Dimethyl sulfoxide AGR ACS

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Date of issue: 08/01/2014 Revision date: 28/09/2022 Supersedes version of: 14/10/2020 Version: 2.4

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Dimethyl sulfoxide AGR ACS
IUPAC name	:	dimethyl sulfoxide
EC-No.	:	200-664-3
CAS-No.	:	67-68-5
REACH registration No	:	05-2118478373-34
Product code	:	DMSO-00A
Formula	:	C2H6OS

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

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: 05-2118478373-34	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 experiencing respiratory symptoms: Call a poison center or a doctor.

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 : Rinse immediately with plenty of water. 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 : Ingestion may cause nausea and vomiting. Abdominal pain.

Chronic symptoms : May cause drowsiness or dizziness.

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. Water spray.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : This product is flammable.

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

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. No flames, no sparks. Eliminate all sources of ignition.

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

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. Store in a well-ventilated place. Keep container tightly closed.

Storage area : Store in a cool, well-ventilated place.

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 AGR ACS (67-68-5)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Dimethylsulfoxid (DMSO)
AGW (OEL TWA) [1]	160 mg/m³
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

8.1.4. DNEL and PNEC

Dimethyl sulfoxide AGR ACS (67-68-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	200 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	484 mg/m³
Long-term - local effects, inhalation	265 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	60 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	120 mg/m³
Long-term - systemic effects, dermal	100 mg/kg bodyweight/day
Long-term - local effects, inhalation	47 mg/m³
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

Hand protection:
Protective gloves

Other skin protection Materials for protective clothing		
Condition	**Material**	**Standard**
Good resistance:	Butyl rubber, Neoprene, Tetrafluoroethylene, Latex, Nitrile rubber	

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

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 mm²/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
Vapour pressure	:	0,417 mm Hg Temp.: 20 °C
Vapour pressure at 50 °C	:	7,5 hPa
Density	:	1101 kg/m³ 20 °C
Relative density	:	1,1 20 °C
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

Specific conductivity	:	200000 pS/m

VOC content : 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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

Oxidizing agent. Halogenated compounds. Acids.

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 AGR ACS (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 AGR ACS (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 AGR ACS (67-68-5)	
Viscosity, kinematic	1,944 mm²/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

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

Dimethyl sulfoxide AGR ACS (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

No additional information available

12.3. Bioaccumulative potential

Dimethyl sulfoxide AGR ACS (67-68-5)	
BCF - Fish [1]	< 0,4
Partition coefficient n-octanol/water (Log Pow)	-1,35
Bioaccumulative potential	No bioaccumulation.

12.4. Mobility in soil

Dimethyl sulfoxide AGR ACS (67-68-5)	
Surface tension	0,0435 N/m (20 °C, 10 g/l)

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.

European List of Waste (LoW) code : 16 03 06 - organic wastes other than those mentioned in 16 03 05

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
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

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 AGR ACS is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

Dimethyl sulfoxide AGR ACS is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Dimethyl sulfoxide AGR ACS 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 AGR ACS 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 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

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.