

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Methanol D4 99,8 Atom%D

article number: **AE57**  
Version: **GHS 3.0 en**  
Replaces version of: 2022-08-03  
Version: (GHS 2)

date of compilation: 2019-06-19  
Revision: 2024-03-02

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

### 1.1 Product identifier

Identification of the substance **Methanol D4 99,8 Atom%D**  
Article number **AE57**  
CAS number **811-98-3**

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.

### 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  
**Website:** www.carlroth.de

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

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

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	Flammable liquid	2	Flam. Liq. 2	H225
3.10	Acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	Acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.8	Specific target organ toxicity - single exposure	1	STOT SE 1	H370

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Immediate effects can be expected after short-term exposure. The product is combustible and can be ignited by potential ignition sources.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS02, GHS06,  
GHS08



#### 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 (respiratory tract)

#### Precautionary statements

##### Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P260 Do not breathe dust/fume/gas/mist/vapours/spray  
P280 Wear protective gloves/protective clothing

##### Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P302+P352 IF ON SKIN: Wash with plenty of soap and water  
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor  
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

##### Precautionary statements - storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed  
P403+P235 Store in a well-ventilated place. Keep cool

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Name of substance	Methanol D4
Molecular formula	CD <sub>3</sub> OD
Molar mass	36.07 g/mol
CAS No	811-98-3

### 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.

##### 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

Has degreasing effect on the skin, Headaches and dizziness may occur, proceeding to fainting or unconsciousness, Large doses may result in coma and death, Loss of righting reflex, and ataxia, Spasms, Irritation,

Following ingestion: Abdominal pain, Nausea, Vomiting, Following inhalation: Cough,

After eye contact: Impairment of vision, Conjunctivitis (pink eye), Conjunctival redness of the eyes

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!

water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

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### Unsuitable extinguishing media

water jet

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

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

### Hazardous combustion products

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

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Use personal protective equipment as required. 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. Retain contaminated washing water and dispose of it.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

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

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 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.

## 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. Clear contaminated areas thoroughly.

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### 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.

### 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

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. 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)

This information is not available.

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

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### 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

Butyl caoutchouc (butyl rubber)

#### • material thickness

0,7mm

#### • breakthrough times of the glove material

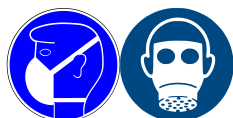
>480 minutes (permeation: level 6)

#### • other protection measures

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

Flame-retardant protective clothing.

### 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

Physical state	liquid
Colour	colourless
Odour	alcohol
Melting point/freezing point	-98 °C
Boiling point or initial boiling point and boiling range	65 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	5.5 vol% (LEL) - 36.5 vol% (UEL)

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Flash point	11 °C
Auto-ignition temperature	440 °C
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	0.6742 mm <sup>2</sup> /s at 20 °C
Dynamic viscosity	0.6 mPa s at 20 °C
<u>Solubility(ies)</u>	
Water solubility	not determined
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	-0.77
Vapour pressure	129 hPa at 20 °C
<u>Density and/or relative density</u>	
Density	0.89 g/cm <sup>3</sup>
Relative vapour density	Information on this property is not available.
Particle characteristics	not relevant (liquid)
<u>Other safety parameters</u>	
Oxidising properties	none
<b>9.2 Other information</b>	
Information with regard to physical hazard classes:	There is no additional information.
Other safety characteristics:	
Refractive index	1.326

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air.

#### If heated

Risk of ignition.

### 10.2 Chemical stability

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

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### 10.3 Possibility of hazardous reactions

**Danger of explosion:** strong oxidiser, Hydrogen peroxide, Nitric acid, Perchlorates, Magnesium, Chlorates,

**Exothermic reaction with:** Acid, Reducing agent, Chloroform,

**Release of an acute toxic gas:** Alkali metals, Alkaline earth metal

### 10.4 Conditions to avoid

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

### 10.5 Incompatible materials

different plastics, zinc

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

#### Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### 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.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

#### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

Causes damage to organs (respiratory tract).

Hazard category	Target organ	Exposure route
1	respiratory tract	if exposed

#### 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.



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

#### • If swallowed

vomiting, abdominal pain, risk of blindness, large doses may result in coma and death, poisoning effect on central nervous system can cause convulsions, laboured breathing and loss of consciousness, loss of righting reflex, and ataxia

#### • If in eyes

conjunctivitis (pink eye)

#### • If inhaled

cough, headache

#### • If on skin

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

#### • Other information

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 1.5 g/g  
Theoretical Carbon Dioxide: 1.22 mg/mg

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	99 %	30 d

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-0.77
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### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

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## 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

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### Relevant provisions relating to waste(Basel Convention)

#### Properties of waste which render it hazardous

**H3** Flammable liquids  
**H11** Toxic (Delayed or chronic)

### 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. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

<b>UN RTDG</b>	UN 1230
IMDG-Code	UN 1230
ICAO-TI	UN 1230

### 14.2 UN proper shipping name

<b>UN RTDG</b>	METHANOL
IMDG-Code	METHANOL
ICAO-TI	Methanol

### 14.3 Transport hazard class(es)

<b>UN RTDG</b>	3 (6.1)
IMDG-Code	3 (6.1)
ICAO-TI	3 (6.1)

### 14.4 Packing group

<b>UN RTDG</b>	II
IMDG-Code	II
ICAO-TI	II

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**14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations

**14.6 Special precautions for user**  
There is no additional information.

**14.7 Transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Transport information National regulations Additional information (UN RTDG)

<b>UN number</b>	1230
<b>Class</b>	3
<b>Subsidiary risk(s)</b>	6.1
<b>Packing group</b>	II
<b>Danger label(s)</b>	3+6.1



<b>Special provisions (SP)</b>	279 UN RTDG
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<b>Excepted quantities (EQ)</b>	E2 UN RTDG
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<b>Limited quantities (LQ)</b>	1 L UN RTDG
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<b>Emergency Action Code</b>	2WE
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#### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	METHANOL
Particulars in the shipper's declaration	UN1230, METHANOL, 3 (6.1), II, 11°C c.c.
Marine pollutant	-
<b>Danger label(s)</b>	3+6.1



Special provisions (SP)	279
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Excepted quantities (EQ)	E2
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Limited quantities (LQ)	1 L
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EmS	F-E, S-D
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Stowage category	B
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### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Methanol
Particulars in the shipper's declaration	UN1230, Methanol, 3 (6.1), II
Danger label(s)	3+6.1
	
Special provisions (SP)	A113
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

## SECTION 15: Regulatory information

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

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	NDSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
NCI	National Chemical Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$ .	yes
14.8		Emergency Action Code: 2WE	yes
15.1		National inventories: change in the listing (table)	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
ED	Endocrine disruptor
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
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LEL	Lower explosion limit (LEL)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
UEL	Upper explosion limit (UEL)
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

#### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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### List of relevant phrases (code and full text as stated in section 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 (respiratory tract).

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.