

**Trade name:** DME**Product no.:** -**Current version :** 2.1.0, issued: 04.08.2025**Replaced version:** 2.0.0, issued: 14.12.2023**Region:**  
GER**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****DME**

Substance name                      dimethyl ether  
REACH registration no.              01-2119472128-37

**Identification numbers**

CAS no.                                  115-10-6  
EC no.                                    204-065-8  
Index no.                                603-019-00-8

**1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified uses of the substance or mixture**

Industrial Use  
Professional use  
Aerosol  
Propellant  
Pure chemical  
Initial product for chemical reactions  
Manufacture of gas mixtures in pressure vessels  
Refrigerant

**Uses advised against**

Consumer use

**1.3 Details of the supplier of the safety data sheet****Address**

TEGA - Technische Gase und Gasetechnik GmbH  
Werner-von-Siemens-Straße 18  
97076 Würzburg

Telephone no.                      +49 931 2093-220  
Fax no.                                +49 931 2093-180  
e-mail                                kaeltemittel@tega.de

**Advice on Safety Data Sheet**

sdb\_info@umco.de

**1.4 Emergency telephone number**

For medical advice (in German and English):  
+49 (0)551 192 40 (Giftinformationszentrum Nord)

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Flam. Gas 1A; H220  
Press. Gas liq.; H280

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

**2.2 Label elements**

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Product identifier**

115-10-6 (dimethyl ether)

**Hazard pictograms**

GHS02



GHS04

**Signal word**

Danger

**Hazard statement(s)**

H220

Extremely flammable gas.

H280

Contains gas under pressure; may explode if heated.

**Precautionary statement(s)**

P210

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

P377

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381

In case of leakage, eliminate all ignition sources.

P410+P403

Protect from sunlight. Store in a well-ventilated place.

**2.3 Other hazards**

Contact with the liquid can cause cold burns or frostbite.

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

**SECTION 3: Composition/information on ingredients****3.1 Substances****Chemical characterization**

Substance name dimethyl ether

Formula C<sub>2</sub>H<sub>6</sub>O

Molecular weight 46,07

**Identification numbers**

CAS no. 115-10-6

EC no. 204-065-8

Index no. 603-019-00-8

**Other information**

Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
U	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

**3.2 Mixtures**

Not applicable. The product is not a mixture.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

**Trade name:** DME

**Product no.:** -

**Current version :** 2.1.0, issued: 04.08.2025

**Replaced version:** 2.0.0, issued: 14.12.2023

**Region:**  
GER

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove affected person from danger area, lay him down. Seek medical advice immediately.

### **After inhalation**

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Call a doctor immediately.

### **After skin contact**

In case of contact with skin wash off immediately with soap and water. In case of frostbite, rinse with plenty of water. Do not remove clothing.

### **After eye contact**

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

### **After ingestion**

Rinse the mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

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

### **Symptoms**

Shortness of breath; respiratory arrest. Unconsciousness; Frostbite

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

Thaw frosted parts with lukewarm water. Do not rub affected area. Get medical attention immediately.

## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Extinguishing powder; Water spray jet; Water mist; Foam

#### **Unsuitable extinguishing media**

High power water jet; Carbon dioxide

### **5.2 Special hazards arising from the substance or mixture**

In the event of fire, the following can be released: Carbon monoxide and carbon dioxide; May explode if exposed to heat. Liquefied gas: Spilled liquid can cause cold burns. This gas is heavier than air and may accumulate in low areas.

### **5.3 Advice for firefighters**

Use self-contained breathing apparatus. Wear full protective suit. Containers close to fire should be transferred to a safe place. Cool closed containers exposed to fire with water. Pressure increase, bursting and explosion hazard during heating. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

## **SECTION 6: Accidental release measures**

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

#### **For non-emergency personnel**

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Keep away from ignition sources. Do not breathe gas. Cordon and mark contaminated area. Remove persons to safety. Risk of explosion.

#### **For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

### **6.2 Environmental precautions**

Avoid release in the environment. Suppress gases/vapours/mists with water spray jet.

### **6.3 Methods and material for containment and cleaning up**

Ensure adequate ventilation. Dispose of absorbed material in accordance with the regulations.

### **6.4 Reference to other sections**

Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 13.

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on safe handling**

Only qualified and trained persons are authorised to handle. Provide good ventilation at the work area (local exhaust ventilation, if necessary). To be used only according to instructions for use. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers heat or sources of ignition. In case of accidental release: danger due to low temperature of the liquid product. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Comply with the health and safety at work laws.

**General protective and hygiene measures**

Wash hands before breaks and after work. Do not inhale gases. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Have emergency shower available.

**Advice on protection against fire and explosion**

Vapours can form an explosive mixture with air. Isolate from sources of heat, sparks and open flame. Take precautionary measures against electrostatic loading (earthing necessary during loading operations). Use explosion-proof equipment/fittings and non-sparking tools. Electrical equipment should be protected to the appropriate standard.

**7.2 Conditions for safe storage, including any incompatibilities****Technical measures and storage conditions**

Keep container tightly closed in a cool, well-ventilated place, open and handle carefully. Protect from heat and direct sunlight.

**Recommended storage temperature**

Value < 50 °C

**Requirements for storage rooms and vessels**

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original.

**Incompatible products**

Do not store together with: combustible materials; oxidizing agents; oxidizing substances; spontaneously combusting substances; explosive substances

**Storage Class according TRGS 510**

2A Gases (except aerosol dispensers and lighters)

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
	<b>TRGS 900</b>		
	Dimethylether		
	WEL long-term (8-hr TWA reference period)	1900 mg/m <sup>3</sup>	1000 ml/m <sup>3</sup>
	Ceiling Limit	8(II)	
	<b>2000/39/EC</b>		
	Dimethylether		
	WEL long-term (8-hr TWA reference period)	1920 mg/m <sup>3</sup>	1000 ppm

**DNEL, DMEL and PNEC values**

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER

## DNEL values (worker)

No	Substance name	CAS / EC no
	Route of exposure	Value
1	dimethyl ether	115-10-6 204-065-8
	inhalative	1894 mg/m <sup>3</sup>

## DNEL value (consumer)

No	Substance name	CAS / EC no
	Route of exposure	Value
1	dimethyl ether	115-10-6 204-065-8
	inhalative	471 mg/m <sup>3</sup>

## PNEC values

No	Substance name	CAS / EC no
	ecological compartment	Value
1	dimethyl ether	115-10-6 204-065-8
	water	0,155 mg/L
	water	0,016 mg/L
	water	1,549 mg/L
	water	0,681 mg/kg dry weight
	water	0,069 mg/kg dry weight
	soil	0,045 mg/kg dry weight
	sewage treatment plant	160 mg/L

## 8.2 Exposure controls

## Appropriate engineering controls

Ensure adequate ventilation, local exhaust at the work station if necessary. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

## Personal protective equipment

## Respiratory protection

Self-contained breathing apparatus. In case of insufficient ventilation or long-term effect use breathing apparatus.  
Respiratory filter (gas) : AX

## Eye / face protection

Tightly fitting safety glasses (EN 166).

## Hand protection

Low-temperature-resistant gloves (EN 511). Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material Leather

## Other

Chemical-resistant work clothes. Fire-resistant antistatic protective clothing. Protective shoes.

## Environmental exposure controls

Information regarding waste disposal, see chapter 13.

## SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER

<b>State of aggregation</b>		
gas		
<b>Form</b>		
liquified gas		
<b>Colour</b>		
colourless		
<b>Odour</b>		
ether-like		
<b>pH value</b>		
No data available		
<b>Boiling point / boiling range</b>		
Value	-24,82 °C	
<b>Melting point/freezing point</b>		
Value	-141,5 °C	
<b>Decomposition temperature</b>		
No data available		
<b>Flash point</b>		
No data available		
<b>Ignition temperature</b>		
No data available		
<b>Auto-ignition temperature</b>		
Value	235 °C	
<b>Explosive properties</b>		
May form explosive gas-air mixtures.		
<b>Flammability</b>		
highly flammable		
<b>Lower explosion limit</b>		
Value	2,7 % vol	
<b>Upper explosion limit</b>		
Value	32 % vol	
<b>Vapour pressure</b>		
Value	593,3	kPa
Reference temperature	25	°C
<b>Relative vapour density</b>		
Value	1,6	
Comments	Air = 1	
<b>Relative density</b>		
No data available		
<b>Density</b>		
Value	0,73	kg/l
Reference temperature	-24,82	°C
<b>Solubility in water</b>		
Value	46	g/l
Reference temperature	25	°C
<b>Solubility</b>		
No data available		

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
log Pow		0,07	
Reference temperature		25	°C
with reference to		pH 7	
Method		QSAR	
Source		ECHA	

Kinematic viscosity
No data available

Particle characteristics
No data available

## 9.2 Other information

Other information
Critical temperature: 127 °C
Minimum ignition energy: 0.29 mJ

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

### 10.3 Possibility of hazardous reactions

May react violently with oxygen-rich (oxidizing) material. Risk of explosion. Risk of formation of explosive gas mixtures in air.

### 10.4 Conditions to avoid

T > 48 °C; Heat, naked flames and other ignition sources.

### 10.5 Incompatible materials

Oxidizing agents; humidity

### 10.6 Hazardous decomposition products

None, if handled according to intended use.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity
No data available

Acute dermal toxicity
No data available

Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
LC50		164000	ppmV
Duration of exposure		4	h
State of aggregation		Gas	
Species		rat	
Method		OECD 403	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER**Skin corrosion/irritation**

No data available

**Serious eye damage/irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
Type of examination		in vitro gene mutation study in bacteria	
Species		Salmonella typhimurium / Escherichia coli	
Method		OECD 471	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

**Reproduction toxicity**

No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
Route of exposure		inhalational	
Species		rat	
Method		OECD 452	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

**Carcinogenicity**

No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
Route of exposure		inhalational	
Species		rat	
Method		OECD 453	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
Route of exposure		inhalational	
Species		rat	
Method		OECD 452	
Source		ECHA	
Evaluation/classification		Based on available data, the classification criteria are not met.	

**Aspiration hazard**

No data available

**Endocrine disrupting properties**

No data available

**11.2 Information on other hazards****Other information**

No data available.

**SECTION 12: Ecological information****12.1 Toxicity**



Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
LC50	>	4100	mg/l
Duration of exposure		96	h
Species	Poecilia reticulata		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Toxicity to fish (chronic)			
No data available			

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
EC50	>	4400	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Toxicity to Daphnia (chronic)			
No data available			

Toxicity to algae (acute)			
No data available			

Toxicity to algae (chronic)			
No data available			

Bacteria toxicity			
No data available			

## 12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
Type	aerobic biodegradation		
Value		5	%
Duration		28	d
Method	OECD 301 D		
Source	ECHA		
Evaluation	not readily biodegradable		

## 12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	dimethyl ether	115-10-6	204-065-8
log Pow		0,07	
Reference temperature		25	°C
with reference to	pH 7		
Method	QSAR		
Source	ECHA		

## 12.4 Mobility in soil

No data available.

## 12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
Product Name	
DME	

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GERPBT assessment  
vPvB assessmentThe product is not considered to be a PBT.  
The product is not considered to be a vPvB.**12.6 Endocrine disrupting properties**

No data available.

**12.7 Other adverse effects****Other adverse effects**

global warming potential: 1

**12.8 Other information****Other information**

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

dispose of in accordance with local regulation.

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Compressed gas packaging under pressure. Do not open by force. Do not heat above 50°C. Dispose of compressed gas packagings only if completely discharged. Do not burn empty compressed gas packagings. Do not pierce, cut or weld uncleaned containers.

**SECTION 14: Transport information****14.1 UN number or ID number**

ADR/RID/ADN	UN1033
IMDG	UN1033
ICAO-TI / IATA	UN1033

**14.2 UN proper shipping name**

ADR/RID/ADN	DIMETHYL ETHER
IMDG	DIMETHYL ETHER
ICAO-TI / IATA	Dimethyl ether

**14.3 Transport hazard class(es)**

<b>ADR/RID/ADN - Class</b>	2
Label	2.1 RID: (+13)
Classification code	2F
Tunnel restriction code	B/D
Hazard identification no.	23
<b>IMDG - Class</b>	2.1
Label	2.1
<b>ICAO-TI / IATA - Class</b>	2.1
Label	2.1

**14.4 Packing group**

ADR/RID/ADN	-
IMDG	-
ICAO-TI / IATA	-

**14.5 Environmental hazards**

EmS	F-D, S-U
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**14.6 Special precautions for user**

Trade name: DME

Product no.: -

Current version : 2.1.0, issued: 04.08.2025

Replaced version: 2.0.0, issued: 14.12.2023

Region:  
GER

To be transported always in closed, upright and safe containers. Make sure that persons handling these containers are aware of the rules of conduct in case of incident or spillage.

**14.7 Maritime transport in bulk according to IMO instruments**

Not relevant

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

**REACH candidate list of substances of very high concern (SVHC) for authorisation**

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

**Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES**

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.	No 40
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**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is subject to Part I of Annex I, risk category:	P2
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**Other regulations**

Adhere to the national sanitary and occupational safety regulations when using this product.

**National regulations****Water Hazard Class (Germany)**

Class 1

Identification number 714

Source Classification according to AwSV (Regulation on facilities for handling substances that are hazardous to water).

**Other regulations**

Take into account: TRGS 510 "Storage of hazardous substances in non-stationary containers"

**15.2 Chemical safety assessment**

A chemical safety assessment has been carried out for this substance.

**SECTION 16: Other information****Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

**Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)**

U

When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

**Creation of the safety data sheet**

UMCO GmbH

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**Product no.:** -

**Current version :** 2.1.0, issued: 04.08.2025

**Replaced version:** 2.0.0, issued: 14.12.2023

**Region:**  
GER

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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