and keep warm. If any adverse signs or symptoms appear, get medical attention.

**Ingestion:** Flush mouth with water, insuring rinse is not swallowed. Give water (1/2 pint) to drink to dilute in stomach and get medical attentions.

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## Section VII: Precautions for Safe Handling

**Spill/Release Information:**

Wear appropriate protective clothing. Dike material with a suitable inert absorbent. Place in waste container. Avoid contact with skin and eyes.

**Waste Disposal Method:**

Dispose of material in accordance with appropriate federal, state and local laws. Depending on size of spill and degree of hazard it may be possible to dispose in drain with excess water. Scrub area of spill thoroughly with soap and water, rinse with plenty of water to drain.

**Precautions to be taken in handling and storing:**

Store in a freezer without a defrost cycle at  $-20^{\circ}\text{C}$ . To protect material, store away from oxidizing materials.

**Other Precautions:**

Instruct others to keep at a safe distance.

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## Section VIII: Control Measures

**Respiratory Protection:** Use appropriate respiratory protection approved by NIOSH.

**Ventilation:** Mechanical (general) or local exhaust as needed.

**Protective gloves:** Yes

**Eye protection:** Yes

**Other protective clothing or Equipment:** Wear a lab coat at all times. Have access to safety shower and eye wash.

**Work/Hygienic practices:** Avoid contact with eyes skin and clothing. Wash thoroughly after handling. Pregnant women or children of child-bearing age should take minimize contact and exposure to 2X Transformation and Storage Solution.

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**EPICENTRE TECHNOLOGIES**

726 Post Road  
 Madison, WI 53713  
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**MATERIAL SAFETY DATA SHEET**

Prepared 9/12/02

**Section I: Product Identification**

**Product:** Polyethylene glycol; a component of catalog numbers C901ML, C902ML, and C905ML

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**Section II: Hazardous Ingredients**

<u>Component</u>	<u>CAS No</u>	<u>% Wt</u>
Polyethylene glycol (PEG)	25322-68-3	20%

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**Section III: Physical data**

**Chemical Formula:** Liquid polymer of general formula  $H(OCH_2CH_2)_nOH$ , where  $158 < n < 204$ .

**Molecular Weight:** 8,000 (average)

**Boiling Point:** N/A

**Vapor Pressure (mm Hg):** < .01 mm @ 20°C

**Vapor Density (air = 1):** > 1

**Solubility in water:** soluble.

**Appearance and odor:** clear, odorless

**Specific Gravity:** 1.027

**Melting Pt.:** N/A

**Evaporation Rate (butyl acetate =1):**

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**Section IV: Fire and Explosion Data**

**Flash Point (method used):** N/A

**Flammable limits (method used)**

**Autoignitions point:** 581°F **LEL:** N/A **UEL:** N/A

**Extinguishing Media:** Water spray, dry chemical powder, alcohol or polymer foam.

**Special fighting Procedures:** Wear full protective equipment, including a self-contained breathing apparatus.

**Unusual fire or explosion hazards:** Emits toxic fumes when heated to decomposition. Can react with oxidizing agents.

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**Section VI: Reactivity Data**

**Stability:** stable

**Conditions to avoid:** N/A

**Incompatibility (materials to avoid):** Strong oxidizing agents

**Hazardous decomposition products:** carbon monoxide and carbon dioxide

**Hazardous polymerization:** N/A

## Section VI: Health Hazard Data

**Routes of entry:** May be harmful by inhalation, ingestion or skin absorption.

**Health hazards:** RTECS # TQ3500000. Only selected RTECS (Registry of Toxic Effects of Chemical Substances) data is presented here. See actual entry in RTECS for complete information.

### Toxicity Data

**Threshold limit value (TLV/TWA):** N/A

**LD<sub>50</sub> (oral in rat):** > 50 g/kg

**LD<sub>50</sub> (ipr in rat):** N/A

### Irritation data:

Skin (rabbit) 500 mg/24 hr mld

Eye (rabbit) 500 mg/24 hr mld

**Carcinogenicity:** N/A

**Signs and symptoms of overexposure:** skin and eye irritation.

**Medical conditions aggravated by exposure:** N/A

### Emergency and first procedures:

**Eyes:** flush with copious water for at least 15 minutes and get medical attention.

**Skin:** flush with copious water followed by thorough soap and water washes. If any adverse signs or symptoms appear, get medical attention.

**Inhalation:** Remove from exposure into fresh air. If not breathing, give artificial respiration. Rest and keep warm. If any adverse signs or symptoms appear, get medical attention.

**Ingestion:** Flush mouth with water, insuring rinse is not swallowed. Give water (1/2 pint) to drink to dilute in stomach and get medical attentions.

## Section VII: Precautions for Safe Handling

### Spill/Release Information:

Wear appropriate protective clothing. Dike material with a suitable inert absorbent. Place in waste container. Avoid contact with skin and eyes.

### Waste Disposal Method:

Dispose of material in accordance with appropriate federal, state and local laws. Depending on size of spill and degree of hazard it may be possible to dispose in drain with excess water. Scrub area of spill thoroughly with soap and water, rinse with plenty of water to drain.

### Precautions to be taken in handling and storing:

Keep tightly closed. Store in a freezer without a defrost cycle at  $-20^{\circ}\text{C}$ . To protect material, store away from oxidizing materials.

### Other Precautions:

Instruct others to keep at a safe distance.  
PEG may have solvent action on some plastics.

## Section VIII: Control Measures

**Respiratory Protection:** Use appropriate respiratory protection approved by NIOSH.

**Ventilation:** Mechanical (general) or local exhaust as needed. Do not breathe dry residue.

**Protective gloves:** Yes

**Eye protection:** Yes

**Other protective clothing or Equipment:** Wear a lab coat at all times. Have access to safety shower and eye wash.

**Work/Hygienic practices:** Avoid contact with eyes skin and clothing. Wash thoroughly after handling. Pregnant women or children of child-bearing age should take minimize contact and exposure to 2X Transformation and Storage Solution.

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