

# safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## Methanol D3 99,5 Atom%D

article number: **9910**  
Version: **1.0 en**

date of compilation: 2016-08-23

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

### 1.1 Product identifier

Identification of the substance	<b>Methanol D3</b>
Article number	9910
Registration number (REACH)	This information is not available.
EC number	217-435-9
CAS number	1849-29-2

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

<b>Identified uses:</b>	laboratory chemical formulation [mixing] of preparations and/or re-packaging (excluding alloys) scientific research and development product and process orientated research and development laboratory and analytical use
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### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person)** : [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
2.6	flammable liquid	(Flam. Liq. 2)	H225
3.10	acute toxicity (oral)	(Acute Tox. 3)	H301
3.1D	acute toxicity (dermal)	(Acute Tox. 3)	H311
3.1I	acute toxicity (inhal.)	(Acute Tox. 3)	H331

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### Classification acc. to GHS

Section	Hazard class	Hazard class and category	Hazard statement
3.8	specific target organ toxicity - single exposure	(STOT SE 1)	H370

#### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008 (CLP)

#### Signal word

**Danger**

#### Pictograms



#### Hazard statements

H225 Highly flammable liquid and vapour.  
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.  
H370 Causes damage to organs.

#### Precautionary statements

##### Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective clothing/eye protection.

##### Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.  
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.  
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.  
H370 Causes damage to organs.  
P280 Wear protective clothing/eye protection.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

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### 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Methanol D3
EC number	217-435-9
CAS number	1849-29-2
Molecular formula	CD3OH
Molar mass	35,06 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. In case of extensive skin contact serious poisoning possible. Call a physician in any case.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

After eye contact: Conjunctival redness of the eyes, Conjunctival oedema (chemosis) of the eyes, Conjunctivitis (pink eye),

Following skin contact: Localised redness,

After ingestion: Malaise, Dizziness, Narcotic effects, Large doses may result in coma and death,

Headaches and dizziness may occur, proceeding to fainting or unconsciousness, Risk of blindness,

Following inhalation: Cough

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### **Unsuitable extinguishing media**

water jet

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

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.  
In use, may form flammable/explosive vapour-air mixture.

#### **Hazardous combustion products**

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

#### **Special protective equipment for firefighters**

Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles.  
Self-contained breathing apparatus (SCBA). Self-contained breathing apparatus (EN 133).

## SECTION 6: Accidental release measures

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

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

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.  
Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Explosive properties.

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

#### **Advices on how to contain a spill**

Covering of drains.

#### **Advices on how to clean up a spill**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

#### **Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

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

Hazardous combustion products: see section 5. Personal protective equipment: see section 8.  
Incompatible materials: see section 10. Disposal considerations: see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory). Handle and open container with care.

- **Measures to prevent fire as well as aerosol and dust generation**



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

- **Warning**

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**Advice on general occupational hygiene**

When using do not eat or drink. Thorough skin-cleansing after handling the product. When using do not smoke.

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

Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice**

Store locked up. Ground/bond container and receiving equipment.

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

**Relevant DNELs/DMELs/PNECs and other threshold levels**

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
DNEL	40 mg/kg	human, dermal	worker (industry)	acute - systemic effects
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
DNEL	40 mg/kg	human, dermal	worker (industry)	chronic - systemic effects

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Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

### • environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	20,8 mg/l	freshwater	short-term (single instance)
PNEC	2,08 mg/l	marine water	short-term (single instance)
PNEC	100 mg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	77 mg/kg	freshwater sediment	short-term (single instance)
PNEC	7,7 mg/kg	marine sediment	short-term (single instance)
PNEC	3,18 mg/kg	soil	short-term (single instance)
PNEC	1.540 mg/l	water	intermittent release

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)



#### Eye/face protection

Use safety goggle with side protection.

#### Skin protection

##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### • type of material

Butyl caoutchouc (butyl rubber)

##### • material thickness

>0,11 mm.

##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Flame-retardant protective clothing.

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### Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	like: alcohol
Odour threshold	No data available

#### Other physical and chemical parameters

pH (value)	This information is not available.
Melting point/freezing point	-98 °C
Initial boiling point and boiling range	64,5 °C at 1.013 hPa
Flash point	11 °C at 1.013 hPa
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	5,5 vol%
• upper explosion limit (UEL)	36,5 vol%
Explosion limits of dust clouds	not relevant
Vapour pressure	128 hPa at 25 °C
Density	0,867 g/cm <sup>3</sup>
Vapour density	1,11 (air = 1)
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	-0,77 (ECHA)
Auto-ignition temperature	455 °C - ECHA
Decomposition temperature	no data available

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### Viscosity

• dynamic viscosity 0,6 mPa s at 20 °C

Explosive properties Shall not be classified as explosive

Oxidising properties none

## 9.2 Other information

Temperature class (EU, acc. to ATEX) T1 (Maximum permissible surface temperature on the equipment: 450°C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

risk of ignition. Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Alkali metals, Sulphuric acid, Nitric acid, Strong oxidiser, Hydrogen peroxide,  
Dangerous/dangerous reactions with: Acids, Reducing agents, Mineral acids

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

aluminium, iron, zinc

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Toxic if swallowed.

Toxic in contact with skin.

Toxic if inhaled.

Exposure route	Endpoint	Value	Species	Source
inhalation: vapour	LC10	85,3 mg/l/4h	rat	
oral	LD50	5.628 mg/kg	rat	
dermal	LD50	15.800 mg/kg	rabbit	
oral LDLO: 143 mg/kg Mensch (TOXNET)				

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.



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### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

#### • Specific target organ toxicity - single exposure

Causes damage to organs.

#### • Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

nausea, vomiting, risk of blindness, large doses may result in coma and death

#### • If in eyes

conjunctivitis (pink eye), causes slight to moderate irritation

#### • If inhaled

severe headache, cough

#### • If on skin

pruritis, localised redness, risk of absorption via the skin, large doses may result in coma and death

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	15.400 mg/l	fish	ECHA	96 h
EC50	12.700 mg/l	fish	ECHA	96 h
ErC50	22.000 mg/l	algae	ECHA	96 h

#### Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
LOEC	47,49 mg/l	fish	ECHA	90 d
NOEC	23,75 mg/l	fish	ECHA	90 d

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### 12.2 Process of degradability

The substance is readily biodegradable.

Theoretical Oxygen Demand: 1,5 g/g

Theoretical Carbon Dioxide: 1,255 mg/mg

Biochemical Oxygen Demand: 0,6 - 1,12 g/g at 5 h

Process	Degradation rate	Time
biotic/abiotic	99 %	30 d
oxygen depletion	76 %	5 d

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) -0,77

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

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### SECTION 14: Transport information

14.1	UN number	1230
14.2	UN proper shipping name	METHANOL
	Hazardous ingredients	Methanol D3
14.3	Transport hazard class(es)	
	Class	3 (flammable liquids)
14.4	Packing group	II (substance presenting medium danger)
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
14.6	<b>Special precautions for user</b> Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b> The cargo is not intended to be carried in bulk.	
14.8	<b>Information for each of the UN Model Regulations</b>	
	<b>• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b>	
	UN number	1230
	Proper shipping name	METHANOL
	Particulars in the transport document	UN1230, METHANOL, (Methanol D3), 3 (6.1), II, (D/E)
	Class	3
	Classification code	FT1
	Packing group	II
	Danger label(s)	3+6.1
	 	
	Special provisions (SP)	279, 802(ADN)
	Excepted quantities (EQ)	E2
	Limited quantities (LQ)	1 L
	Transport category (TC)	2
	Tunnel restriction code (TRC)	D/E
	Hazard identification No	336
	<b>Emergency Action Code</b>	2WE

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### • International Maritime Dangerous Goods Code (IMDG)

UN number	1230
Proper shipping name	METHANOL
Particulars in the shipper's declaration	UN1230, METHANOL, (Methanol D3), 3 (6.1), II, 11°C c.c.
Class	3
Subsidiary risk(s)	6.1
Packing group	II
Danger label(s)	3+6.1



Special provisions (SP)	279
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	B

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

Not listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

Not listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

Not listed.

- **Restrictions according to REACH, Annex XVII**

not listed

- **List of substances subject to authorisation (REACH, Annex XIV)**

not listed

- **Seveso Directive**

#### 2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
H2	acute toxic (cat. 2 + cat. 3, inhal.)	50	200	41)

#### Notation

- 41)
- Category 2, all exposure routes
  - category 3, inhalation exposure route

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- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

VOC content 100 %

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 100 %

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

not listed

**Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)**

not listed

### National inventories

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)

## 15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration

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Abbr.	Descriptions of used abbreviations
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	highly flammable liquid and vapour
H301	toxic if swallowed
H311	toxic in contact with skin
H331	toxic if inhaled
H370	causes damage to organs

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.