

## Methyl Sulfonyl Methane (MSM)

Version number: 1.0

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### SECTION 1: Identification

#### 1.1 Product identifier

Identification of the substance	dimethyl sulphone
Trade name	<u>Methyl Sulfonyl Methane (MSM)</u>
CAS number	67-71-0

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Laboratory chemical Manufacture of substances
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#### 1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC 179 Calle Magdalena Suite 100 Encinitas, California CA 92024 United States	Telephone: +1 (760) 635 8500 e-mail: info@valudor.com Website: www.valudor.com
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#### 1.4 Emergency telephone number

Emergency information	800-535-5053 (Infotrac)
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As above or nearest toxicological information centre.

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

This substance does not meet the criteria for classification.

#### 2.2 Label elements

**Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

Not required.

#### 2.3 Other hazards

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

<b>Name of substance</b>	dimethyl sulphone
<b>Identifiers</b>	
CAS No	67-71-0
<b>Molecular formula</b>	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub> S
<b>Molar mass</b>	94.13 g/mol

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

#### Following skin contact

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

#### Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

#### Following ingestion

Rinse mouth. Do not induce vomiting.

Let water be drunk in little sips (dilution effect).

Get medical advice/attention if you feel unwell.

#### Notes for the doctor

None.

### 4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

### 4.3 Indication of any immediate medical attention and special treatment needed

None.

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## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Deposited combustible dust has considerable explosion potential.

#### Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), sulfur oxides (SO<sub>x</sub>), gas/ vapor, toxic

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

#### Special protective equipment for firefighters

Use suitable breathing apparatus

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Ventilate affected area.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

#### For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Take up mechanically.

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## **Advice on how to clean up a spill**

Take up mechanically.  
Collect spillage.

## **Other information relating to spills and releases**

Place in appropriate containers for disposal.  
Ventilate affected area.

## **6.4 Reference to other sections**

Hazardous combustion products: see section 5.  
Personal protective equipment: see section 8.  
Incompatible materials: see section 10.  
Disposal considerations: see section 13.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Do not get in eyes, on skin, or on clothing.

#### **Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation.  
Keep away from sources of ignition - No smoking.

#### **Specific notes/details**

Dust deposits may accumulate on all deposition surfaces in a technical room.

#### **Measures to protect the environment**

Avoid release to the environment.

#### **Advice on general occupational hygiene**

Do not eat, drink and smoke in work areas.  
Wash hands after use.  
Preventive skin protection (barrier creams/ointments) is recommended.  
Remove contaminated clothing and protective equipment before entering eating areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Explosive atmospheres**

Removal of dust deposits.

#### **Flammability hazards**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### **Incompatible substances or mixtures**

Incompatible materials: see section 10.  
Store away from oxidizing agents.

#### **Protect against external exposure, such as**

humidity, heat

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## Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

## Ventilation requirements

Provision of sufficient ventilation.

## Specific designs for storage rooms or vessels

Store in a dry place.

## Packaging compatibilities

Keep only in original container.

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Notation	Source
US	Particulates not otherwise regulated	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified	-	REL	-	-	-	-	appx-D	NIOSH REL
US	particulates not otherwise classified (PNOC)	-	PEL	1,766	15	-	-	partml, i, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	5	-	-	partml, r, dust	29 CFR 1910.1000

#### Notation

appx-D see Appendix D - Substances with No Established RELs

dust as dust

i inhalable fraction

partml particles/ml

r respirable fraction

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## Notation

STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

## 8.2 Exposure controls

### Appropriate engineering controls

Use local and general ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
PVC: polyvinyl chloride	no information available	no information available
rubber	no information available	no information available

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** solid  
(crystalline)

**Color** white

#### Particle characteristics

Particle size 425 – 850 µm

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<b>Odor</b>	Nearly odorless
<b>Odor threshold</b>	not determined
<b>Other safety parameters</b>	
<b>pH (value)</b>	4.6 (in aqueous solution: 1 wt%, 29 °C) (ECHA, OECD Guideline 122)
<b>Melting point/freezing point</b>	108 – 110 °C
<b>Boiling point or initial boiling point and boiling range</b>	238 °C at 1,013 hPa
<b>Flash point</b>	143 °C (closed cup)
<b>Evaporation rate</b>	not determined
<b>Flammability (solid, gas)</b>	this material is combustible, but will not ignite readily
<b>Explosive limits</b>	not determined
Explosion limits of dust clouds	not determined
<b>Vapor pressure</b>	0.981 Pa at 25 °C (ECHA, calculated)
Density	$\geq 0.75 \text{ g/cm}^3$
Bulk density	$\geq 0.7 \text{ g/cm}^3$
Relative vapour density	not applicable
<b>Solubility(ies)</b>	
Water solubility	186,394 $\text{mg/l}$ at 30 °C (OECD Guideline 105)
<b>Partition coefficient</b>	
n-octanol/water (log KOW)	-1.41 (ECHA)
<b>Soil organic carbon/water (log KOC)</b>	1.809 (ECHA, OECD Guideline 121)
Auto-ignition temperature	not determined
<b>Decomposition temperature</b>	not relevant
<b>Viscosity</b>	not relevant (solid)
<b>Explosive properties</b>	none

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<b>Oxidizing properties</b>	none
<b>Information for relevant hazard classes according to GHS</b>	hazard classes acc. to GHS (physical hazards): not relevant
<b>9.2 Other information</b>	there is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 10.5 Incompatible materials

oxidizers, Perchloric acid, perchlorates

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

Carbon monoxide (CO).

Sulfur oxides (SO<sub>x</sub>).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

#### **Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

This substance does not meet the criteria for classification.



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## Acute toxicity

Shall not be classified as acutely toxic (oral).

Shall not be classified as acutely toxic (dermal).

## Inhalation.

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD0	>2,000 mg/kg	rat	-	ECHA
dermal	LD0	>5,000 mg/kg	rabbit	-	ECHA

## Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

(ECHA, OECD Guideline 439)

## Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

(ECHA)

## Respiratory or skin sensitization

### Skin sensitization

Shall not be classified as a skin sensitizer.

(ECHA, OECD Guideline 429)

### Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Carcinogenicity

### IARC Monographs

not listed

### National Toxicology Program (United States)

not listed

### OSHA Carcinogens

Not listed.

## Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

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## Specific target organ toxicity - single exposure

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Specific target organ toxicity - repeated exposure

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Other information

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	96 h	>100 mg/l	zebra fish (Danio rerio)	OECD Guideline 203	ECHA
ErC50	72 h	>100 mg/l	algae (Scenedesmus subspicatus)	OECD Guideline 201	ECHA

#### Aquatic toxicity (chronic)

No data available.

### 12.2 Persistence and degradability

#### Biodegradation

No data available.

#### Persistence

No data available.

### 12.3 Bioaccumulative potential

n-octanol/water (log KOW) -1.41  
(ECHA)

### 12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient 1.809  
(ECHA)

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

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## 12.6 Endocrine disrupting properties Other adverse effects

Not listed.

### Remarks

None.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1 UN number not assigned

14.2 UN proper shipping name -

14.3 Transport hazard class(es) -

14.4 Packing group -

14.5 Environmental hazards -

14.6 Special precautions for user -

14.7 Transport in bulk according to IMO instruments -

### 14.8 Information for each of the UN Model Regulations

#### Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Not subject to transport regulations.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** Substance is listed (ACTIVE)

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

**The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**

Not listed

#### Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed

#### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

**List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)**

Not listed

#### Clean Air Act

Not listed

#### Right to Know Hazardous Substance List

**Cleaning Product Right to Know Act Substance List (CA-RTK)**

Not listed

**Toxic or Hazardous Substance List (MA-TURA)**

Not listed

**Hazardous Substances List (MN-ERTK)**

Not listed

**Hazardous Substance List (NJ-RTK)**

Not listed

**Hazardous Substance List (Chapter 323) (PA-RTK)**

Not listed

**Hazardous Substance List (RI-RTK)**

Not listed

**California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987**

Not listed

**Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)**

Not listed

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## Industry or sector specific available guidance(s)

### NPCA-HMIS® III

Hazardous Materials Identification System.  
American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	0	no significant risk to health
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

## SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-05-15

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660  
pany e-Mail: GHS@crc-us.com  
Jasper, GA Website: www.crc-us.com  
USA

### Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.