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# SAFETY DATA SHEET

## Methylsulfonylmethane (MSM)

### Section 1. Identification

**GHS product identifier** : Methylsulfonylmethane, MSM  
**Product type** : solid

#### Uses

**Area of application** : Not Applicable

#### Supplier

**Supplier's details** : Greenway Biotech, Inc.

#### Address

**Street** : 10632 Painter Ave  
**Postal code** : 90670  
**City** : Santa Fe Springs  
**Country** : United States

**Telephone number** : +1 562-351-5168

**e-mail address of person responsible for this SDS** : sales@greenwaybiotech.com

**Emergency telephone number (with hours of operation)** : US: Chemtrec 24-hours Emergency Response: 1-800-424-9300  
Canada: 24 Hour Emergency Service, (Canutec 613-996-6666)

#### National advisory body/Poison Center

**Name** : The National Poisons Emergency number  
**Telephone number** : 1 800 222 1222

### Section 2. Hazards identification

**Classification of the substance or mixture**  
Serious eye damage/eye Irritation, Category 2

#### Label Elements



**GHS Signal Word** : Warning

<b>GHS Hazard Phrases</b>	:	H319: Causes serious eye irritation
<b>GHS Precaution Phrases</b>	:	P264: Wash {hands} thoroughly after handling. P280: Wear {protective gloves/protective clothing/ eye protection/face protection}.
<b>GHS Response Phrases</b>	:	P305 + 351 + 338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + 313: If eye irritation persists, get medical advice/attention.
<b>GHS Storage and Disposal Phrases</b>	:	Please refer to Section 7 for storage and Section 13 for disposal information.
<b>Adverse Human Health Effects and Symptoms</b>	:	Causes serious eye irritation Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption. May cause skin or respiratory system irritation. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

### Section 3. Composition/information on ingredients

#### Substances

**Product Name:** Methylsulfonylmethane (MSM)

Chemical Name	Common name and synonyms	CAS number	%
Dimethyl Sulfone	Methyl Sulfone, DMSO <sub>2</sub>	67-71-0	100

**NTP/IARC/OSHA Carcinogen:** No

### Section 4. First aid measures

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

**Skin Contact:** Wash skin if irritation occurs.

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

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

### Section 5. Fire Fighting Measures

**Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

**Unsuitable extinguishing media:** A solid water stream may be inefficient.

**Flashpoint and method:** 143° C (290° F) closed cup

**Special Protective equipment and precautions for firefighters:** Wear a self-contained breathing apparatus (SCBA).

**Firefighting equipment/instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**Special Exposure Hazards:** Burning MSM Produces poisonous gases (sulfur oxides).

## Section 6. Accidental release measures

**Personal Precautions, protective equipment, and emergency procedures:** Avoid raising and breathing dust, and provide adequate ventilation.

**Protective equipment and emergency procedures:** As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

**Environmental precautions:** Take steps to avoid release into the environment, if safe to do so.

**Methods and material for containment and cleaning up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

## Section 7. Handling and storage

**Precautions for safe handling:** 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.

**Conditions for safe storage, including any incompatibilities:** Store away from oxidizing agents in a well ventilated cool and dry location. Protect containers from physical damage.

## Section 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, use process enclosures or other engineering controls to control airborne levels below recommended exposure limits.

**Respiratory Protection:** Use any particulate respirator in dusty atmospheres.

**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.

## Section 9. Physical and chemical properties

<b>Appearance</b>	:	White microprill or flaked solid
<b>Odor</b>	:	Slight to none
<b>odor threshold</b>	:	Data unavailable
<b>pH</b>	:	Data unavailable
<b>Melting Point/Freezing point</b>	:	109°C
<b>Initial boiling point and boiling range</b>	:	248°C
<b>Flash Point</b>	:	143°C (Cleveland Open Cup)
<b>Evaporation rate</b>	:	Data unavailable

<b>Flammability (solid/gas)</b>	:	Data unavailable
<b>Explosive limit – lower (%)</b>	:	Data unavailable
<b>Explosive Limit – Upper</b>	:	Data unavailable
<b>Vapor Pressure</b>	:	0.03mmHg @ 25°C
<b>Vapor density</b>	:	Data unavailable
<b>Relative density</b>	:	1.45
<b>Solubility (water)</b>	:	33.9% @ 26°C in water
<b>Partition Coefficient</b>	:	n-octanol/water
<b>Auto-ignition temperature</b>	:	Data unavailable
<b>Decomposition temperature</b>	:	Data unavailable
<b>Viscosity</b>	:	1.140cP @ 125°C
<b>Molecular Formula &amp; weight</b>	:	C2H6O2S 94.1

## Section 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.

## Section 11. Toxicological information

### Acute toxicity data:

Oral LD<sub>50</sub> (male rat): >17,000 mg/kg

Inhalation: Not available

Skin: Nonirritating to skin

Eye: Non irritating to eyes

### Chronic/Subchronic Toxicity Data:

NOAEL 1500mg/kg/day Rat Horveth

NOAEL 40mg/kg/day Equine Riegel (1999)

### Mutagenicity:

Genetic Toxicity – In-vivo micronucleus assay; No genetic toxicity does 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 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.

## Section 12. Ecological Information

**Ecotoxicity:** Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Results of PBT and vPvB assessment:** No data available

**Other adverse effects:** No data available.

## Section 13. Disposal Considerations

**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

## Section 14. Transportation 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:** Not available

**Reportable Quantity:** N/A

**Dot Placards:** None

**Quantity Limitations:** None

## Section 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.

## Section 16. Other information

**Revision Date:** 07/09/2019

**Additional Information about this product:** No data available.

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