

Safety Data Sheet

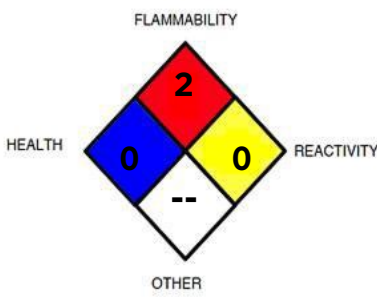
Section 1: Product & Company Identification

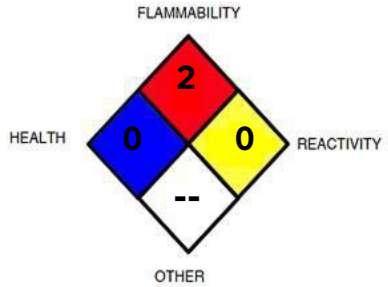
Product Name:	DMSO [Dimethyl Sulfoxide]
Product #:	D-2611
Synonyms:	Dimethyl Sulfoxide
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego, CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS #	EC #	% Composition
Dimethyl Sulfoxide	67-68-5	200-664-3	

Section 3: Hazards Identification

Symbols	N/A
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">HEALTH REACTIVITY</p> <p style="text-align: center;">OTHER</p>

NFPA Classification	
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Section 4: First Aid Measures

General Overview:	Consult a physician if symptoms are severe or persistent. Provide this data sheet to medical personnel. If product is spilled or leaked, evacuate area.
Inhalation:	If inhaled, move person to fresh air and monitor breathing. If not breathing, give artificial ventilation. Consult a physician if symptoms are severe or persistent.
Skin:	Immediately wash with excess soap and water. If spilled on clothing, remove all affected clothing. Consult a physician if symptoms are severe or persistent.
Eyes:	Flush eyes with water or eye wash solution as a precaution for 15 minutes. Consult a physician if symptoms are severe or persistent.
Ingestion:	Only induce vomiting if recommended by medical personnel. If subject is unconscious, do not give anything by mouth. If conscious, rinse mouth with water. Consult a physician if symptoms are severe or persistent.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	Flammable liquid
Extinguishing Media:	Water spray, alcohol-resistant foam, dry chemical, and carbon dioxide extinguishers are suitable.
Hazardous thermal (de)composition products:	Carbon oxides, sulfur oxides
Special Fire Fighting Procedures:	Wear protective gear, such as self-contained breathing apparatus, if necessary.
Flash Point:	87°C - closed cup

Section 6: Accidental Release Measures



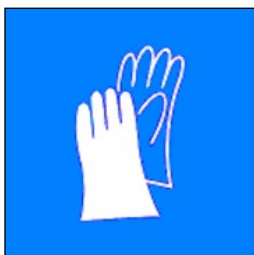
Personal Precautions:	Provide suitable ventilation. Use any necessary personal protective equipment. Avoid contact with skin and eyes and avoid creation and inhalation of vapor or dust. Keep all unnecessary personnel away.
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Environmental Precautions:	Prevent product from entering public sewers and waterways.
Methods for Clean-up:	Use inert absorbent material to absorb any spilled or leaked product. Keep in suitable, closed containers for disposal.

SECTION 7: Handling & Storage

Storage:	Store upright in a closed container in an arid and ventilated environment.
Handling:	Provide suitable ventilation. Wear any necessary personal protective equipment.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Use only approved respirators and components which comply with CDC and NIOSH (US) or CEN (EU) regulations. Required only when vapors or aerosols are created.</p>
Skin and Body:	  <p>Use gloves when handling product. Inspect gloves before use to ensure suitability for use. Remove without exposing skin to the gloves outer surface. Discard used gloves according to all pertinent laws and/or current good practices (cGXP). Wash hands with soap and water.</p> <p>Wear appropriate clothing. Ensure clothing is in good condition, with no holes or tears. When selecting clothing, consider the concentration and amount of substance to be handled.</p>
Eyes:	

	 <p>Use only government-approved safety glasses with side-shields.</p>
Ventilation/Engineering Measures:	Follow good industrial hygiene and safety practices when handling product. Prevent product from entering the environment, especially through public sewers or waterways.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	Control Parameters: <ul style="list-style-type: none"> DMSO, CAS No.: 67-68-5 TWA: 250.000000 ppm. Basis: USA. Workplace Environmental Exposure Levels (WEEL).

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Clear, colorless liquid. Sulfurous odor.
Formula	C ₂ H ₆ OS
Molecular Wt.	78.13
Melting Pt.	16-19°C
Boiling Pt.	189°C
Density:	No data available
Vapor Pressure:	0.55 hPa @ 20°C 4 hPa @ 50°C
Evaporation Rate:	No data available
Vapor Density:	2.70 - (Air = 1.0)
Solubility:	Water, Ethanol, Ether, Chloroform, Benzene, Acetone
Flash Point:	87°C - closed cup
Autoignition Temp:	300-302°C

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Materials to Avoid:	Acid chlorides, phosphorous, strong acids, strong oxidizing agents, and strong reducing agents
Conditions to avoid:	No data available

SECTION 11: Toxicological Information

RTECS#:	PV6210000
ACUTE Toxicity:	LD50 Oral = 14,500 mg/kg (Rat) LD50 Dermal = >5,000 mg/kg (Rabbit) LD50 Inhalation = 40,250 ppm (Rat) 4 hours
CHRONIC Toxicity:	Causes mild skin irritation. Can cause DNA damage and mutations in the mammalian somatic cells. Exposure to large amounts can cause: redness of skin, itching, burning, sedation, headache, nausea, dizziness. Eyes - eye disease - based on human evidence.
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC. AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA. EPA: No classification on carcinogenic data is available from EPA

SECTION 12: Ecological Information

Ecotoxicity:	Species: Fathead Minnow (<i>Pimephales promelas</i>). Exposure: 96 hours. Result: LC50 34000 mg/L Species: Rainbow Trout (<i>Oncorhynchus mykiss</i>). Exposure: 96 hours. Result: LC50 35000 mg/L. Species: Water Flea (<i>Daphnia magna</i>). Exposure: 48 hours. Result: EC50 24600 mg/L. Species: Green Algae (<i>Pseudokirchneriella subcapitata</i>). Exposure: 72 hours. Result: EC50 17000 mg/L
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available

Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Chemical waste generators must also consult and adhere to local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
Contaminated Packaging:	Dispose of as unused product.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	NA# 1993 Class: none Packing Group: III Proper Shipping Name: Combustible liquid, n.o.s. (Dimethyl sulfoxide) Poison Inhalation Hazard: No
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	Warning! H227 Combustible liquid
Risk Phrases:	P210 - Keep away from heat/sparks/open flames/hot surfaces - No smoking. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Safety Phrases:	P370+378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. P403+235 - Store in a well-ventilated place. Keep cool. P501 - Dispose of contents/container to an approved waste disposal plant.
EU Regulations:	N/A
US Regulations:	TSCA: Not listed California Proposition 65: No products were found New Jersey State Right to Know: Listed

	Pennsylvania State Right to Know: Listed
U.S. Federal Regulations:	<p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Fire Hazard, Chronic Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: No products were found.</p>
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*