

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 1 of 11

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Dimethyl sulfoxide &gt; 99 % (DMSO)

REACH Registration Number: 01-2119431362-50-XXXX

CAS No: 67-68-5

EC No: 200-664-3

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet**Company name: AnalytiChem GmbH  
ACD

Street: Stempelstraße 6

Place: D-47167 Duisburg

Telephone: 0203/5194-0

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

**1.4. Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

This substance is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

**2.2. Label elements****2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**Sum formula: (CH<sub>3</sub>)<sub>2</sub>SO

Molecular weight: 78,13 g/mol

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dimethyl sulfoxide &gt; 99 % (DMSO)

Revision: 08.07.2025

Product code: 23419

Page 2 of 11

## Relevant ingredients

| CAS No  | Chemical name                                 |          |                       | Quantity |
|---------|---|----------|-----------------------|----------|
|         | EC No   | Index No | REACH No              |          |
|         | Classification (Regulation (EC) No 1272/2008) |          |                       |          |
| 67-68-5 | dimethyl sulfoxide                            |          |                       | 100 %    |
|         | 200-664-3                                     |          | 01-2119431362-50-XXXX |          |
|         |   |          |                       |          |

Full text of H and EUH statements: see section 16.

## Specific Conc. Limits, M-factors and ATE

| CAS No  | EC No  | Chemical name                            | Quantity |
|---------|--|--|----------|
|         |  | Specific Conc. Limits, M-factors and ATE |          |
| 67-68-5 | 200-664-3  | dimethyl sulfoxide                       | 100 %    |
|         | dermal: LD50 = ca. 40000 mg/kg; oral: LD50 = 28300 mg/kg |  |          |

## Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

## General information

No data available

## After inhalation

Provide fresh air.

## After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

## After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

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

## After ingestion

Rinse mouth immediately and drink plenty of water.

Water, to which activated charcoal may be added

Call a physician immediately.

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

Headache

Gastrointestinal complaints

Irritant

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

Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).

## SECTION 5: Firefighting measures

## 5.1. Extinguishing media

## Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>)

Foam

Extinguishing powder

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 3 of 11

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Carbon dioxide (CO<sub>2</sub>), Carbon monoxide

Sulphur oxides

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Heating causes rise in pressure with risk of bursting.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

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

Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

No data available

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 4 of 11

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe vapour/aerosol. Provide adequate ventilation.

**Advice on protection against fire and explosion**

Take action to prevent static discharges.

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

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

Wash hands and face before breaks and after work and take a shower if necessary.

When using do not eat or drink.

Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

**Further information on handling**

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

Store in a cool dry place.

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

Protect against:

Heat

**Hints on joint storage**

No data available

**Further information on storage conditions**

Protect from sunlight.

storage temperature +5°C - +30°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 5 of 11

**DNEL/DMEL values**

| CAS No                   | Substance          |                |          |                  |
|--------------------------|--------------------|----------------|----------|------------------|
| DNEL type                |                    | Exposure route | Effect   | Value            |
| 67-68-5                  | dimethyl sulfoxide |                |          |                  |
| Worker DNEL, long-term   |                    | inhalation     | systemic | 484 mg/m³        |
| Worker DNEL, long-term   |                    | inhalation     | local    | 265 mg/m³        |
| Worker DNEL, long-term   |                    | dermal         | systemic | 200 mg/kg bw/day |
| Consumer DNEL, long-term |                    | inhalation     | systemic | 120 mg/m³        |
| Consumer DNEL, long-term |                    | inhalation     | local    | 47 mg/m³         |
| Consumer DNEL, long-term |                    | dermal         | systemic | 100 mg/kg bw/day |
| Consumer DNEL, long-term |                    | oral           | systemic | 60 mg/kg bw/day  |

**PNEC values**

| CAS No   | Substance          |  |
|--|--------------------|--|
| Environmental compartment                        | Value              |  |
| 67-68-5  | dimethyl sulfoxide |  |
| Freshwater                                       | 17 mg/l            |  |
| Marine water                                     | 1,7 mg/l           |  |
| Freshwater sediment                              | 13,4 mg/kg         |  |
| Secondary poisoning                              | 700 mg/kg          |  |
| Micro-organisms in sewage treatment plants (STP) | 11 mg/l            |  |
| Soil   | 3,02 mg/kg         |  |

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

goggles

Face protection umbrella

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 mm

Wearing time with permanent contact: > 480 min

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dimethyl sulfoxide &gt; 99 % (DMSO)

Revision: 08.07.2025

Product code: 23419

Page 6 of 11

By short-term hand contact

Trade name/designation: KCL 730 Camatril® Velours

Recommended material: NBR (Nitrile rubber) 0,4 mm

Wearing time with occasional contact (splashes): &gt; 60 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet <(>, <)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear full chemical protective clothing.

Take off immediately all contaminated clothing and wash it before reuse.

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: A

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|   |                   |
|---|-------------------|
| Physical state:   | Liquid            |
| Colour:   | colourless        |
| Odour:  | characteristic    |
| Odour threshold:  | No data available |
| Melting point/freezing point:                             | 18,5 °C           |
| Boiling point or initial boiling point and boiling range: | 189 °C            |
| Flammability:   | No data available |
| Lower explosion limits:                                   | 1,8 vol. %        |
| Upper explosion limits:                                   | 63 vol. %         |
| Flash point:  | 87 °C             |
| Auto-ignition temperature:                                | 300-302 °C        |
| Decomposition temperature:                                | >190 °C           |
| pH-Value:   | No data available |
| Viscosity / kinematic:<br>(at 20 °C)                      | 2,14 mm²/s        |
| Water solubility:<br>(at 20 °C)                           | 1000 g/l          |
| Solubility in other solvents                              | No data available |
| Dissolution rate:   | No data available |

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 7 of 11

|  |                         |
|--|-------------------------|
| Partition coefficient n-octanol/water: | log Pow: -1,35          |
| Dispersion stability:                  | No data available       |
| Vapour pressure:                       | 0,6 hPa                 |
| (at 20 °C)                             |                         |
| Vapour pressure:                       | No data available       |
| Density:                               | 1,104 g/cm <sup>3</sup> |
| Relative density:                      | No data available       |
| Bulk density:                          | No data available       |
| Relative vapour density:               | No data available       |
| Particle characteristics:              | No data available       |

**9.2. Other information**

**Information with regard to physical hazard classes**

**Explosive properties**

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**Sustained combustibility:**

Sustained combustibility

**Self-ignition temperature**

Solid:

No data available

Gas:

No data available

**Oxidizing properties**

No data available

**Other safety characteristics**

**Evaporation rate:**

No data available

**Solvent separation test:**

No data available

**Solvent content:**

No data available

**Solid content:**

No data available

**Sublimation point:**

No data available

**Softening point:**

No data available

**Pour point:**

No data available

No data available

**Viscosity / dynamic:**

2,14 mPa·s

(at 20 °C)

**Flow time:**

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

In case of warming:

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

Protect against:

Humidity

**10.3. Possibility of hazardous reactions**

Oxidising agent

Strong acid

Acid chlorides, inorganic

Nitric acid

Acid halides

Reducing agent

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 8 of 11

Acid chlorides, inorganic  
permanganates, e.g. potassium permanganate

**10.4. Conditions to avoid**

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

**10.5. Incompatible materials**

plastic  
Metal

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

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

| CAS No  | Chemical name      |                      |         |  |                                       |
|---------|--------------------|----------------------|---------|--|---------------------------------------|
|         | Exposure route     | Dose                 | Species | Source                                   | Method                                |
| 67-68-5 | dimethyl sulfoxide |                      |         |  |                                       |
|         | oral               | LD50 28300 mg/kg     | Rat     | Toxicol. Appl. Pharmacol. 7: 104-112 (19 | OECD Guideline 401                    |
|         | dermal             | LD50 ca. 40000 mg/kg | Rat     | J Clin Pharmacol, 8(5), 315-321 (1968)   | Rats were immersed in a DMSO solution |

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Upon skin contact: slight irritation.

In case of eye contact: mild irritation.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available



**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 9 of 11

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards****Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Other information**

Liver and kidney damage

**Further information**

Headache

Gastrointestinal complaints

Irritant

**SECTION 12: Ecological information****12.1. Toxicity**

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

| CAS No  | Chemical name            |                  |           |         |                                    |  |
|---------|--------------------------|------------------|-----------|---------|------------------------------------|--|
|         | Aquatic toxicity         | Dose             | [h]   [d] | Species | Source                             | Method   |
| 67-68-5 | dimethyl sulfoxide       |                  |           |         |                                    |  |
|         | Acute fish toxicity      | LC50<br>mg/l     | 34000     | 96 h    | Pimephales<br>promelas             | Center for Lake<br>Superior<br>Environmental S |
|         | Acute algae toxicity     | ErC50<br>mg/l    | 17000     | 72 h    | Pseudokirchneriella<br>subcapitata | Study report<br>(2009)                         |
|         | Acute crustacea toxicity | EC50<br>mg/l     | 24600     | 48 h    | Daphnia magna                      | Bull Environ<br>Contam Toxicol,<br>70, 1264-12 |
|         | Acute bacteria toxicity  | EC50<br>mg/l ( ) | 10 - 100  | 0,5 h   | activated sludge,<br>domestic      | Study report<br>(1990)                         |

**12.2. Persistence and degradability**

31 %; 28 d; aerob

OECD 301D

Not readily biodegradable (according to OECD criteria)

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

| CAS No  | Chemical name      | Log Pow |
|---------|--------------------|---------|
| 67-68-5 | dimethyl sulfoxide | -1,35   |

**BCF**

| CAS No  | Chemical name      | BCF  | Species | Source               |
|---------|--------------------|------|---------|----------------------|
| 67-68-5 | dimethyl sulfoxide | 3,16 |         | EPI Suite, Version 3 |

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dimethyl sulfoxide &gt; 99 % (DMSO)

Revision: 08.07.2025

Product code: 23419

Page 10 of 11

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Avoid release to the environment.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

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

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

**14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dimethyl sulfoxide > 99 % (DMSO)**

Revision: 08.07.2025

Product code: 23419

Page 11 of 11

Restrictions on use (REACH, annex XVII):

Entry 75

Information according to Directive  
2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Water hazard class (D):

1 - slightly hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 5,6,8,11,14.

**Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.