

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier**

**Product Name** DMSO - Dimethyl sulfoxide  
**Product Code** 25-950

**Other means of identification**

**Chemical Name** Dimethylsulfoxide  
**Synonyms** DMSO  
**Formula** C<sub>2</sub>H<sub>6</sub>OS  
**Pure substance/mixture** Substance

**Recommended use of the chemical and restrictions on use**

**Recommended Use** For Research Use Only. Not Intended for Diagnostic or Therapeutic Use

**Details of the supplier of the safety data sheet**

**Company Name** Mediatech Inc., A Corning Subsidiary  
9345 Discovery Blvd.  
Manassas, VA 20109  
USA  
+1.703.471.5955

**E-mail address** ScientificSupport@corning.com

**Emergency telephone number**

Chemtrec +1-800-424-9300 (USA), +1-703-527-3887 (International; call collect)

**2. HAZARDS IDENTIFICATION****Classification**

Flammable liquids	Category 4
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**Label elements**

**Signal word** Warning

**Hazard statements** H227 - Combustible liquid

**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 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P403 + P235 - Store in a well-ventilated place. Keep cool  
P501 - Dispose of contents/container to industrial incineration plant

**Hazards not otherwise classified (HNOC)**

Dimethylsulfoxide freely penetrates the skin and may carry dissolved chemicals into the body

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substances**

**Chemical Name** Dimethylsulfoxide  
**Synonyms** DMSO  
**Molecular weight** 78.13  
**EC No** 200-664-3  
**Formula** C<sub>2</sub>H<sub>6</sub>OS

Chemical Name	CAS No	Weight-%
Dimethyl sulfoxide	67-68-5	95-100

#### 4. FIRST AID MEASURES

##### First aid measures

###### **Inhalation**

Move to fresh air in case of accidental inhalation of vapors or decomposition products. If not breathing, give artificial respiration. Call a physician.

###### **Skin Contact**

Dimethylsulfoxide freely penetrates the skin and may carry dissolved chemicals into the body. Wash off immediately with soap and plenty of water. Call a physician.

###### **Eye contact**

Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing.

###### **Ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Do NOT induce vomiting.

###### **Self-protection of the first aider**

Use personal protective equipment as required.

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

###### **Symptoms**

See Section 11: TOXICOLOGICAL INFORMATION.

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

###### **Note to physicians**

Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Unsuitable extinguishing media** No information available.

##### Specific hazards arising from the chemical

Keep product and empty container away from heat and sources of ignition. Risk of ignition.

###### **Hazardous combustion products**

Carbon oxides. Oxides of sulfur.

##### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### 6. ACCIDENTAL RELEASE MEASURES

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

Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Vapors heavier than air. Development of hazardous combustion gases or vapors possible in the event of fire. Use personal protection recommended in Section 8. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists

##### Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

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

Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges.

#### 7. HANDLING AND STORAGE

##### Precautions for safe handling

Use with local exhaust ventilation. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use personal protective equipment as required.

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

<b>Storage Conditions</b>	Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Hygroscopic. Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong acids. Strong reducing agents. Acid chlorides.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters**

##### **Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Dimethyl sulfoxide	-	250	-

#### **Appropriate engineering controls**

<b>Engineering Controls</b>	Showers Eyewash stations Ventilation systems.
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#### **Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand Protection</b>	Wear protective nitrile rubber gloves. The glove material must be impervious and resistant to the product.
<b>Skin and body protection</b>	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Recommended Filter type:</b>	Multi-purpose combination (US); ABEK (EN 14387).

**General Hygiene Considerations** When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Wash hands thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### **Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	Sulphurous
<b>Appearance</b>	clear	<b>Odor threshold</b>	No information available
<b>Color</b>	colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No information available	
<b>Melting point/freezing point</b>	16-19 °C / 61-66 °F	
<b>Boiling point / boiling range</b>	189 °C 372 °F	
<b>Flash point</b>	87 °C / 189 °F	
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit</b>	No information available	
<b>Vapor pressure</b>	0.55 hPa (0.41 mmHg) at 20 °C (68 °F)	
<b>Vapor density</b>	2.70	
<b>Specific Gravity</b>	1.1 g/mL	
<b>Water solubility</b>	Miscible in water	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	log Pow: -1.349	
<b>Autoignition temperature</b>	300 - 302 °C (572 - 576 °F)	

<b>Decomposition temperature</b>	> 190°C (> 374°F)
<b>Kinematic viscosity</b>	No information available
<b>Dynamic viscosity</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Explosive properties</b>	No information available
<b>Molecular weight</b>	78.13

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Heat, flames and sparks. Hygroscopic. Keep cool. Protect from sunlight.

### Incompatible materials

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

### Hazardous Decomposition Products

#### **Hazardous combustion products**

Carbon oxides. Oxides of sulfur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Dimethyl sulfoxide	= 14500 mg/kg ( Rat )	= 40 g/kg ( Rat )	-

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Mild skin irritation.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP
<b>Reproductive toxicity</b>	No information available.
<b>Developmental Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

### Potential health effects

<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes.
<b>Skin</b>	May cause irritation.
<b>Eyes</b>	May cause irritation.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Dimethyl sulfoxide	12350 - 25500: 96 h Skeletonema costatum mg/L EC50	33 - 37: 96 h Oncorhynchus mykiss g/L LC50 static 34000: 96 h Pimephales promelas mg/L LC50 41.7: 96 h Cyprinus carpio g/L LC50 40: 96 h Lepomis macrochirus g/L LC50 static	-	7000: 24 h Daphnia species mg/L EC50

**Persistence and degradability**

Not readily biodegradable.

**Bioaccumulation**

Chemical Name	Partition coefficient
Dimethyl sulfoxide	log Kow = -2.03

**Mobility in soil**

No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION****DOT**

<b>UN/ID No.</b>	NA1993
<b>Proper shipping name</b>	Combustible liquid, n.o.s. (Dimethyl sulfoxide)
<b>Hazard Class</b>	Combustible liquid
<b>Packing Group</b>	III
<b>Special Provisions</b>	IB3, T1, T4, TP1
<b>Description</b>	NA1993, Combustible liquid, n.o.s. (Dimethyl sulfoxide), III
<b>Emergency Response Guide Number</b>	128
<b>Exception for shipment</b>	Not regulated for shipping if in non-bulk packaging and is not a hazardous substance, a hazardous waste, or a marine pollutant.

**IATA**

Not regulated

**IMDG**

Not regulated

**15. REGULATORY INFORMATION**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Dimethyl sulfoxide	X	X	-	X	-	X	X	X	X	X

*Legend* X = Listed, - = Not Listed**US Federal Regulations**

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Fire hazard Yes

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Dimethyl sulfoxide (CAS #: 67-68-5)	X	-	X

**16. OTHER INFORMATION****Version 1****Revision Date**

14-Jun-2016

**Revision Note**

Not Applicable

**Disclaimer**

To the best of our knowledge, the information contained herein is accurate. However, neither Corning Incorporated nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**End of Safety Data Sheet**