

SAFETY DATA SHEET
METHYLSULFONYLMETHANE (MSM)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Methylsulfonylmethane (MSM)

CHEMICAL NAME: Dimethyl Sulfone

CHEMICAL FORMULA: (CH₃)₂SO₂

MOLECULAR WEIGHT: 94.13

RECOMMENDED USE: MSM is used as a dietary supplement for joint health support, protection from oxidative damage and to support healthy skin, hair and nails.

MANUFACTURER: Bergstrom Nutrition
1000 W. 8th St.
Vancouver, WA 98660

TELEPHONE NUMBER: 360 693-1883
FAX NUMBER: 360 693-9915
WEB SITE: www.bergstromnutrition.com

2. HAZARD IDENTIFICATION

The substance is not classified according to the Global Harmonized System (GHS)

Signal Word: None
Hazard Statement: None
Hazard pictogram: None

PHYSICAL APPEARANCE: White flakes, powder or granules

ODOR: Essentially odorless

PRECAUTIONARY STATEMENT

Effects of overexposure:

Inhalation: Dust may cause slight transient respiratory irritation
Eyes: Dust may cause slight transient eye irritation
Skin: Non-irritating
Ingestion: The oral LD₅₀ for rats is > 17,000 mg/kg.
Chronic health effects: No adverse health effects identified
Medical conditions aggravated: None identified

HAZARD DESCRIPTION: Not a HMIS or NFPA controlled compound

HMIS AND NFPA HAZARD RATINGS: Health – 0, Flammability – 1, Chemical Reactivity – 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT NAME: Methylsulfonylmethane (MSM)

CHEMICAL NAME: Dimethyl Sulfone

INGREDIENTS:	CAS NO.	EINECS#	WEIGHT%
	67-71-0	200-665-9	>99%

SYNONYMS: Methyl Sulfone, DMSO₂

NTP/IARC/OSHA CARCINOGEN: No

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4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with running water (including under the eyelids) for at least 15 minutes. If irritation persists after flushing, seek medical attention.

SKIN CONTACT: Wash skin if irritation occurs.

INGESTION: No medical treatment is necessary; MSM is ingestible orally up to at least 30 grams per day with no known toxicity.

INHALATION: Move to fresh air. No medical treatment is necessary, MSM fumes or dust are not hazardous.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 143°C (290°F) closed cup

EXTINGUISHING MEDIA: Foam, carbon dioxide, dry powder, and water spray.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: Wear a Self-Contained Breathing Apparatus (SCBA).

SPECIAL EXPOSURE HAZARDS: Burning MSM produces poisonous gases (sulfur oxides).

6. ACCIDENTAL RELEASE MEASURES

SPILL, LEAK, OR RELEASE: MSM poses very little environmental threat.

Note: Review sections 3, 4, 5, and 8 of this SDS before proceeding with cleanup. Use appropriate Personal Protective Equipment during cleanup.

INITIAL CONTAINMENT: If a spill occurs, immediately consult your environmental supervisor.

SPILL CLEANUP METHODS: Spills may be swept up and incinerated or diluted and flushed to wastewater treatment. Do not allow the material to enter streams or waterways.

7. HANDLING AND STORAGE

USAGE/HANDLING PRECAUTIONS: Avoid contact with eyes or skin. Do not smoke in areas of storage or use. Skin or clothing that becomes contaminated should be immediately washed or showered.

STORAGE PRECAUTIONS: Store away from strong oxidizing agents in a well-ventilated cool and dry location. Protect containers from physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS: ACGIH Threshold Limit Value (TLV): Not established
OSHA (USA) Permissible Exposure Limit (PEL): Not established

VENTILATION: Use adequate general or local exhaust ventilation to keep airborne concentration low.

RESPIRATORY PROTECTION: Use any particulate respirator in dusty atmospheres.

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EYE PROTECTION: Safety glasses/chemical goggles. Ensure eyewash stations are nearby.

SKIN PROTECTION: Any rubber or vinyl gloves are adequate.

GENERAL: Other protective equipment such as face shields, aprons, rubber boots or rubber suits may be needed in some situations.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE (physical state, color, etc):	White microprill or flaked solid
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	Data unavailable
ODOR:	Slight to none
VAPOR PRESSURE:	0.03mmHg @ 25°C
ODOR THRESHOLD:	Data unavailable
VAPOR DENSITY:	Data unavailable
pH:	Data unavailable
RELATIVE DENSITY / SPECIFIC GRAVITY:	1.45
MELT POINT / FREEZE POINT:	109°C (228°F)
SOLUBILITY (ies):	33.9% @ 26°C in water
INITIAL BOILING POINT / BOILING RANGE:	248°C (478°F)
FLASHPOINT:	143°C (Cleveland Open Cup)
EVAPORATION RATE:	Data unavailable
FLAMMABILITY (solid, gas):	Data unavailable
PARTITION COEFFICIENT:	n-octanol/water; data unavailable
AUTO-IGNITION TEMPERATURE:	Data unavailable
DECOMPOSITION TEMPERATURE:	Data unavailable
VISCOSITY:	1.140cP @ 125°C

10. STABILITY AND REACTIVITY

STABILITY: MSM is a very stable molecule. Stable under normal temperature and storage conditions.

MATERIALS TO AVOID: Strong oxidizing agents, perchloric acid and perchlorates.

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur dioxide and carbon monoxide fumes can be evolved.

HAZARDOUS POLYMERIZATION: Will not occur.

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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA:

Oral LD₅₀ (male rat): >17,000 mg/kg
Inhalation: Not available
Skin: Non irritating to skin
Eye: Non irritating to eyes

CHRONIC/SUBCHRONIC TOXICITY DATA: NOAEL 1500mg/kg/day Rat Horveth et al (2002)
NOAEL 40mg/kg/day Equine Riegel (1999)

MUTAGENICITY:

Genetic Toxicity – In-vivo micronucleus assay; No genetic toxicity dose up to 5000 mg/kg

Species – Mouse
Results – Negative
Lee et al. 2006

Germ Cell Mutagenicity: Ames,
Species – Salmonella Typhimurium
Results – Negative
Lee et al. 2006

Germ Cell Mutagenicity: Chromosome aberration test – No mutagenic or genotoxicity observed up to 1.25mg/ml.
Species – Chinese Hamster Lung
Results – Negative
Lee et al. 2006

REPRODUCTION: NOAEL maternal and developmental toxicity 1000mg/kg/day Magnuson et al (2007)

TERATOLOGY: Not available

CARCINOGEN: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY: Not available

CHEMICAL FATE INFORMATION: Not available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: See Section 6. Consult federal, state or local authorities for proper disposal procedures.

14. TRANSPORT INFORMATION

USDOT PROPER SHIPPING NAME: Methyl Sulfone

HAZARD CLASS: Not hazardous by USDOT regulations in 49 CFR or by USEPA regulations in 40 CFR

IATA Class: Not Regulated

UN/NA NO.: Not available

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REPORTABLE QUANTITY: N/A

DOT PLACARDS: None

DOT LABELS: None

QUANTITY LIMITATIONS: None

15. REGULATORY INFORMATION

This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) HAZARDOUS CHEMICAL: Dimethyl Sulfone

IARC (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER CARCINOGENICITY CLASSIFICATION):
Not listed

ACGIH (AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS): Not listed

NTP (NATIONAL TOXICOLOGY PROGRAM): Not Listed

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT) SECTION 313 REPORTING REQUIREMENTS: None

TSCA (TOXIC SUBSTANCE CONTROL ACT – U.S.): MSM is included in the inventory.

EC CLASSIFICATION AND USER LABEL INFORMATION (COUNCIL DIRECTIVE 67/548/EEC) Hazard Symbols and Risk Phrases: None

16. OTHER INFORMATION

CAUTION: FOR MANUFACTURING, PROCESSING, OR PACKAGING BY TRAINED PERSONNEL ONLY

SDS ISSUE DATE: _____

COMPILED BY: Tom Freeman

REVIEW DATE: _____

REVIEWED BY: Rod Benjamin

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