



# MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

www.ciscochem.com

1. PRODUCT NAME: Dimethyl Sulfoxide
2. CHEMICAL NAME:
3. SYNONYMS: DMSO
4. CAS NUMBER: 67-68-5
5. COMPOSITION: Dimethyl Sulfoxide (67-68-5)  
% BY WEIGHT: 100%
6. PROPERTIES: PHYSICAL STATE AND APPEARANCE: Liquid  
ODOR: Not available  
TASTE: Not available  
COLOR: Clear Colorless  
MOLECULAR WEIGHT: 78.13 g/mole  
PH (1% SOLN/WATER): Not available  
BOILING POINT: 189 C (372.2 F)  
MELTING POINT: 18.45 C (62.2 F)  
CRITICAL TEMPERATURE: Not available  
SPECIFIC GRAVITY: 1.1008 (Water = 1)  
VAPOR PRESSURE: 0.417 mm of Hg (@ 20 C)  
VAPOR DENSITY: 2.7 (Air = 1)  
VOLATILE: Not available  
ODOR THRESHOLD: Not available  
WATER/OIL DIST. COEFF.: The product is more soluble in oil; log (oil/water) = 107  
SOLUBILITY (IN WATER): Not available  
DISPERSION PROPERTIES: See solubility in water  
SOLUBILITY: Easily soluble in cold water, hot water  
STABILITY: The product is stable  
INSTABILITY TEMPERATURE: Not available  
CONDITIONS OF INSTABILITY: Not available  
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Not available  
CORROSIVITY: Non corrosive in presence of glass  
SPECIAL REMARKS ON REACTIVITY: Not available  
SPECIAL REMARKS ON CORROSIVITY: Not available  
POLYMERIZATION: No
7. HAZARDS: POTENTIAL ACUTE HEALTH EFFECTS: Extremely dangerous in case of skin contact (permeator), of ingestion. Very dangerous in case of eye contact (irritant). Of inhalation. Hazardous in case of skin contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.  
POTENTIAL CHRONIC HEALTH EFFECTS:  
CARCINOGENIC EFFECTS: Not available  
MUTAGENIC EFFECTS: Not available  
TERATOGENIC EFFECTS: Not available  
DEVELOPMENTAL TOXICITY: Not available  
This substance is toxic to the blood, kidneys, lungs, the nervous system, liver, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.  
HMIS (U.S.A.):  
HEALTH HAZARD: 1  
FIRE HAZARD: 2

IN CASE OF  
TRANSPORT EMERGENCY  
CONTACT CHEMTREC  
USA: 1-800-424-9300  
INTERNATIONAL: 1-703-527-3887



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REACTIVITY: 0  
PERSONAL PROTECTION: h  
NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.) (NFPA)  
HEALTH: 1  
FLAMMABILITY: 1  
REACTIVITY: 0  
SPECIFIC HAZARD: .

8. FIRE FIGHTING INFORMATION: FLAMMABILITY OF THE PRODUCT: Combustible  
AUTOIGNITION TEMPERATURE: 215 C (419 F)  
FLASH POINTS: Closed cup: 89 C (192.2 F), Open cup: 95 C (203 F)  
FLAMMABLE LIMITS: Lower: 2.6%, Upper: 42%  
PRODUCTS OF COMBUSTION: These products are carbon oxides (CO, CO<sub>2</sub>), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub> ...)  
FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:  
EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:  
RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL IMPACT: Not available  
RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC DISCHARGE: Not available  
FIRE FIGHTING MEDIA AND INSTRUCTIONS:  
SMALL FIRE: Use DRY chemical powder  
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.  
SPECIAL REMARKS ON FIRE HAZARDS: Not available  
SPECIAL REMARKS ON EXPLOSION HAZARDS: Not available
9. PERSONAL PROTECTION MEASURES: ENGINEERING CONTROLS: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.  
PERSONAL PROTECTION: Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves  
PERSONAL PROTECTION IN CASE OF A LARGE SPILL: Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
10. FIRST AID PROCEDURES: EYE CONTACT: Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.  
SKIN CONTACT: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-dorsative soap. Be particularly careful to clean folds, areas and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.  
SERIOUS SKIN CONTACT: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.  
INHALATION: Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.  
SERIOUS INHALATION: Not available  
INGESTION: DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.  
SERIOUS INGESTION: DO NOT induce vomiting. Loosen tight clothing such as collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

SERIOUS INGESTION: Not available

11. EXPOSURE TWA (mg/m3): .  
LIMITS: STEL (mg/m3): .

12. TOXICOLOGICAL INFORMATION: ORAL (LD50): Acute: 14500 mg/kg (Rat). 7920 mg/kg (Mouse)  
ROUTES OF ENTRY: Dermal contact. Eye contact. Inhalation. Ingestion.  
TOXICITY TO ANIMALS:  
ACUTE ORAL TOXICITY (LD50): 7920 mg/kg (Mouse.)  
CHRONIC EFFECTS ON HUMANS: The substance is toxic to blood, kidneys, lungs, the nervous system, liver, mucous membranes.  
OTHER TOXI EFFECTS ON HUMANS: Extremely dangerous in case of skin contact (permeator), of ingestion. Very dangerous in case of inhalation. Dangerous in case of skin contact (irritant).  
SPECIAL REMARKS ON TOXICITY TO ANIMALS: Not available  
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: Not available  
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: Not available

13. ECOLOGICAL INFORMATION: ECOTOXICITY: Not available  
BOD5 AND COD: Not available  
PRODUCTS OF BIODEGRADATION: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: The products of degradation are more toxic  
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: Not available

14. DISPOSAL CONSIDERATIONS: Recycle to process, if possible. Consult your local or regional authorities.

15. CARCINOGENIC PROPERTIES & NOTIFICATIONS: NE

16. TRANSPORT INFORMATION: DOT CLASSIFICATION: Not a DOT controlled material (United States).  
IDENTIFICATION: Not applicable  
SPECIAL PROVISIONS FOR TRANSPORT: Not applicable

17. HANDLING & STORAGE: PRECAUTIONS: Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.  
STORAGE: Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

18. ACCIDENTAL RELEASE MEASURES: SMALL SPILL: Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.  
LARGE SPILL: Combustible liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated



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surface and allow to evacuate through the sanity system.

19. REGULATORY TSCA 8 (b) INVENTORY: Dimethyl sulfoxide

INFORMATION: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

WHMIS (Canada): CLASS B-3: Combustible liquid with a flash point between 37.8 C  
(100 F) and 93.3 C (200 F)

CLASS D-2A - Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): R38 – Irritating to skin

R41 – Risk of serious damage to eyes

PROTECTIVE EQUIPMENT: Gloves. Lab Coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.