

Dimethyl sulfoxide

Safety Data Sheet

D1370

according to Regulation (EU) 2015/830

Version: 2.0

Date of issue: 28/09/2010 Revision date 19/09/2017
Supersedes 09/08/2011

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

1.1. Product identifier

Product form : Substance
Trade name : Dimethyl sulfoxide
EC-No. : 200-664-3
CAS-No. : 67-68-5
REACH registration No : 01-2119431362-50-XXXX
Product code : D1370
Formula : C₂H₆O_S
Synonyms : DMSO
Methylsulfoxide
Product group : Raw material

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Duchefa Biochemie B.V.
A. Hofmanweg 71
2031 BH Haarlem - The Netherlands
T +31(0)23-5319093 - F +31(0)23-5318027
info@duchefa.nl

1.4. Emergency telephone number

Emergency number : Supplier contact information:
+31(0)23-5319093 (M-F 09:00-17:00)
+31(0)6-30109355 (outside office hours)

Organisation/Company	Address	Comment
World Health Organization world directory of poison centres	http://apps.who.int/poisoncentres/	Consult website for a local poison centre

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

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Dimethyl sulfoxide
CAS-No. : 67-68-5
EC-No. : 200-664-3

Name	Product identifier	%
Dimethyl sulfoxide	(CAS-No.) 67-68-5 (EC-No.) 200-664-3	>= 99,9

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Assure fresh air breathing
Get medical advice/attention.
First-aid measures after skin contact : Wash skin with mild soap and water
Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact : Rinse immediately with plenty of water
Seek medical advice.
First-aid measures after ingestion : Rinse mouth
Seek medical attention if ill effect develops.

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

Symptoms/effects after eye contact : Tears. Redness of the eye tissue.
Symptoms/effects after ingestion : Ingestion may cause nausea, vomiting and diarrhea.

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

Laxative: sodium sulfate. Give water to drink if victim completely conscious/alert.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray
Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : When exposed to heat, may decompose liberating hazardous gases
- SO_x.

5.3. Advice for firefighters

- Precautionary measures fire : Do not enter fire area without proper protective equipment, including respiratory protection.
- Firefighting instructions : Use water spray or fog for cooling exposed containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid breathing dust, mist or spray.

6.1.1. For non-emergency personnel

No additional information available

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 : Rinse with plenty of water. Dike for recovery or absorb with appropriate material.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Neoprene protective gloves. Keep container closed when not in use. Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in dry, well-ventilated area
Store at room temperature.

7.3. Specific end use(s)

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- Additional information : Provide local exhaust or general room ventilation

8.2. Exposure controls

Hand protection:

Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Neoprene rubber (HNBR)	6 (> 480 minutes)	0,65	EN 374

Eye protection:

Safety glasses

Skin and body protection:

If skin contact or contamination of clothing is likely, protective clothing should be worn. Avoid repeated or prolonged skin contact

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Filter type P1 (EN 143)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 78,1 g/mol
Colour	: Colourless.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 18,5 (18 - 20) °C
Freezing point	: No data available
Boiling point	: 189 °C at 1.013 hPa
Flash point	: 87 °C
Auto-ignition temperature	: 270 °C
Decomposition temperature	: > 190 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: 0,6 hPa at 20 °C
Relative vapour density at 20 °C	: 2,7
Relative density	: No data available
Density	: 1099 - 1101 g/l at 20 °C
Solubility	: Water: 1000 g/l at 20 °C
Log Pow	: -1,35
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 2,14 mPa.s at 20 °C
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1,8 vol % Lower explosion limit 63 vol % Upper explosion limit

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Attacks metals

Product can attack some forms of plastics.

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

Stable under normal conditions.

10.4. Conditions to avoid

Overheating

Moisture.

10.5. Incompatible materials

Alkali

Strong oxidizers

Acids

Sulfur.

10.6. Hazardous decomposition products

When heated to decomposition, emits dangerous fumes:

- SO_x.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : May be harmful if swallowed.

Dimethyl sulfoxide (67-68-5)	
LD50 oral rat	14500 mg/kg RTECS
LD50 dermal rat	40000 mg/kg
LC50 inhalation rat (mg/l)	5,33 mg/l/4h OECD 403

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

Aspiration hazard : May cause irritation to the respiratory tract

Other information : RTECS no. PV6210000.

SECTION 12: Ecological information

12.1. Toxicity

Dimethyl sulfoxide (67-68-5)	
LC50 fish 1	> 35000 mg/l Oncorhynchus mykiss (Rainbow trout)
LC50 fish 2	> 25000 mg/l Danio rerio (zebrafish)

12.2. Persistence and degradability

Dimethyl sulfoxide (67-68-5)	
Biodegradation	31 %

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12.3. Bioaccumulative potential

Dimethyl sulfoxide (67-68-5)	
Log Pow	-1,35

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Prevent entry to sewers and public waters

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of this material and its container to hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / IATA / IMDG

ADR	IMDG	IATA
14.1. UN number		
Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Dimethyl sulfoxide is not on the REACH Candidate List

Dimethyl sulfoxide is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV

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

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV

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

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 giftige stoffen – Borstvoeding

: The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid

: The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling

: The substance is not listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

1.4	Emergency telephone number	Modified	
2	Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]	Removed	Obsolete
7.1	Precautions manipulation	Added	Wearing gloves
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves
9.1	Melting point	Modified	

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose

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LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : Manufacturer. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H315	Causes skin irritation.
H319	Causes serious eye irritation.

SDS Biochemicals version 2018

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