

CrownZellerbach
Chemical Products Division



DIMETHYL SULFOXIDE

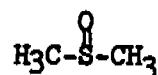
Regulatory Agency Information
TSCA - DOT - OSHA

P.O. Box 4266
Vancouver (Orchards), Washington 98662

326-19

July, 1977

PRODUCT INFORMATION BULLETIN



DIMETHYL SULFOXIDE; DMSO

Toxic Substances Control Act Registration

CAS Name: Methane, Sulfinylbis

CAS Registry Number: 67-68-5

Department of Transportation Regulation

DOT Hazardous Materials Regulations 49 CFR

Hazard Class: Combustible Liquid

Proper Shipping Name: Combustible Liquid, NOS
(Dimethyl Sulfoxide)

Shipping Classification: Combustible Liquid

SL 049736

MATERIAL SAFETY DATA SHEET

SECTION I

Chemical Name DIMETHYL SULFOXIDE; SULFINYLBIETHANE	Crown Zellerbach Corporation Chemical Products Division P. O. Box 4266 Vancouver, (Orchards) WA 98662 Phone (206) 254-0924
Synonyms METHYL SULFOXIDE, DMSO	
Tradename DMSO, DIMETHYL SULFOXIDE	
Chemical Family ALIPHATIC SULFOXIDE	
Formula $\text{H}_3\text{C}-\overset{\text{O}}{\underset{\text{ }}{\text{S}}}-\text{CH}_3$; $\text{C}_2\text{H}_6\text{OS}$	

SECTION II - N.A.

SECTION III - PHYSICAL DATA

Boiling Point	189 °C 372 °F	Melting Point	18.5 °C 65.3 °F
Vapor Pressure (20°C.)	0.46 mm Hg	Specific Gravity (H ₂ O = 1)	1.1014 (9.18 lbs/gal)
Vapor Density (Air = 1)	2.7	Evaporation Rate (= 1)	
Solubility in Water % by Weight	Miscible in all proportions	Molecular Weight	78.13
Solubility in Other Solvents	Soluble in most common organic solvents except paraffinic hydrocarbons.		
Appearance and Odor	Colorless liquid; mild, characteristic odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) (CC)	89 °C 192 °F	Autoignition Temp.	300-) °C 572-) °F 302) 575)
Flammable Limits in Air (% by Vol.)		Lower 3-3.5%	Upper 42-63%
Extinguishing Media	Water, foam, fog, dry chemical, CO ₂		
Special Fire Fighting Procedures	N.A.		
Unusual Fire Hazards	SO ₂ is in combustion gases		

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value (TLV)	Not established	LD50 Oral(rats): 17,400-28,300 mg/kg; Dermal(rats): 40,000 mg/kg; (monkey) >11,000 mg/kg.
Eye Irritation		Skin Irritation Slight
Other		
Effects of Over Exposure	Not Known	SL 049737

Equivalent in Content to OSHA-20

SECTION V - HEALTH HAZARD DATA (Cont'd)	
Eye Contact	Wash thoroughly with running water.
Skin Contact	Wash thoroughly with running water.
Inhalation	Avoid breathing a spray or mist of DMSO or a high concentration of vapors.
Ingestion	

SECTION VI - REACTIVITY DATA				
Stability (Thermal Light (Etc.))	Stable	X	Conditions to Avoid	Prolonged heating above 150°C. (300°F.)
	Unstable			
Hazardous Polymerization	May Occur		Conditions to Avoid	Vigorous reaction with alkali metals or reactive acid halides
	Will Not Occur	X		
Incompatibility (Materials to Avoid)	DMSO reacts exothermally with strong oxidizing agents, such as perchlorates			
Hazardous Decom- position Products	Formaldehyde, methyl mercaptan, sulfur dioxide			

SECTION VII - SPILL OR LEAK PROCEDURES	
Precautions if Material is Released or Spilled	Flush with water. Use normal care in avoiding contact with spilled materials or breathing sprays or mists containing DMSO.
Waste Disposal Methods	Domestic or industrial sewer

SECTION VIII - SPECIAL PROTECTION INFORMATION	
Eye Protection	Safety glasses, goggles or face shield when danger of splashing.
Respiratory Protection	Filter if airborne drops or sprays are present
Skin Protection	Use protective clothing including gloves (butyl rubber), and head, foot and body protection, if needed, to minimize skin contact.
Ventilation	Good exhaust ventilation where vapors or mist persist

SECTION IX - SPECIAL PRECAUTIONS	
Handling and Storing	Avoid contact with DMSO solutions containing toxic or unknown materials.

SECTION X - SHIPPING REGULATIONS	
DMSO is subject to some Hazardous Materials Regulations as a combustible liquid. Consult 49 CFR.	

Information in this bulletin is the best available and believed to be correct. No warranty is expressed or implied regarding its accuracy or the use of the product. Nothing herein constitutes permission or recommendation to practice any invention covered by any patent without a license from the owner of the patent.

SL 049739