

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 20.07.2018
Revision 20.07.2018 (GB) Version 8.0

Methane
2910



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

1.1. Product identifier

Name of product	Methane
	Art-Nr(n): 2910
Name of substance	methane
Index No	601-001-00-4
EC No	200-812-7
CAS No	74-82-8

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

Identified uses

Remark

Restricted to professional users.

Recommended intended purpose(s)

Refrigerant.
Fuel gas.
Basic substance.

1.3. Details of the supplier of the safety data sheet

Manufacturer/distributor	GHC Gerling, Holz & Co. Handels GmbH Ruhrstraße 113, D-22761 Hamburg Phone +49 40 853 123-0, Fax +49 40 853 123-66 E-Mail hamburg@ghc.de Internet www.ghc.com
---------------------------------	---

Advice

GHC Gerling, Holz & Co. Handels GmbH
Phone +49 40 853 123-0
Fax +49 40 853 123-66
E-mail (competent person):
msds@ghc.de

1.4. Emergency telephone number

Emergency advice	Giftinformationszentrum (Poison Control Centre) Mainz Phone +49 6131 19240
-------------------------	---

! SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
--------------------------------------	-------------------	--------------------------

Flam. Gas 1	H220
Compr. Gas	H280

Hazard statements for physical hazards

H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

Safety Data Sheet according to Regulation (EC)

No. 1907/2006 (REACH)

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910

! Additional hints

Listed substance (Regulation (EC) No 1272/2008, Annex VI, part 3).

2.2. Label elements

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



GHS02



GHS04

Signal word

Danger

Hazard statements for physical hazards

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 In case of leakage, eliminate all ignition sources.

Storage

P403 Store in a well-ventilated place.

Hazardous ingredients for labeling

methane

2.3. Other hazards

Adverse human health effects and symptoms

Asphyxiant in high concentrations.

Information pertaining to special dangers for human and environment

Receptacle under pressure.

Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

! SECTION 3: Composition/ information on ingredients

3.1. Substances

Description

Content: > 99 %

CAS No 74-82-8

methane

EC No 200-812-7

Index No 601-001-00-4

3.2. Mixtures

not applicable

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 20.07.2018
Revision 20.07.2018 (GB) Version 8.0

Methane
2910

! SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the event of persistent symptoms receive medical treatment.

Adhere to personal protective measures when giving first aid.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.

Seek medical treatment immediately.

In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

No special actions required.

! In case of eye contact

No special actions required.

In case of ingestion

Ingestion is not considered a potential route of exposure.

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

Physician's information / possible symptoms

Unconsciousness

Shortness of breath

Nausea

Convulsions

Physician's information / possible dangers

Risk of circulatory collapse

Risk of respiratory disorders

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

Treatment (Advice to doctor)

Treat symptoms.

If necessary, give oxygen.

Monitor circulation.

! SECTION 5: Firefighting measures

5.1. Extinguishing media

! Suitable extinguishing media

Alcohol-resistant foam

Dry powder

Carbon dioxide

Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.

Formation of explosive gas mixtures in air.

In the event of fire the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 20.07.2018
Revision 20.07.2018 (GB) Version 8.0

Methane
2910

5.3. Advice for firefighters

! Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).
Wear full protective clothing.

! Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture / explode.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
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

Evacuate area.
Keep people away and stay on the upwind side.
Keep away sources of ignition.

! For emergency responders

Remove persons to safety.
Personal protection by wearing close-fitting protective clothing and breathing apparatus.
Eliminate all ignition sources if safe to do so.

6.2. Environmental precautions

If possible, stop flow of product.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
If necessary, secure leaky pressure receptacles in a salvage packaging.

6.3. Methods and material for containment and cleaning up

Ensure adequate air ventilation.

6.4. Reference to other sections

Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

! SECTION 7: Handling and storage

7.1. Precautions for safe handling

! Advice on safe handling

Use only in thoroughly ventilated areas.
Transfer and handle only in enclosed systems.
Containers' temperature may not be increased above 50 °C.
Do not heat with open flames.
The working pressure in the receptacle must not exceed 2/3 of the test pressure of the pressure receptacle.
Take measures against electrostatically charging.
Use antistatic tools.
Treatment only in suitable rooms and systems.
Prevent cylinders from falling over.
Avoid release to the environment.
Ensure valve protection device is correctly fitted.
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
Open valve slowly to avoid pressure shock.
Do not allow backfeed into the container.
Suck back of water into the container must be prevented.

Safety Data Sheet according to Regulation (EC)

No. 1907/2006 (REACH)

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910



No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.
Containers and installations thoroughly earthing (grounding).

General protective measures

Do not inhale gases.

Hygiene measures

At work do not eat, drink and smoke.

Wash hands before breaks and after work.

Advice on protection against fire and explosion

The product is combustible.

Because of risk of explosion avoid vapours getting into cellar, sewage system and holes.

Take precautionary measures against static discharges.

Formation of explosive gas mixtures in air.

Pay attention to general rules of internal fire prevention.

Use explosion-proof equipment / fittings and non-sparking tools.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in closed original container.

Ventilate store-rooms thoroughly.

Only use containers that are approved specifically for the substance/product.

Suitable materials: Normalised carbon steel, tempered alloy steel, aluminium alloys, austenitic stainless steels.

Valve: Suitable materials: Brass, copper alloys, carbon steels, aluminium alloys, austenitic stainless steels.

Other material details see ISO 11114.

All regulations and local requirements for the storage of containers have to be respected.

! Advice on storage compatibility

Do not store together with spontaneously flammable materials.

Do not store together with combustible liquids or combustible solids.

Do not store together with animal feedstuffs.

Do not store together with explosives.

Do not store together with infectious substances.

Do not store together with radioactive material.

Do not store together with toxic liquids or toxic solids.

Do not store together with food.

Do not store together with oxidizing liquids or oxidizing solids.

Further information on storage conditions

Ensure valve protection device is correctly fitted.

Store only in original container at temperature of 50°C maximum (=122°F).

Keep container tightly closed and store at cool and aired place.

Prevent cylinders from falling over.

Protect of heat.

7.3. Specific end use(s)

Recommendation(s) for intended use

No further recommendations.

! SECTION 8: Exposure controls/personal protection

8.1. Control parameters

! Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
--------	------	------	---------	-------	--------

Safety Data Sheet according to Regulation (EC)**No. 1907/2006 (REACH)**

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910

Ingredients with occupational exposure limits to be monitored (continued)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
74-84-0	Aliphatic hydrocarbon gases: alkane [C1-C4]	TLV, 8 hours		1000	ACGIH, USA
		Short-term		3000	

8.2. Exposure controls**! Respiratory protection**

Breathing apparatus in the event of high concentrations.

Keep self contained breathing apparatus readily available for emergency use.

Respiratory protection complying with EN 137.

In case of rescue and maintenance activities in storage containers use environment-independent breathing apparatus because of risk of suffocation by edging out of air oxygen

! Hand protection

Leather gloves

Safety gloves according EN 388

! Eye protection

Protective goggles according to EN 166, in case of increased risk add protective face shield.

! Other protection measures

Safety shoes with steel toe.

Body covering work clothing, or chemical resistant suit at increased risk complying with EN 14605.

! Appropriate engineering controls

Transfer and handle only in enclosed systems.

! SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

gaseous

Colour

colourless

Odour

odourless

Odour threshold

not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not applicable				
boiling point	-161,5 °C		1013 hPa		
melting point	-182,5 °C				
Flash point	-188 °C			closed cup	
Vapourisation rate	not applicable				
Flammable (solid)	not applicable				
Flammability (gas)	inflammable				

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 20.07.2018
Revision 20.07.2018 (GB) Version 8.0

Methane
2910

	Value	Temperature	at	Method	Remark
Ignition temperature	595 °C				
Self ignition temperature	no				
Lower explosion limit	4,4 Vol-%				
Upper explosion limit	17 Vol-%				
Vapour pressure	not applicable				
Relative density	0,7175 g/l	0 °C	1,013 bar		
Vapour density	0,56				air = 1
Solubility in water	26 mg/l				
Solubility/other					soluble in organic solvent
Partition coefficient n-octanol/water (log P O/W)	1,09				
Decomposition temperature	not determined				
Viscosity dynamic	not applicable				
Oxidising properties	no				
Explosive properties	no				

9.2. Other information

Vapours are less heavy than air.

! SECTION 10: Stability and reactivity

10.1. Reactivity

See section "Possibility of hazardous reactions".

10.2. Chemical stability

Stable under recommended conditions of use and storage (see section 7).

10.3. Possibility of hazardous reactions

Risk of explosion in contact with fluorine.

May react violently with oxidizing substances.

10.4. Conditions to avoid

Heat sources / heat - risk of bursting.

Sources of ignition.

Safety Data Sheet according to Regulation (EC)**No. 1907/2006 (REACH)**

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910

10.5. Incompatible materials**! Substances to avoid**

Acetylene

Chlorine

Fluorine

Oxygen

Nitrogen oxides (NO_x)**10.6. Hazardous decomposition products**

When handled and stored appropriately, no dangerous decomposition products are known.

Thermal decomposition

Remark No decomposition if used as directed.

! SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity/Irritation/Sensitization**

	Value/Validation	Species	Method	Remark
LD50 acute oral	Study technically not feasible.			
LD50 acute dermal	Study technically not feasible.			
LC50 acute inhalation	No acute toxicological effects from this product are known.			
Skin irritation	non-irritant			
Eye irritation	non-irritant			
Skin sensitization	non-sensitizing			
Sensitization respiratory system	Not known.			

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity				No mutagenity, after different in-vitro studies.
Reproduction-Toxicity				No indication of teratogenic effects.
Carcinogenicity	Study scientifically not necessary.			

Safety Data Sheet according to Regulation (EC)**No. 1907/2006 (REACH)**

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910

Specific target organ toxicity (single exposure)

Substance or mixture is not classified in GHS-criteria as specific target organ toxic with single exposure.

Specific target organ toxicity (repeated exposure)

Substance or mixture is not classified in GHS-criteria as specific target organ toxic with repeated exposure.

Aspiration hazard

not applicable

Experiences made from practice

Gases have a suffocating effect.

Inhalation causes narcotic effect/intoxication.

Additional information

No known toxicological effects from this product.

! SECTION 12: Ecological information**12.1. Toxicity****Ecotoxicological effects**

	Value	Species	Method	Validation
Fish	LC50 147,54 mg/l (96 h)		QSAR	
Daphnia	LC50 69,43 mg/l (48 h)		QSAR	
Algae	EC50 19,37 mg/l (96 h)		QSAR	

12.2. Persistence and degradability

	Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability	At normal temperature very highly volatile or gaseous product that can be released to atmosphere. Elimination test cannot be employed.			
Biological degradability				Biodegradable

12.3. Bioaccumulative potential

Because of the n-octanol/water distribution coefficient (log K o/w) accumulation in organisms is not expected.

12.4. Mobility in soil

High mobility

Adsorption in the soil is not likely.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

GWP: 21

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste code No.**

16 05 04*

Name of waste

gases in pressure containers (including halons) containing hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Safety Data Sheet according to Regulation (EC)**No. 1907/2006 (REACH)**

Printed 20.07.2018

Revision 20.07.2018 (GB) Version 8.0

Methane

2910

Recommendations for the product

Dispose of as hazardous waste.

Return to manufacturer.

Recommendations for packaging

Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	1971	1971	1971
14.2. UN proper shipping name	METHANE, COMPRESSED	METHANE, COMPRESSED	Methane, compressed
14.3. Transport hazard class(es)	2.1	2.1	2.1
14.4. Packing group	-	-	-
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

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

not applicable

No transport as bulk according IBC - Code.

Land and inland navigation transport ADR/RID

Hazard label(s) 2.1

tunnel restriction code B/D

Classification code 1F

Marine transport IMDG

Ems: F-D, S-U

Air transport ICAO/IATA-DGR

Cargo aircraft only: Package max. 150 kg.

! SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****! Other regulations (EU)**

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 40.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.

VOC standard**VOC content** >=99 % -133 °C 6420 hPa**15.2. Chemical Safety Assessment**

For this substance a chemical safety assessment is not required.

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

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

An exposure scenario is not required.

**Safety Data Sheet according to Regulation (EC)
No. 1907/2006 (REACH)**

Printed 20.07.2018
Revision 20.07.2018 (GB) Version 8.0

Methane
2910



SECTION 16: Other information

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 7.1

Sources of key data used

For the preparation of this safety data sheet, information from our suppliers as well as data from the "database of registered substances" of the European Chemicals Agency (ECHA) were used.