

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Dimethyl Sulfoxide (DMSO)

Other means of identification

Product Code(s) 0231

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended Use For Further Manufacturing Use Only.

Uses advised against Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Company Address
 VWR International, LLC
 Radnor Corporate Center
 100 Matsonford Road
 Radnor, PA 19087-8660

Manufacturer Address
 VWR International, LLC
 28600 Fountain Parkway
 Solon, Ohio 44139

Distributor
 AMRESCO INC.
 6681 Cochran Road
 SOLON, OHIO 44139

Company Phone Number 1.800.829.2805

E-mail Address info@amresco-inc.com

Emergency Telephone Number

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 4

Label elements

Emergency Overview

Warning

Hazard statements

May cause respiratory irritation. May cause drowsiness or dizziness

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H227 - Combustible liquid



Appearance Clear Colorless**Physical State** Liquid**Odor** No information available**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep cool

Precautionary Statements - Response

Specific treatment (see .? on this label)
 IF IN EYES: 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
 IF ON SKIN: Wash with plenty of water and soap
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Call a POISON CENTER or doctor if you feel unwell
 In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not regulated

Other Information**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS-No	EC No.	Weight %	Trade Secret
Dimethyl Sulfoxide	67-68-5	200-664-3	95-100	Not applicable

4. FIRST AID MEASURES**First Aid Measures**

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Readily permeates skin: substances mixed with DMSO may be quickly absorbed. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air in case of accidental inhalation of vapors or decomposition products. Apply artificial respiration if victim is not breathing.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, CO₂, water spray or regular foam.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

No information available.

Hazardous Combustion Products Carbon oxides. Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal protection Ensure adequate ventilation, especially in confined areas.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological information.

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 Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete. Use non-sparking tools and equipment.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling Handle in accordance with good industrial hygiene and safety practice. Hygroscopic. Light Sensitive. Heat Sensitive.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic. Protect from light and moisture.

Incompatible Products Acid chlorides. Strong acids. Strong oxidizing agents. Strong reducing agents. Phosphorus halides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Dimethyl Sulfoxide	-	-	-

67-68-5

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures 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	Odor	No information available
Appearance	Clear Colorless	Odor Threshold	No information available
Color	No information available		

Property	Values	Remarks • Method
pH	No information available	
Melting point/freezing point	18 °C	
Boiling Point/Range	189 °C	
Flash Point (High in °C)	89 °C / 192 °F	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor Density	No information available	
Specific Gravity	1.1	
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition Temperature	301 °C	
Decomposition Temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content	No information available
Density	2.7
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Hygroscopic. Protect from heat and light.

Incompatible Materials

Acid chlorides. Strong acids. Strong oxidizing agents. Strong reducing agents. Phosphorus halides.

Hazardous Decomposition Products

Carbon oxides. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May cause drowsiness and dizziness based on components. May cause irritation of respiratory tract.
Eye Contact	Irritating to eyes.
Skin Contact	Irritating to skin.
Ingestion	There is no data available for this product.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dimethyl Sulfoxide 67-68-5	= 14500 mg/kg (Rat)	= 40 g/kg (Rat)	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Dimethyl Sulfoxide 67-68-5	-	-	-	-

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organ Effects Eyes, Skin.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

100% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Dimethyl Sulfoxide 67-68-5	12350 - 25500: 96 h Skeletonema costatum mg/L EC50	33 - 37: 96 h Oncorhynchus mykiss g/L LC50 static 41.7: 96 h Cyprinus	7000: 24 h Daphnia species mg/L EC50

		carpio g/L LC50 34000: 96 h Pimephales promelas mg/L LC50 40: 96 h Lepomis macrochirus g/L LC50 static	
--	--	---	--

Persistence and Degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical Name	Partition coefficient
Dimethyl Sulfoxide 67-68-5	-

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste Disposal Method**

Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging

Do not re-use empty containers.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Dimethyl Sulfoxide 67-68-5	-	-	-	-

Chemical Name	California Hazardous Waste Status
Dimethyl Sulfoxide 67-68-5	-

14. TRANSPORT INFORMATION**DOT**

Not regulated

IATA

Not regulated

15. REGULATORY INFORMATION**International Inventories**

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. 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.

Component	SARA 313 - Threshold Values %
Dimethyl Sulfoxide 67-68-5 (95-100)	-

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Dimethyl Sulfoxide 67-68-5	-	-	-	-

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

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Dimethyl Sulfoxide 67-68-5	-	-	-

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Chemical Name	California Prop. 65
Dimethyl Sulfoxide - 67-68-5	-

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 regulated

16. OTHER INFORMATION

Issuing Date 01-May-2009

Revision Date 08-Jan-2016

Revision Note

No information available

Disclaimer

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with

regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet