Dimethyl Sulfoxide

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Version 8.0
Revision Date 2025/08/20
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SDS No. Aure - 10894
Product Number Aure - 10894

SECTION 1: Identification

1.1 Product identifiers

Product Name	Dimethyl sulfoxide
CAS No	67-68-5
Molecular Weight	78.13 g/mol

1.2 Recommended use

Dimethyl sulfoxide is a nonpolar proton solvent commonly used as a reaction medium and reagent in organic reactions, and dimethyl sulfoxide can be used as an oxidizing agent to convert isonitrile to isocyanate. DMSO activated by oxalyl chloride can be used to oxidize long-chain alcohols to carbonyl compounds..

1.3 Supplier's details

Company Name	Shandong Aure Chemical Co., Ltd.
Address	No. 61 Gongshan Road, Qilu Chemical Industrial Zone, Zibo, Shandong, China
Telephone	+86 18653390106
Email	Services@aurechem.com

1.4 Emergency telephone number

Emergency Phone

+86 13263299644

SECTION 2: Hazards Identification

2.1 GHS Classification

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

Not classified

Adverse physicochemical, human health and environmental effects:

No information available.

2.2 GHS Label elements

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

Hazard pictograms (CLP)	No pictograms
Signal word (CLP)	No signal word
Hazard statements (CLP)	No information available
Precautionary statements (CLP)	No information available
EUH-statements	None

2.3 Other hazards

This substance does not meet the criteria for classification as PBT or vPvB (Annex XIII, REACH).
It is not listed in Annex XIV or on the Candidate List of SVHC under REACH.
No endocrine-disrupting properties are identified.
Note: DMSO may enhance the skin absorption of other chemicals.

SECTION 3: Composition/Information on Ingredients

3.1 Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Hazard statements	Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
Dimethyl sulfoxide	CAS#67-68-5 EC#200-664-3	≥99.9	Not classified	-	-

3.2 Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1 Description of first-aid measures

First-aid measures general	First aid is usually required. Please show this SDS to the physician arriving at the scene.
First-aid measures after inhalation	IF INHALED: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Seek medical advice/attention if you feel unwell.
First-aid measures after eye contact	Immediately flush eyes thoroughly with water for at least 15 minutes. Rinse with water while holding the eyes wide open. Get immediate medical advice/attention.

First-aid measures after skin contact	Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention. Because DMSO may enhance dermal absorption of other chemicals, ensure that exposed skin is free of contaminants.
First-aid measures after ingestion	Give water to drink if victim completely conscious/alert. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 Most important symptoms

Difficulty breathing, symptoms of overexposure may be headache, dizziness, tiredness, nausea, and vomiting.

4.3 Indication of immediate medical attention:

Treat symptomatically.

SECTION 5: Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Carbon dioxide, Foam. Use fire extinguishing methods suitable to surrounding conditions.

Unsuitable extinguishing media

No information available.

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire

Combustible. Explosions can occur when the container is heated. Thermal decomposition leads to the release of irritating gases and vapors.

5.3 Advice for firefighters

rotective equipment for firefighters

Wear self-contained breathing apparatus and protective suit (see section 8). Where possible, spray water to cool the container/tank. Avoid allowing fire water to seep into drains or streams. Remove all sources of ignition. Wear personal protective equipment.

Approach from the upwind. Evacuate people to a safe location. In the event of a fire, all pressure tanks such as compressed air or oxygen should be evacuated.

Firefighting instructions

Wear personal protective equipment

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Protective equipment

For non-emergency personnel	Avoid contact with the skin, eyes and clothing. Wear tightly sealed goggles. Wear gloves, protective clothing and rubber boots for hygienic reasons.
For emergency responders	For further information refer to section 8: "Exposure controls/personal protection". Ensure adequate ventilation. Remove all sources of ignition.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up

Remove all ignition sources. Absorption with inert adsorption material. Store in an appropriate airtight container for disposal.

Other information

Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Ensure that the workplace is well ventilated.

Avoid contact with skin, eyes, and clothing..

Avoid inhaling dust, vapours, gases or sprays.

Wear personal protective equipment.

Operate in an unsealed environment or with a respiratory protective mask.

7.2 Conditions for safe storage, including any incompatibilities

Store in a tightly closed container in a cool, dry and well-ventilated place.

7.3 Specific end use:

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Component	Country	Occupational exposure limits
Dimethyl sulfoxide	China	TWA: 160 mg/m³ (Skin)
	Austria	TWA: 160 mg/m³ (Skin)
	Denmark	TWA: 160 mg/m³ STEL: 320 mg/m³
	Germany (AGS)	TWA: 160 mg/m³ (Skin) STEL: 320 mg/m³ (Skin)
	Germany (DFG)	TWA: 160 mg/m³ (Skin) STEL: 320 mg/m³ (Skin)
	Sweden	TWA: 150 mg/m³ STEL: 500 mg/m³
	Switzerland	TWA: 160 mg/m³ STEL: 320 mg/m³

8.2 Exposure controls

Ensure good ventilation at the workplace. Ensure the eyewash table and the safety shower room are close to the workplace.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Hand protection Wear suitable gloves.

Eye protection Safety glasses(EU standard - EN 166). If potential for splash or mist exists, wear chemical goggles or faceshield.

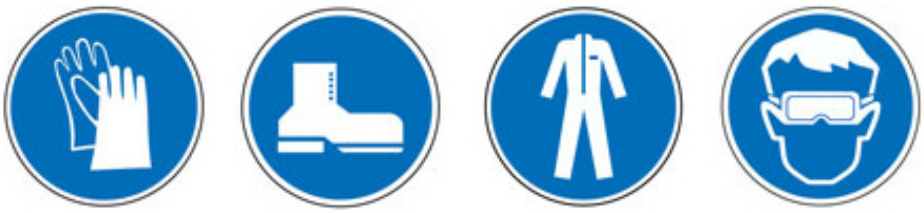
Skin and body protection Long-sleeved shirts are recommended. Do not wear rings, watches, or similar clothing to avoid adsorption of materials and skin reactions. Wear protective gloves and clothing; DMSO can facilitate the absorption of other chemicals through the skin.

Contaminated clothing should be washed before use.

Respiratory protection Under normal use conditions, respirator is not usually required.

If the exposure limit is exceeded or irritation or other symptoms occur, a respirator approved by NIOSH/MSHA or EU standard EN 136 is used

Personal protective equipment symbols:



Thermal hazard protection:

No information available.

Environmental exposure controls:

Prevent liquid from entering sewers, watercourses, underground or low areas.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Colorless transparent liquid
Color	Clear and colorless
Odor	A faint garlic odor
Melting point	18.5 °C (101 325 Pa)
Boiling range	189 °C (101 325 Pa)
Flash point	87 °C (closed)
Auto-ignition temperature	300 - 302 °C
Decomposition temperature	No information available
Flammability	No information available
Vapour pressure	0.56 hPa (20°C)
Relative vapour density at 20 °C	2.7(air = 1)
Relative density	1.1(20°C)
Density	1.1 g/cm3 (20°C)
Solubility	Completely miscible with water
Log Pow	Log Kow = -1.35(20°C)
Viscosity	2.14 mPa.s (20°C)
Explosive properties	Vapour/air mixtures may form explosive concentrations.
Oxidising properties	Non-oxidizing
Explosive limits	2.6-42 Vol%

9.2 Other safety information

No information available

SECTION 10: Stability and Reactivity

10.1 Reactivity

The substance is stable under normal pressure and temperature.

10.2 Chemical stability

The product is stable when stored and handled as specified/instructed.

Exceeding the spontaneous ignition temperature may trigger spontaneous combustion.

10.3 Possibility of hazardous reactions

No known dangerous reactions were found in the intended use case.

Exceeding the spontaneous ignition temperature may trigger a spontaneous combustion reaction.

10.4 Conditions to avoid

Incompatible products, overheating, contact with moist air or water, away from open flames, hot surfaces, and ignition sources.

10.5 Incompatible materials

Strong oxidants, strong acids, strong alkalis, alkali metals.

10.6 Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO2), sulfur oxides, sulfides, formaldehyde.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral)	Rat, LD50 = 28500 mg/kg
Acute toxicity (dermal)	Rat, LD50 = 40000 mg/kg
Acute toxicity (inhalation)	Rat, LC0 > 5.33 mg/L air(4 h)
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Negative, not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Other hazard	No information available

SECTION 12: Ecological information

12.1 Toxicity

Algae/aquatic plants EC50	Raphidocelis subcapitata, EC50 = 12 g/L(72 h)
Fish LC50	Danio rerio, LC50 > 25 g/L(24, 48, 72, 96 h)
Crustace EC50	Daphnia magna, EC50 = 24.6 g/L(48 h)

12.2 Persistence and degrdability

No biodegradation observed under test conditions.

12.3 Bioaccumulative potential

No potential bioaccumulative

12.4 Mobility in soil:

Mobility in soil

Not considered soil migratory Koc = 0.15 （20 °C）

12.5 Results of PBT and vPvB assessment

Not considered as PBT or vPvB

12.6 Endocrine disrupting properties

The product does not contain substance(s) 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 information available.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with licensed collector's sorting instructions.

13.2 Product/packaging disposal recommendations

Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport Information

14.1 UN number

Not regulated

14.2 UN proper shipping name

Not regulated

14.3 Transport hazard class(es)

Not regulated

14.4 Packaging group

Not regulated

14.5 Environmental hazards

Not regulated

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 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

EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance 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.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

National regulations

Component	TSCA	DSL/NDSL	ENCS	IECSC	KECL	PICCS	AICS
Dimethyl sulfoxide	Listed	Listed/Not listed	Listed	Listed	Listed	Listed	Listed

15.2 Chemical safety assessment

No additional information available

SECTION 16: Other Information

Issued By Shandong Aure Chemical Co., Ltd.

Revision Date 2025/08/20

Reason for modification

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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties