Safety Data Sheet
acc. to OSHA HCS

Printing date 02/06/2025 Reviewed on 02/06/2025

*

1 Identification

· **Product identifier**

· **Trade name: Dimethyl sulfoxide**

· **Article number:** 20385
· **CAS Number:**
67-68-5
· **EC number:**
200-664-3
· **Application of the substance / the mixture:** Laboratory chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de

· **Information department:** Security Department Phone: +49 6221 13840-35
· **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)

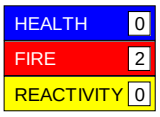
2 Hazard(s) identification

· **Classification of the substance or mixture**
The substance is not classified, according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms:** Void
· **Signal word:** Void
· **Hazard statements:** Void
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 0
Fire = 2
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment:**
· **PBT:** PBT - Assessment not available.
· **vPvB:** vPvB - Assessment not available.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/06/2025 *Reviewed on 02/06/2025*

Trade name: Dimethyl sulfoxide

(Contd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description:**
67-68-5 dimethyl sulfoxide
· **Identification number(s):**
· **EC number:** 200-664-3
· **Description:**
· **Empirical formula:** C_2H_6OS
· **MW:** 78.1

4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.
· **After swallowing:** Rinse out mouth. In case of complaints, consult a doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
Vapors may form flammable and explosive mixtures with air.
Vapours are heavier than air and spread over the floor. Accumulation in low areas is possible.
In case of fire, the following can be released:
Sulfur oxides (SOx)
Carbon monoxide and carbon dioxide
Formaldehyde
Methyl mercaptan
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained breathing apparatus.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with eyes and skin.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to section 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Protective Action Criteria for Chemicals**
· **PAC-1:** 150 ppm
· **PAC-2:** 290 ppm

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dimethyl sulfoxide

(Contd. of page 2)

· **PAC-3:** 1,800 ppm
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Store container tightly closed and dry.
This product is hygroscopic.
Protect from exposure to the light.
· **Specific end use(s):** No further relevant information available.

*
8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
67-68-5 dimethyl sulfoxide (80-100%)	
WEEL	Long-term value: 250 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Additional information about design of technical systems:** No further data; see section 7.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
Short term filter device:
Filter P2
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/06/2025 Reviewed on 02/06/2025

Trade name: Dimethyl sulfoxide

(Contd. of page 3)

· **Penetration time of glove material:**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Chloroprene rubber, CR
Nitrile rubber, NBR
· **Eye protection:** Safety glasses
· **Body protection:** Protective work clothing

*
9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information:**	
· **Color:**	Colorless
· **Odor:**	Odorless
· **Odor threshold:**	not determined.
· **Melting point/Melting range:**	18 °C (64.4 °F)
· **Boiling point/Boiling range:**	189 °C (372.2 °F)
· **Flammability (solid, gaseous):**	Based on available data, the classification criteria for flammable liquids are not met.
· **Explosion limits:**	
· **Lower:**	2.60 Vol %
· **Upper:**	28.50 Vol %
· **Flash point:**	87 °C (188.6 °F) (ASTM D93)
· **Auto igniting:**	300-302 °C (572-575.6 °F)
· **Decomposition temperature:**	≥190 °C
· **pH-value:**	5-7
· **Viscosity:**	
· **Kinematic viscosity:**	No information available
· **Dynamic viscosity at 20 °C (68 °F):**	2.14 mPas
· **Solubility in / Miscibility with:**	
· **Water at 20 °C (68 °F):**	1000 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	0.56 hPa (0.4 mm Hg)
· **Vapor pressure:**	
· **Density at 20 °C (68 °F):**	1.1 g/cm³ (9.1795 lbs/gal)
· **Relative density:**	No information available

· **Other information**	
· **Appearance:**	
· **Form:**	Liquid
· **Important information on protection of health and environment, and on safety:**	
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible. Not determined.
· **Molecular weight**	78.1 g/mol

*
10 Stability and reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions:**
Vapors may form flammable and explosive mixtures with air.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/06/2025 Reviewed on 02/06/2025

Trade name: Dimethyl sulfoxide

(Contd. of page 4)

Reacts with bromomethane and sodium hydride
· **Conditions to avoid:**
Heating
Exposure to light
Avoid contact with: Water (the product dissociates to dimethyl sulfide and dimethyl sulfone)
· **Incompatible materials:**
Avoid contact with:
strong oxidizers
strong acids
strong bases
nitrates
halogenated compounds
· **Hazardous decomposition products:** In case of fire: see section 5

*
11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
Oral	LD50	14,500 mg/kg (rat)
Dermal	LD50	40,000 mg/kg (rat)
	LC50/96h	35.2-50.6 mg/l (fish)

· **on the skin:** Based on available data, the classification criteria are not met.
· **on the eye:** Based on available data, the classification criteria are not met.
· **Sensitization:** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - single exposure:**
Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - repeated exposure:**
Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.
· **Additional toxicological information:**

· **Carcinogenic categories**
· **IARC (International Agency for Research on Cancer)** Substance is not listed.
· **NTP (National Toxicology Program)** Substance is not listed.
· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

*
12 Ecological information

· **Toxicity:**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability:** Not easily biodegradable
· **Other information:** 94 % in 27 d
· **Bioaccumulative potential:** No relevant bioaccumulation expected due to log Pow = -1.35 (20°C, pH 7).
· **Mobility in soil:** No further relevant information available.
· **Results of PBT and vPvB assessment:**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects:**
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/06/2025 Reviewed on 02/06/2025

Trade name: Dimethyl sulfoxide

(Contd. of page 5)

Water hazard class 1 (Assessment by list): slightly hazardous for water

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** Dispose of in accordance with official regulations.

· **Uncleaned packagings:**
· **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number** · **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name** · **DOT, ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)** · **DOT, ADR, ADN, IMDG, IATA** · **Class**	Void
· **Packing group** · **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards** · **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
· **Section 355 (extremely hazardous substances):** Substance is not listed.
· **Section 313 (Specific toxic chemical listings):** Substance is not listed.
· **TSCA (Toxic Substances Control Act):** ACTIVE
· **Hazardous Air Pollutants** Substance is not listed.
· **Proposition 65** Substance is not listed.
· **Chemicals known to cause cancer:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
· **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
· **Chemicals known to cause developmental toxicity:** Substance is not listed.

· **Cancerogenity categories**
· **EPA (Environmental Protection Agency)** Substance is not listed.
· **TLV (Threshold Limit Value)** Substance is not listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
· **GHS label elements** Void

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Dimethyl sulfoxide

(Contd. of page 6)

· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product Safety Department
· **Contact:** +49 6221 13840-35
· **Date of preparation / last revision** 02/06/2025 / -
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
PBT: persistent, bioaccumulative, toxic substance (REACH)
vPvB: very persistent, very bioaccumulative substance (REACH)
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Regulation on classification, labelling and packaging of substances and mixtures
bw: body weight
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit