

Dimethylsulfoxide (DMSO)

Revision date 30-Aug-2023

## U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Dimethyl sulfoxide 67-68-5	X	-	-

## U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

## 16. Other information

NFPA	Health hazards 0	Flammability 1	Instability 0	Special hazards -
HMIS	Health hazards 0	Flammability 1	Physical hazards 0	Personal protection X

## Key or legend to abbreviations and acronyms used in the safety data sheet

## Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

## Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AELG(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCID)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

Revision date 30-Aug-2023  
Revision Note Significant changes throughout SDS. Review all sections.  
Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

## SAFETY DATA SHEET

BIO-RAD

Revision date 30-Aug-2023

Revision Number 2.1

## 1. Identification

## Product identifier

Product Name Magnesium Chloride Solution, 50 mM

## Other means of identification

Catalog Number(s) 1708872, 10005709

## Recommended use of the chemical and restrictions on use

Recommended use Laboratory chemicals

## Details of the supplier of the safety data sheet

## Corporate Headquarters

Bio-Rad Laboratories, Inc.  
1000 Alfred Nobel Drive  
Hercules, CA 94547  
USA

## Manufacturer Address

Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547  
USA

## Legal Entity / Contact Address

Bio-Rad Laboratories  
Life Science  
2000 Alfred Nobel Drive  
Hercules, California 94547

Technical Service 1-800-424-6723  
support@bio-rad.com

## Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC USA: 1 (800) 424-9300

## 2. Hazard(s) identification

## Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

## Hazards not otherwise classified (HNOC)

Not applicable

## Label elements

## Hazard statements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Appearance aqueous solution

Physical state Liquid

Odor Odorless

## Other information

AGHS / EN

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## Component information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Dimethyl sulfoxide 67-68-5	= 28300 mg/kg ( Rat )	= 40000 mg/kg ( Rat )	> 5.33 mg/L ( Rat ) 4 h

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

## 12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Dimethyl sulfoxide 67-68-5	-	LC50: =34000mg/L (96h, Pimephales promelas) LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: >40g/L (96h, Lepomis macrochirus) LC50: =41.7g/L (96h, Cyprinus carpio)	-	-

Persistence and degradability No information available.

## Bioaccumulation

## Component information

Chemical name	Partition coefficient
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Dimethyl sulfoxide 67-68-5	-1.35
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Other adverse effects No information available.

## 13. Disposal considerations

## Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

## 14. Transport information

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
IATA	Not regulated
IMDG	Not regulated

## 15. Regulatory information

International inventories Contact supplier for inventory compliance status

## US Federal Regulations

## SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

## SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

## CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

## CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## US State Regulations

## California Proposition 65

This product does not contain any Proposition 65 chemicals.

No information available.

**3. Composition/information on ingredients****Substance**

Not applicable.

**Mixture**

The product contains no substances which at their given concentration, are considered to be hazardous to health

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. First-aid measures****Description of first aid measures**

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water.
Ingestion	Rinse mouth.

**Most important symptoms and effects, both acute and delayed**

Symptoms No information available.

**Indication of any immediate medical attention and special treatment needed**

Note to physicians Treat symptomatically.

**5. Fire-fighting measures**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards arising from the chemical	No information available.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

**Methods and material for containment and cleaning up**

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

**7. Handling and storage****Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

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

Storage Conditions Store according to product and label instructions.

**8. Exposure controls/personal protection****Control parameters**

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**Engineering controls Showers  
Eyewash stations  
Ventilation systems.**Individual protection measures, such as personal protective equipment**

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties****Information on basic physical and chemical properties**Physical state Liquid  
Appearance aqueous solution  
Color colorless  
Odor Odorless  
Odor threshold No information availableProperty  
pH

Values

Remarks • Method  
None known

## Magnesium Chloride Solution, 50 mM

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Melting point / freezing point	0 °C / 32 °F	
Boiling point / boiling range	100 °C / 212 °F	
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information**Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity

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Numerical measures of toxicityDelayed and immediate effects as well as chronic effects from short and long-term exposure

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Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

**12. Ecological information**

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Persistence and degradability	No information available.
Bioaccumulation	There is no data for this product.
Other adverse effects	No information available.

**13. Disposal considerations**Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
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Contaminated packaging Do not reuse empty containers.

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**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

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**16. Other information**

NFPA	Health hazards 0	Flammability 0	Instability 0	Special hazards -
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U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCID)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
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Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

Revision date 30-Aug-2023

Revision Note Reformatted and updated existing information.

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