



DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 02/06/2011

Revision date: 08/07/2016

Supersedes: 17/04/2013

Version: 6.0

DLM-10TB

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

1.1. Product identifier

Product form : Mixtures
Product name : DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS
Product code : DLM-10TB
Synonyms : DMSO / Methyl sulfoxide

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

GHS-US classification

Flam. Liq. 4 H227

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Eyes, Skin.

2.2. Label elements

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

Signal word (CLP) : Warning

GHS-US labelling

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H227 - Combustible liquid

Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P280 - Wear eye protection, face protection, protective clothing, impervious gloves
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water

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spray to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

Other hazards not contributing to the classification : Rapidly absorbed through skin.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
DIMETHYL SULFOXIDE-D6 (D, 99.9%)	(CAS No) 2206-27-1 (EC No) 218-617-0 (REACH-no) 01-2119431362-50	99.97	Not classified
TETRAMETHYLSILANE 99.9%	(CAS No) 75-76-3 (EC No) 200-899-1	0.03	F+; R12

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
DIMETHYL SULFOXIDE-D6 (D, 99.9%)	(CAS No) 2206-27-1 (EC No) 218-617-0 (REACH-no) 01-2119431362-50	99.97	Not classified
TETRAMETHYLSILANE 99.9%	(CAS No) 75-76-3 (EC No) 200-899-1	0.03	Flam. Liq. 1, H224

Full text of R- and H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : Wash with soap and plenty of water. Consult a physician.

First-aid measures after eye contact : Flush eyes with water as a precaution.

First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Symptoms/injuries after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May be harmful if absorbed through skin. May cause skin irritation.

Symptoms/injuries after eye contact : Contact may cause eye irritation.

Symptoms/injuries after ingestion : May be harmful if swallowed.

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

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.

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

Other information : Use water spray to cool unopened containers.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Keep in suitable, closed containers for disposal.
Methods for cleaning up : Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place. Hygroscopic, Store under inert gas.
Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)

Italy - Portugal - USA ACGIH

Remark (ACGIH)

TWA 250 ppm USA. Workplace Environmental Exposure Levels (WEEL)

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment : Safety glasses. Impervious gloves. Respiratory protection of the dependent type. Protective clothing.



Materials for protective clothing : Wear suitable protective clothing and impervious gloves.
Hand protection : Wear suitable protective clothing and impervious gloves.
Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid
Appearance : Clear. Liquid.
Molecular mass : 84.17 g/mol (Labeled)
Colour : Colorless - Very pale yellow.
Odour : Sulphurous.

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Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 18.4 °C (65.1 °F)
Freezing point	: No data available
Boiling point	: 189 °C (372 °F) at 1,013 hPa (760 mmHg)
Flash point	: 87 °C (189 °F) - closed cup
Auto-ignition temperature	: 301 °C (574 °F)
Decomposition temperature	: > 190 °C (> 374 °F)
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.55 hPa (0.41 mmHg) at 20 °C (68 °F)
Relative vapour density at 20 °C	: 2.7 (Air = 1.0)
Relative density	: No data available
Density	: 1.19 g/ml at 20 °C (68 °F) (Labeled)
Solubility	: Water: Completely miscible
Log Pow	: -2.03
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 3.5 - 42 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Exposure to moisture. Heat, flames and sparks.

10.5. Incompatible materials

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents. Strong reducing agents.

10.6. Hazardous decomposition products

carbon oxides. Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS	
LD50 oral rat	14500 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (ppm)	40250 ppm 4h
ATE CLP (oral)	14500.000 mg/kg bodyweight

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)	
LD50 oral rat	14500 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (ppm)	40250 ppm 4h
ATE CLP (oral)	14500.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Skin - rabbit - Mild skin irritation - 24 h

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Serious eye damage/irritation	: Not classified Eyes - rabbit - Mild eye irritation
Respiratory or skin sensitisation	: Not available No data available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/injuries after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/injuries after eye contact	: Contact may cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS	
LC50 fish 1	34000 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	27500 mg/l Daphnia pulex (Water flea) -
ErC50 (algae)	> 400000 mg/l Lepomis macrochirus (Bluegill) - 96 h

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)	
LC50 fish 1	34000 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	24600 mg/l Daphnia magna (Water flea) - 48 h
LC50 fish 2	35000 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
LC50 other aquatic organisms 2	17000 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
ErC50 (algae)	400000 mg/l Lepomis macrochirus (Bluegill) -96 h

12.2. Persistence and degradability

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS	
Persistence and degradability	Not available.

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)	
Persistence and degradability	Not available.
Biodegradation	31 % According to the results of tests of biodegradability this product is not readily biodegradable.

TETRAMETHYLSILANE 99.9% (75-76-3)	
Persistence and degradability	Not available.

12.3. Bioaccumulative potential

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS	
Log Pow	-2.03

DIMETHYL SULFOXIDE-D6 (D, 99.9%) (2206-27-1)	
Log Pow	-2.03

TETRAMETHYLSILANE 99.9% (75-76-3)	
Bioaccumulative potential	Not available.

12.4. Mobility in soil

TETRAMETHYLSILANE 99.9% (75-76-3)	
Ecology - soil	Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Not available.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.
- Product/Packaging disposal recommendations: : Dispose in a safe manner in accordance with local/national regulations.
- Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

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

14.1. UN number

- UN-No.(DOT) : NA1993
- DOT NA no. : NA1993

14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Combustible liquid, n.o.s.
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- DOT Symbols : D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name
- Packing group (DOT) : III - Minor Danger
- DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 55 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 241
- Marine pollutant : No

14.3. Additional information

- Other information : No supplementary information available.
- Special transport precautions : IMDG/IATA: NOT DANGEROUS GOODS.

Overland transport

- Packing group (ADR) : III
- Class (ADR) : 3 - Flammable liquid
- Hazard identification number (Kemler No.) : 30
- Classification code (ADR) : F1
- Danger labels (ADR) : 3 - Flammable liquids



- Orange plates :

- Tunnel restriction code (ADR) : D/E
- Limited quantities (ADR) : 5I
- EAC code : •3YE
- Excepted quantities (ADR) : E1

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Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No : 127;128

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)
Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : IMDG/IATA: NOT DANGEROUS GOODS.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS

SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

DIMETHYL SULFOXIDE-D6 (D, 99.9%) +0.05% V/V TMS()

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

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Full text of R-, H- and EUH-statements:

Flam. Liq. 1	Flammable liquids, Category 1
H224	Extremely flammable liquid and vapour
R12	Extremely flammable
F+	Extremely flammable

NFPA health hazard

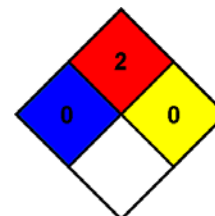
: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 2 Moderate Hazard

Physical

: 0 Minimal Hazard

CIL Mixture SDS

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