Date: May.26th, 2025

Dimethyl sulfoxide

Safety Data Sheet

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

1.1.Product identifier
Product form:Substance
Substance name: Dimethyl sulfoxide
EC-No:200-664-3
CAS-No:67-68-5
REACH-No:01-2119431362-50-0003
1.2.Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
Main use category: For more detail information, please refer to Annex (Exposure Scenarios).
1.2.2.Uses advised against No additional information available
1.3.Details of the supplier of the safety data sheet
Supplier:HEBEI JRAIN TECHNOLOGY CO.,LTD.
Address: No. 66 XIANGTAI ROAD, YUHUA DISTRICT, SHIJIAZHUANG CITY, HEBEI PROVINCE,CHINA
PostalCode:050000
Phone+86-311-80680379
FAX+86-311-80680380
1.4.Emergency telephone number
Emergency number:+86-311-80680379

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
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.
2.2.Label elements
Labeling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable
2.3Other hazards
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation(EU)2018/605

SECTION 3: Composition/information on ingredients

3.1.Substances

Name	Product identifier	%	Classification according to

	(CAS-No.)67-68-5		Regulation(EC)No. 1272/2008[CLP]
Dimethyl sulfoxide	(EC-No.)200-664-3	99.5-100	Not classified

3.2.Mixtures

Not applicable

SECTION 4: First aid measures

4.1.Description of first aid measures

First-aid measures general: Never give fluids or induce vomiting if patient is unconscious or is having convulsions.Remove contaminated clothing promptly(launder before reuse). In all cases of doubt, or when symptoms persist, seek medical attention.

First-aid measures after inhalation: Give oxygen or artificial respiration if necessary. Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact: Wash of immediately with soap and plenty of water while removing al contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, cal a physician.

First-aid measures after eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion:Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. If necessary seek medical advice.

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

Symptoms/effects: DMSO has shown very few toxic symptoms in humans. The most common are nausea, skin

rashes and an unusual garlic-onion-oyster smell on body and breath.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1.Extinguishing media

Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media:No information available.

5.2.Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire:Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1.Personal precautions, protective equipment and emergency procedures

6.1.1.For non-emergency personnel

Emergency procedures:Ventilate spillage area.

6.1.2.For emergency responders

Protective equipment:Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2.Environmental precautions

Do not allow into drains or water courses. Do not allow run-off from fire fighting to enter drains or water courses.

6.3.Methods and material for containment and cleaning up

For containment: Collect spillage.

Methods for cleaning up: Take up liquid spil into absorbent material.

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

6.4.Reference to other sections

No information available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Keep away from sources of ignition - No smoking. Avoid contact with skin, eyes and clothing.Take action to prevent static discharges. Ensure good ventilation of the work station.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2.Conditions for safe storage, including any incompatibilities

Storage conditions:Keep away from ignition sources. Keep container tightly closed and in well ventilated place.

Keep cool.

7.3.Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1.Control parameters

8.1.1 National occupational exposure and biological limit values

Dimethylsulfoxide(67-68-5)

Austria	MAK(mg/m^3)	160 mg/m^3
Austria	MAK(ppm)	50ppm
Denmark	Graensevaerdie(langvarig)(mg/m^3)	160mg/m^3
Denmark	Graensevaerdie(langvarig)(ppm)	50ppm
Estonia	OEL TWA(mg/m^3)	150mg/m^3
Estonia	OEL TWA(ppm)	50ppm
Estonia	OEL STEL(mg/m^3)	500mg/m^3
Estonia	OEL STEL(ppm)	150ppm
Finland	HTP-arvo(8h)(ppm)	50ppm
Germany	TRGS 900 Occupational exposure limit value(mg/m3)	160 mg/m3(The risk of damage to the embryo the embryo or tetus cannot be excluded even when AGW and BGW values
Germany	TRGS 900 Occupational exposure limit value (ppm)	50 ppm(The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Lithuania	IPRV(mg/m3)	150mg/m^3
Lithuania	IPRV(ppm)	50ppm
Lithuania	TPRV(mg/m3)	500mg/m^3
Lithuania	TPRV(ppm)	150ppm
Slovenia	OEL TWA(mg/m3)	160mg/m3
Sweden	nivagransvarde(NVG)(mg/m3)	150mg/m^3
Sweden	nivagransvarde(NVG)(ppm)	50ppm
Sweden	kortidsvarde(KTV)(mg/m3)	500mg/m^3
Sweden	kortidsvarde(KTV)(ppm)	150ppm
Switzerland	MAK(mg/m3)	160mg/m^3

Switzerland	MAK(ppm)	50ppm
Switzerland	KZGW(mg/m3)	320mg/m^3
Switzerland	KZGW(ppm)	100ppm

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(67-68-5)

DNEL/DMEL(Workers)

Long-term-systemic effects, dermal	200 mg/kg bodyweight/day
Long-term-systemic effects, inhalation	484mg/m3

Dimethyl sulfoxide(67-68-5)

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	120mg/m
Long-term-systemic effects, dermal	100 mg/kg bodyweight/day
Long-term-local effects, inhalation	47mg/m

PNEC(Water)

PNEC aqua(freshwater)	17mg/l
PNEC aqua (marine water)	1.7mg/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)	700 mg/kg food

PNEC(STP)

PNEC sewage treatment plant	11mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

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

8.2.2.3.Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physicalstate	:Liquid
Appearance	:Clear liquid.

Colour :Clear

Odour :odourless.

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point :18.5℃

Freezing point : No data available

Boiling point :189°C(1013hpa)

Flash point :87°C

Auto-ignition temperature : 300-302°C

Decomposition temperature : No data available

Flammability(solid, gas) : No data available

Vapour pressure :0.56 hPa(20°C)

Relative vapour density at20°C : No data available

Relative density :1.1(20°C)

Density :1.1 g/cm3(20°C)

Solubility :DMSO mixes totally with water1000 g/l(25°C)

Log Pow :-1.35

Viscosity, kinematic : No data available

Viscosity, dynamic :2.14 mPa.s(20°C)

Explosive properties : No data available

Oxidising properties : Non oxidizing.

Lower explosive limit(LEL) :2.6 vol%

Upper explosive limit(UEL) :28.5 vol %

9.2.Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Sensitivity to Static Discharge: Material is unlikely to accumulate a static charge, which could act as an ignition source.

SECTION 10: Stability and reactivity

10.1.Reactivity

Reacts violently with strong oxidants such as perchlorates.

Hygroscopic. Keep container tightly closed.

10.2.Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Prolonged heating above 150 C can cause rapid, exothermic decomposition.

The substance decomposes on heating or on burning producing toxic fumes including sulfur oxides.

10.4.Conditions to avoid

Do not allow water (or moist air) contact with this material. Incompatible materials. High temperature.

10.5.Incompatible materials

Organic and inorganic acid chlorides, strong oxidizing agents, alkali metals, hydrobromic acid, acidic solutions of alkali bromides.

10.6.Hazardous decomposition products

Hazardous decomposition products formed under fire conditions:

Sulfur dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and bis (methylthio)methane.

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(67-68-5)

LD50 oral rat 28300 mg/kg

LD50 dermal 40000 mg/kg bodyweight

LC50 Inhalation 5330mg/m3

Skin corrosion/irritation : Slightly iritant but not relevant for classification

Serious eye damage/irritation : Slightly irritant but not relevant for classification

Respiratory or skin sensitisation : not sensitising

Germ cell mutagenicity : Genetic toxicity: negative

Carcinogenicity : Not classified

Reproductive toxicity :Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrinedisrupting properties

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation(EU)2017/2100 or Commission Regulation(EU)2018/605.

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology-general :The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity : Not classified.

Chronic aquatic toxicity :Not classified

Dimethyl sulfoxide(67-68-5)

LC50fish 25000 mg/L/24h(Danio rerio)

EC50 Daphnia 24600 mg/l/48h(Daphnia magna)

EC5072h algae 17000 mg/l(Pseudokirchnerella subcapitata)

12.2.Persistence and degradability

Dimethyl sulfoxide(67-68-5)

Persistence and degradability No information available.

12.3.Bioaccumulative potential

Dimethyl sulfoxide(67-68-5)

Log Pow	-1.35
Bioaccumulative potential	No bioaccumulation potential.

12.4.Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Not PBT and vPvB substance.

12.6. Endocrine disrupting properties

Adverse effects on the environment caused byendocrine disrupting properties: The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation(EU)2017/2100 or Commission Regulation(EU)2018/605.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste Disposal: Dilute and flush to an approved wastewater treatment system. Bacterial decomposition of dimethyl sulfoxide during wastewater treatment can result in the release of dimethyl sulfide (a volatile substance with a strong disagreeable odor). Waste DMSO can also be incinerated in an approved furnace where permitted. Consult federal, state or local authorities for proper disposal procedures. Empty Containers: Transported/delivered using a registered waste carrier for recycling or waste disposal in accordance with local regulations.

Sewage disposal recommendations: Disposal must be done according to official regulations.

Product/Packaging disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.2.UN proper shipping name

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

14.4.Packing group

Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.5.Environmental hazards

Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

14.6.Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

-Air transport

Not applicable

- Inland waterway transport

Not applicable

-Rail transport

Not applicable

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 Candidate List(SVHC)

Dimethyl Sulfoxide(DMSO) is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

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

POP Regulation(Persistent Organic Pollutants)

Dimethy! Sulfoxide (DMSO) 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.

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(s) listed on the Drug Precursors list(Regulation EC 273/2004 on drug precursors)

15.2.Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

AND : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR :European Agreement concerning the International Carriage of Dangerous Goods by Road

CLP : Classification Labelling Packaging Regulation; Regulation(EC)No 1272/2008

DMEL :Derived Minimal Effect level

DNEL :Derived-No Effect Level

EC50 :Median effective concentration

IATA :International Air Transport Association

IMDG International Maritime Dangerous Goods

LC50:Median lethal concentration

LD50:Median lethal dose

PBT :Persistent Bioaccumulative Toxic

PNEC :Predicted No-Effect Concentration

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

STP:Sewage treatment plant

VPvB :Very Persistent and Very Bioaccumulative

REACH :Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation(EC) No 1907/2006

Issue date: 8/18/2010

Revision date: 1/13/2023

Data sources: : LOLI. ECHA reference.

Training advice: Normal use of this product shall imply use in accordance with the instructions on the packaging.

Other information: No information available.

SDS EU(REACH Annex ll)

The informaton provided in this Material Safety Data Sheeti corect to the besto our knowledge, informatin and belie athe date o ts pblication. The information given is designed only as a guidaince for sade handling, use procesing storage transportation, disposal nd release and is not tb be consdered a waranty or qualty speciation. The informatin reates only t he specic material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

HEBEI JRAIN TECHNOLOGY CO.,LTD.