

## Methane

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

<b>Product identifier</b>	
<b>Name of product</b>	Methane Art-Nr: 2910-2920
<b>Name of substance</b>	methane
<b>Index No</b>	601-001-00-4
<b>EC No</b>	200-812-7
<b>CAS No</b>	74-82-8

### Manufacturer / Distributor:

**Ehsan International Gases**  
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#3, Karachi 74600, Pakistan.  
+92 21 36612091 – 36612907  
[info@ehsan.com.pk](mailto:info@ehsan.com.pk)  
[www.ehsan.com.pk](http://www.ehsan.com.pk)

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

#### ! Recommended intended purpose(s)

Fuel gas.  
Basic substance.

### Details of the supplier of the safety data sheet

### SECTION 2: Hazards identification

#### Classification of the substance or mixture

#### Classification according to 67/548/EEC or 1999/45/EC

F+; R12 R-

#### phrases

12 Extremely flammable.

#### Additional hints

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

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

Hazard classes and Hazard	Hazard Statements	Classification procedure categories
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Flam. Gas 1	H220
Liquef. Gas	H280

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H280 Contains gas under pressure; may explode if heated.

### Additional hints

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

### 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/sparks/open flames/hot surfaces. – No smoking.

#### Response

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

P381 Eliminate all ignition sources if safe to do so.

#### Storage

P403 Store in a well-ventilated place.

### Hazardous ingredients for labeling

methane

### Other hazards

#### Adverse human health effects and symptoms

Asphyxiant in high concentrations.

## SECTION 3: Composition/ information on ingredients

### Substances

CAS No 74-82-8

methane

EC No 200-812-7

Index No 601-001-00-4

### Additional advice

No registration number is given yet for this preregistered substance since the transition period for its registration according to Article 23 of REACH has not yet expired.

## SECTION 4: First aid measures

### Description of first aid measures

#### General information

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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 measure necessary.

### In case of ingestion

Ingestion is not considered a potential route of exposure.

### 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

### 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

### Extinguishing media

#### Suitable extinguishing media

Dry powder

Carbon dioxide

Water spray jet

#### Extinguishing media which must not be used for safety reasons

Full water jet

### 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)

### 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.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See chapter 8.

Remove persons to safety.

Evacuate area.

Eliminate all ignition sources if safe to do so.

Keep away sources of ignition.

### Environmental precautions

If possible, stop flow of product.

Eliminate ignition sources.

### Methods and material for containment and cleaning up

Ensure adequate air ventilation.

### Reference to other sections

Informations for safe handling see chapter 7.

Informations for personal protective equipment see chapter 8.

## SECTION 7: Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Use only in thoroughly ventilated areas.

Transfer and handle only in enclosed systems.

Treatment only in suitable rooms and systems.

Prevent cylinders from falling over.

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.

No water to valves, flanges and other fittings.

Purging of pipes and valves with inert gases - to avoid: water, solvents.

#### Advice on protection against fire and explosion

Keep away from sources of ignition 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.

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

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

##### Requirements for storage rooms and vessels

Keep in closed original container.

Ventilate store-rooms thoroughly.

Use transportable pressure equipment.

Suitable materials: Normalised steel and carbon steel, tempered steel, aluminium alloys, stainless steel. Valve:

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

##### Advice on storage compatibility

Do not store 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.

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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

Keep container tightly closed and store at cool and aired place.  
Prevent cylinders from falling over.  
Protect of heat.  
Storage temperature may not exceed 50°C (=122°F).

### Specific end use(s)

### Recommendation(s) for intended use

No further recommendations.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m <sup>3</sup> ]	[ppm]	Remark
74-84-0	Aliphatic hydrocarbon gases: alkane [C1-C4]	TLV, 8 hours Short-term		1000 3000	ACGIH, USA

### Exposure controls

#### Respiratory protection

Keep self contained breathing apparatus readily available for emergency use.  
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

#### ! Eye protection

tightly fitting goggles

#### Skin protection

Safety shoes with steel toe.  
Body covering work clothing, or chemical resistant suit at increased risk.

#### General protective measures

Do not inhale gases.

#### Hygiene measures

At work do not eat, drink and smoke.

#### Limitation and surveillance of the environment

See chapter 7.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Form	Colour	Odour
Gaseous / liquefied under pressure.	colourless	odourless

### Important health, safety and environmental information

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	Value	Temperature	at	Method	Remark
<b>pH value in delivery state</b>	not applicable				

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	Value	Temperature	at	Method	Remark
<b>Acid number</b>	not applicable				
<b>boiling point</b>	-161,5 °C		1013 hPa		
<b>melting point</b>	-182,5 °C				
<b>Flash point</b>	-188 °C			closed cup	
<b>Flammable solid</b>	not applicable				
<b>Flammability (gas)</b>					Flammable.
<b>Ignition temperature</b>	537 °C				
<b>Lower explosion limit</b>	4,4 Vol-%				
<b>Upper explosion limit</b>	16,5 Vol-%				
<b>Vapour pressure</b>	not applicable				
<b>Density</b>	0,657 g/l	25 °C	1,013 bar	Calculated	gas density
<b>Rel. vapour density</b>	0,55				air = 1
<b>Solubility in water</b>	25 mg/l	17 °C			
<b>Solubility/other</b>					soluble in organic solvent
<b>Partition coefficient (log p<sub>OW</sub>)</b>	1,09				
<b>Viscosity dynamic</b>	0,0109 mPa*s	20 °C			
<b>Oxidizing properties</b>	no				
<b>Other information</b>	Vapours are less heavy than air				

### SECTION 10: Stability and reactivity

#### Reactivity

See section "Possibility of hazardous reactions".

**Chemical stability** Stable under normal conditions.

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**Possibility of hazardous reactions**

Not known.

**Conditions to avoid**

Heat sources / heat - risk of bursting.  
Sources of ignition.

**Incompatible materials**

**Materials to avoid**

Formation of explosive gas/air mixtures.  
Reactions with oxidising agents.

**Hazardous decomposition products**

Not known.

**Thermal decomposition**

Remark                      No decomposition below 600 °C.

### SECTION 11: Toxicological information

**Information on toxicological effects**

**Acute toxicity/Irritability/Sensitization**

	Value/Validation	Species	Method	Remark
<b>Irritability skin</b>	non-irritant			
<b>Irritability eye</b>	non-irritant			

**Subacute Toxicity - Carcinogenicity**

	Value	Species	Method	Validation
<b>Mutagenicity</b>	not determined			
<b>Reproduction-Toxicity</b>	not determined			

**Carcinogenicity** not determined

**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

**Toxicity**

<b>Persistence and degradability</b>	Elimination rate	Method of analysis	Method	Validation



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### 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** not determined

### Bioaccumulative potential

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

**Mobility in soil** high mobility

### Results of PBT and vPvB assessment

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

### Other adverse effects

GWP: 21

## SECTION 13: Disposal considerations

### Waste treatment methods

#### Waste code No.

16 05 04\*

#### Name of waste

gases in pressure containers (including halons) containing dangerous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 91/689/EEC on hazardous waste.

### Recommendations for the product

Dispose of as hazardous waste.

### Recommendations for packaging

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

## SECTION 14: Transport information

### Land and inland navigation transport ADR/RID

UN 1971 METHANE, COMPRESSED, 2.1, (B/D), Classification code: 1F

### Marine transport IMDG

UN 1971 METHANE, COMPRESSED, 2.1

Ems: F-D, S-U

### Air transport ICAO/IATA-DGR UN

1971 Methane, compressed, 2.1

Cargo aircraft only.

Cargo aircraft only: Package max. 150 kg.

### Special precautions for user

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

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

No transport as bulk according IBC - Code.

## SECTION 15: Regulatory information

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

Other regulations (EU)

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

Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.

### VOC standard

VOC content  $\geq 99\%$  -133 °C 6420 hPa

### Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

## 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.

### Wording of the R/H-phrases specified in chapter 3 (not the classification of the mixture!)

R 12 Extremely flammable.

H220 Extremely flammable gas.