

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 06.02.2025

Version number 7

Revision: 06.02.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Dimethyl sulfoxide
- **Synonyma** DMSO
- **Article number:** 20385
- **CAS Number:**
67-68-5
- **EC number:**
200-664-3
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture:** Laboratory chemicals
- **1.3 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
- **1.4 Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Centre Mainz-Tel: +49 (0) 6131 19240
(Counselling in German and English)



SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008:**
The substance is not classified, according to the GB CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:** Void
- **Hazard pictograms:** Void
- **Signal word:** Void
- **Hazard statements:** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.
- **Determination of endocrine-disrupting properties** No further relevant information available.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description:**
67-68-5 dimethyl sulfoxide
- **Identification number(s):**
- **EC number:** 200-664-3
- **Description:**
- **Empirical formula:** C₂H₆O S

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Trade name: Dimethyl sulfoxide· **MW:** 78.1

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SECTION 4: First aid measures

- **4.1 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 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.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture:**
Vapours 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 formed, but not limited to:
Sulphur oxides (SO_x)
Carbon monoxide and carbon dioxide
Formaldehyde
Methyl mercaptan
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with eyes and skin.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 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).
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

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- **Information about protection against explosions and fires:**
Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
- **7.2 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 containers tightly closed and dry.
This product is hygroscopic.
Protect from exposure to the light.
- **7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls:** No further data; see section 7.
- **Individual protection measures, such as 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.
- **Hand protection:**
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.
- **Penetration time of glove material:**
The exact break through 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/face protection:** Safety glasses
- **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information:**
- **Physical state:** Fluid

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· Colour:	Colourless
· Odour:	Odourless
· Odour threshold:	not determined.
· Melting point/freezing point:	18 °C
· Boiling point or initial boiling point and boiling range:	189 °C
· Flammability:	Based on available data, the classification criteria for flammable liquids are not met.
· Lower and upper explosion limit:	
· Lower:	2.60 Vol %
· Upper:	28.50 Vol %
· Flash point:	87 °C (ASTM D93)
· Auto-ignition temperature:	300-302 °C
· Decomposition temperature:	≥190 °C
· pH:	5-7
· Viscosity:	
· Kinematic viscosity:	No information available
· Dynamic viscosity at 20 °C:	2.14 mPa·s
· Solubility:	
· Water at 20 °C:	1000 g/l
· Partition coefficient n-octanol/water (log value):	Not determined.
· Vapour pressure at 20 °C:	0.56 hPa
· Density and/or relative density:	
· Density at 20 °C:	1.1 g/cm ³
· Relative density:	No information available
· 9.2 Other information	
· Appearance:	
· Form:	Liquid
· Important information on protection of health and environment, and on safety:	
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible. Not determined.
· Molecular weight	78.1 g/mol

SECTION 10: Stability and reactivity

- **10.1 Reactivity:** No further relevant information available.
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:**
Vapours may form flammable and explosive mixtures with air.
Reacts with Bromomethane and sodium hydride
- **10.4 Conditions to avoid:**
Heating
Exposure to light
Avoid contact with: Water (the product dissociates to dimethyl sulfide and dimethyl sulfone)
- **10.5 Incompatible materials:**
Avoid contact with:
strong oxidizers
strong acids
strong bases
nitrates
halogenated compounds

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· **10.6 Hazardous decomposition products:** In case of fire: see section 5

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**· **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)

· **Skin corrosion/irritation:** Based on available data, the classification criteria are not met.· **Serious eye damage/irritation:** Based on available data, the classification criteria are not met.· **Respiratory or skin sensitisation:** 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.· **STOT-single exposure:** Based on available data, the classification criteria are not met.· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.· **Aspiration hazard:** Based on available data, the classification criteria are not met.· **11.2 Information on other hazards:**· **Endocrine disrupting properties:** No relevant information available

SECTION 12: Ecological information

· **12.1 Toxicity:**· **Aquatic toxicity:** No further relevant information available.· **12.2 Persistence and degradability:** Not easily biodegradable· **12.3 Bioaccumulative potential:**

No relevant bioaccumulation expected due to log Pow = -1.35 (20°C, pH 7).

· **12.4 Mobility in soil:** No further relevant information available.· **12.5 Results of PBT and vPvB assessment:**· **PBT:** PBT - assessment not available.· **vPvB:** vPvB - assessment not available.· **12.6 Endocrine disrupting properties:** For information on endocrine disrupting properties see section 11.· **12.7 Other adverse effects:**· **Additional ecological information:**· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

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

SECTION 13: Disposal considerations

· **13.1 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.

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SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class:	Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

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SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Poisons Act
- Regulated explosives precursors Substance is not listed.
- Regulated poisons Substance is not listed.
- Reportable explosives precursors Substance is not listed.
- Reportable poisons Substance is not listed.
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 75
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
Substance is not listed.
- REGULATION (EU) 2019/1148
- Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
Substance is not listed.
- Annex II - REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.
- Regulation (EC) No 273/2004 on drug precursors Substance is not listed.
- Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
Substance is not listed.
- National regulations:
- Technical instructions (air):

Class	Share in %
NK	80-100
- Water hazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.

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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 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 previous version:** 19.04.2018

· **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 (UK REACH)

vPvB: very persistent, very bioaccumulative substance (UK REACH)

UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

GB 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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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