

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

Product form : Substance
Trade name : Dimethyl sulfoxide GEN
IUPAC name : dimethyl sulfoxide
EC-No. : 200-664-3
CAS-No. : 67-68-5
REACH registration No : 01-2119431362-50
Product code : DMSO-00B
Formula : C₂H₆O_S

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Laboratory use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

labbox labware s.l.
Migjorn, 1
P.O. Box Barcelona (SPAIN)
08338 Premia de Dalt – SPAIN
ES
T +34 937 07 79 70 - F +34 937 909 532
info@labbox.com - www.labbox.com

1.4. Emergency telephone number

Emergency number : +34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number.

| Country | Organisation/Company | Address | Emergency number | Comment |
|----------------|---|----------------------------|------------------|---------|
| United Kingdom | National Poisons Information Service (Belfast Centre) Royal Victoria Hospital | Grosvenor Road BT12 6BA | 0344 892 0111 | |

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

No labelling applicable

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

| Name | Product identifier | % |
|--------------------|---|-------|
| Dimethyl sulfoxide | CAS-No.: 67-68-5 EC-No.: 200-664-3 REACH-no: 01-2119431362-50 | ≥ 100 |

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Get medical advice/attention if you feel unwell. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice. |
| First-aid measures after skin contact | : Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists. |
| First-aid measures after ingestion | : Rinse mouth. Get medical advice/attention if you feel unwell. |

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

| | |
|-------------------------------------|-------------------------------------|
| Symptoms/effects after skin contact | : Slight irritation. |
| Symptoms/effects after eye contact | : mild eye irritation. |
| Symptoms/effects after ingestion | : nausea, vomiting. Abdominal pain. |

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

Never give anything by mouth to an unconscious person.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|---------------------|
| Suitable extinguishing media | : ABC-powder. |
| Unsuitable extinguishing media | : Strong water jet. |

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic vapours are released.

5.3. Advice for firefighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not inhale vapour.

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6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Collect spillage. On land, sweep or shovel into suitable containers.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe vapours.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed.
Storage temperature : 15 – 25 °C
Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

| Dimethyl sulfoxide GEN (67-68-5) | |
|---|-------------------------|
| Germany - Occupational Exposure Limits (TRGS 900) | |
| Local name | Dimethylsulfoxid (DMSO) |
| AGW (OEL TWA) [1] | 160 mg/m ³ |
| AGW (OEL TWA) [2] | 50 ppm |
| Limitation of exposure peaks | 2(I) |
| Remark | DFG;Z;H |
| Regulatory reference | TRGS900 |

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

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8.1.4. DNEL and PNEC

| Dimethyl sulfoxide GEN (67-68-5) | |
|--|--------------------------|
| DNEL/DMEL (Workers) | |
| Long-term - systemic effects, dermal | 200 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 484 mg/m ³ |
| Long-term - local effects, inhalation | 265 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, oral | 60 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 120 mg/m ³ |
| Long-term - systemic effects, dermal | 100 mg/kg bodyweight/day |
| Long-term - local effects, inhalation | 47 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 17 mg/l |
| PNEC aqua (marine water) | 1,7 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 13,4 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 3,02 mg/kg dwt |
| PNEC (Oral) | |
| PNEC oral (secondary poisoning) | 0,7 g/kg food |
| PNEC (STP) | |
| PNEC sewage treatment plant | 11 mg/l |

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

EN 374.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

protective gloves

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8.2.2.3. Respiratory protection

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Do not eat, drink or smoke during use. Wash hands with water as a precaution.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Colour | : Colourless. |
| Appearance | : Liquid. |
| Molecular mass | : 78,14 g/mol |
| Odour | : Not available |
| Odour threshold | : Not available |
| Melting point | : 18,5 °C Decomposition: 'no' |
| Freezing point | : Not available |
| Boiling point | : 189 °C Atm. press.: 1013 hPa Decomposition: 'yes' |
| Flammability | : Not available |
| Explosive limits | : Not available |
| Lower explosion limit | : 2,6 vol % |
| Upper explosion limit | : 28,5 vol % |
| Flash point | : 87 °C Atm. press.: 1013 hPa |
| Auto-ignition temperature | : 300 °C (1013 hPa) |
| Decomposition temperature | : > 190 °C |
| pH | : Not available |
| Viscosity, kinematic | : 1,944 mm ² /s |
| Viscosity, dynamic | : 2,14 mPa·s Temp.: '20°C' Parameter: 'dynamic viscosity (in mPa s)' |
| Solubility | : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Water: 100 g/100ml 25 °C |
| Partition coefficient n-octanol/water (Log Kow) | : Not available |
| Partition coefficient n-octanol/water (Log Pow) | : -1,35 20 °C |
| Vapour pressure | : 0,417 mm Hg Temp.: 20 °C |
| Vapour pressure at 50 °C | : 7,5 hPa |
| Density | : 1,1 g/ml 20 °C |
| Relative density | : Not available |
| Relative vapour density at 20 °C | : 2,7 |
| Relative density of saturated gas/air mixture | : 1 |
| Particle characteristics | : Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content : 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Hydroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Dimethyl sulfoxide GEN (67-68-5)

| | |
|-----------------------------------|---|
| LD50 oral rat | 28300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rat | ≈ 40000 mg/kg bodyweight Animal: rat |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |

Dimethyl sulfoxide GEN (67-68-5)

| | |
|---|--|
| LOAEC (inhalation, rat,dust/mist/fume, 90 days) | 2,783 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: EPA OPPTS 870.3465 (90-Day Inhalation Toxicity) |
| NOAEL (oral, rat, 90 days) | ≥ 1000 mg/kg bodyweight Animal: rat, Guideline: other:OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |

Aspiration hazard : Not classified

Dimethyl sulfoxide GEN (67-68-5)

| | |
|----------------------|--------------------------|
| Viscosity, kinematic | 1,944 mm ² /s |
|----------------------|--------------------------|

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

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Hazardous to the aquatic environment, long-term (chronic) : Not classified

Dimethyl sulfoxide GEN (67-68-5)

| | |
|--------------------|---|
| LC50 - Fish [1] | > 25 g/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Daphnia [1] | 24,6 g/l Test organisms (species): Daphnia magna |

12.2. Persistence and degradability

Dimethyl sulfoxide GEN (67-68-5)

Persistence and degradability : Moderately biodegradable.

12.3. Bioaccumulative potential

Dimethyl sulfoxide GEN (67-68-5)

| | |
|---|---------------------|
| Partition coefficient n-octanol/water (Log Pow) | -1,35 20 °C |
| Bioaccumulative potential | No bioaccumulation. |

12.4. Mobility in soil

Dimethyl sulfoxide GEN (67-68-5)

| | |
|--|------------|
| Surface tension | 0,0435 N/m |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0,64 |

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Must follow special treatment according to local regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated

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Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

No REACH Annex XVII restrictions

REACH Annex XIV (Authorisation List)

Dimethyl sulfoxide GEN is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

Dimethyl sulfoxide GEN is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Dimethyl sulfoxide GEN is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Dimethyl sulfoxide GEN is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Dimethyl sulfoxide is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

VOC Directive (2004/42)

VOC content : 100 %

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

France

| Occupational diseases | |
|-----------------------|---|
| Code | Description |
| RG 84 | Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide |

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to VwVwS, Annex 3; ID No. 5050).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Ontwikkeling

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Denmark

| | |
|------------------------|--|
| Class for fire hazard | : Class III-1 |
| Store unit | : 50 liter |
| Classification remarks | : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed |

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

No additional information available

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.