

## SAFETY DATA SHEET

Version 6.7  
Revision Date 01/21/2021  
Print Date 10/24/2021**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**Product name : Dimethyl sulfoxide-d<sub>6</sub>Product Number : 151874  
Brand : Aldrich  
CAS-No. : 2206-27-1**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATESTelephone : +1 314 771-5765  
Fax : +1 800 325-5052**1.4 Emergency telephone**Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Flammable liquids (Category 4), H227  
Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**Pictogram : none  
Signal word : Warning  
Hazard statement(s)  
H227 : Combustible liquid.  
H402 : Harmful to aquatic life.

Precautionary statement(s)	
P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Rapidly absorbed through skin.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Hexadeuterodimethyl sulfoxide (Methyl sulfoxide)-d6 DMSO-d6
Formula	: C <sub>2</sub> D <sub>6</sub> OS
Molecular weight	: 84.17 g/mol
CAS-No.	: 2206-27-1
EC-No.	: 218-617-0

Component	Classification	Concentration
<b>di[(2H3)methyl] sulphoxide</b>		
	Flam. Liq. 4; Aquatic Acute 3; H227, H402	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

No data available

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

No data available

## 5.2 Special hazards arising from the substance or mixture

Carbon oxides  
Sulfur oxides  
Combustible.

## 5.3 Advice for firefighters

No data available

## 5.4 Further information

No data available

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

### 6.2 Environmental precautions

No data available

### 6.3 Methods and materials for containment and cleaning up

No data available

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

No data available

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Personal protective equipment

##### Skin protection

Full contact

Material: Chloroprene

Minimum layer thickness: 0.6 mm

Break through time: 480 min

Material tested: Camapren® (KCL 722 / Aldrich Z677493, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm  
Break through time: 30 min  
Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Handle with impervious gloves. Wash and dry hands. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

#### **Respiratory protection**

Use a full-face particle respirator type N99 (US). Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or EN 14387 (EU).

#### **Control of environmental exposure**

Prevent product from entering drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

a) Appearance	Form: liquid Color: colorless
b) Odor	characteristic
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point: 20.2 °C (68.4 °F)
f) Initial boiling point and boiling range	189 °C 372 °F - lit.
g) Flash point	88 °C (190 °F)
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 63 %(V) Lower explosion limit: 1.8 %(V)
k) Vapor pressure	2.5 hPa at 20 °C (68 °F)
l) Vapor density	No data available
m) Relative density	1.19 g/mL at 25 °C (77 °F)
n) Water solubility	soluble

- o) Partition coefficient: log Pow: -1.35 - (Lit.), Bioaccumulation is not expected.  
n-octanol/water
- p) Autoignition temperature No data available
- q) Decomposition temperature > 190 °C (> 374 °F) -
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

No data available

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

acetylidene  
 organic halides  
 perchlorates  
 Acid chlorides  
 nonmetallic halides  
 iron(III) compounds  
 nitrates  
 fluorides  
 chlorates  
 hydrides  
 perchloric acid  
 Oxides of phosphorus  
 Nitric acid  
 silver compounds  
 silicon compounds  
 silanes  
 acid halides  
 Exothermic reaction with:  
 boron compounds  
 oxyhalogenic compounds  
 Potassium  
 sodium  
 Strong oxidizing agents  
 phosphorus halides  
 strong reducing agents  
 Acid chlorides  
 Strong acids  
 silver salt  
 nitrogen dioxide

Risk of ignition or formation of inflammable gases or vapours with:  
potassium permanganate

#### **10.4 Conditions to avoid**

No data available

#### **10.5 Incompatible materials**

various plastics, Metals

#### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

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### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

##### **Acute toxicity**

LD50 Oral - Rat - male and female - 28,300 mg/kg

(OECD Test Guideline 401)

LC0 Inhalation - Rat - male and female - 4 h - > 5.33 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rat - 40,000 mg/kg

Remarks:

(RTECS)

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: slight irritation - 4 h

(OECD Test Guideline 404)

##### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: slight irritation

(OECD Test Guideline 405)

##### **Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

In animal experiments: - Mouse

Result: negative

(OECD Test Guideline 429)

##### **Germ cell mutagenicity**

Ames test

Salmonella typhimurium

Result: negative

Mutagenicity (mammal cell test):

Result: negative

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

OECD Test Guideline 474

Rat - male and female

Result: negative

##### **Carcinogenicity**

Carcinogenicity - No indication of carcinogenic activity. (IUCLID)

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- IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

**Specific target organ toxicity - single exposure**

**Specific target organ toxicity - repeated exposure**

**Aspiration hazard**

**11.2 Additional Information**

Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Possible symptoms:

After uptake:

CNS disorders  
Nausea  
Tiredness  
Headache

Possible damages:

Damage to:

Liver  
Kidney

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information**

**12.1 Toxicity**

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Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - > 25,000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 24.6 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC10 - Pseudomonas putida - 7,100 mg/l - 16 h Remarks: (IUCLID)
	EC50 - activated sludge - 10 - 100 mg/l - 30 min Remarks: (IUCLID)

## 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d  
Result: 31 % - Not readily biodegradable.  
(OECD Test Guideline 301D)

## 12.3 Bioaccumulative potential

## 12.4 Mobility in soil

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Other adverse effects

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

No data available

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## SECTION 14: Transport information

### DOT (US)

NA-Number: 1993 Class: NONE Packing group: III  
Proper shipping name: Combustible liquid, n.o.s. (di[(2H3)methyl] sulphoxide)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

Not dangerous goods

### IATA

Not dangerous goods



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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

di[(2H3)methyl] sulphoxide

CAS-No.  
2206-27-1

Revision Date

**New Jersey Right To Know Components**

di[(2H3)methyl] sulphoxide

CAS-No.  
2206-27-1

Revision Date

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**SECTION 16: Other information**

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [mlsbranding@sial.com](mailto:mlsbranding@sial.com).

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