

Acetylene

C₂H₂

Also: Ethane

PURE GASES

Identification of the substance/mixture and of the company/undertaking

Product identifier

Name of product

Acetylene

Art-Nr.: 1700 - 1703

Name of substance

acetylene

Index No

601-015-00-0

EC No

200-816-9

CAS No

74-86-2

Manufacturer / Distributor:

Ehsan International Gases

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Recommended intended purpose(s)

Fuel gas.

Welding gas.

Hazards identification

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

F+; R12

R5

R6 R-

phrases

12

Extremely flammable.

5

Heating may cause an explosion.

6

Explosive with or without contact with air.

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

Hazard classes and Hazard Hazard Statements Classification procedure categories

H220

Flam. Gas 1

Diss. Gas

H280

Hazard statements for physical hazards

H220

Extremely flammable gas.

H280

Contains gas under pressure; may explode if heated.

Acetylene

C₂H₂

Additional hints

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

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.

Supplemental Hazard information (EU)

Physical properties

Explosive with or without contact with air.

Information pertaining to special dangers for human and environment

In high concentrations may cause asphyxiation.
Contact with liquid may cause cold burns/frostbite.

Composition/information on ingredients

CAS No 74-86-2 acetylene
EC No 200-816-9
Index No 601-015-00-0

First aid measures

General information

Remove contaminated soaked clothing immediately.
Adhere to personal protective measures when giving first aid.
Seek medical advice immediately.

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

In case of contact with skin wash off immediately with soap and water.

Acetylene

C₂H₂

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call for a doctor immediately.

In case of ingestion

Ingestion is not considered a potential route of exposure.

Physician's information / possible symptoms

Sensitivity to light

Treatment (Advice to doctor)

Treat symptoms.

In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registered trademarks). Monitor circulation.

Firefighting measures

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)

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).

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.

Accidental release measures

Personal precautions

See chapter 8.

Remove persons to safety.

Keep away sources of ignition.

Environmental precautions

If possible, stop flow of product.

Eliminate ignition sources.

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

Methods for cleaning up

Ensure adequate air ventilation.

Allow to vaporise.

Additional Information

Informations for safe handling see chapter 7.

Informations for personal protective equipment see chapter 8.

Acetylene

C₂H₂

Handling and storage

Advice on safe handling

Use only in thoroughly ventilated areas.
 Transfer and handle only in enclosed systems.
 Take measures against electrostatically charging.
 Barrels and installations thoroughly earthing (grounding).
 Use antistatic tools.
 Treatment only in suitable rooms and systems.
 Provide good room ventilation even at ground level (vapours are heavier than air).
 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

The product is combustible.
 Because of risk of explosion avoid vapors 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.

Requirements for storage rooms and vessels

Keep in closed original container.
 Ventilate store-rooms thoroughly.
 Use transportable pressure equipment.
 Suitable materials: Normalized steel and carbon steel, tempered steel, aluminum alloys, stainless steel.
 Valve: Suitable materials: Brass (Cu < 70%), carbon steels, aluminum alloys, stainless steel.
 Unsuitable materials: Brass and copper alloys (Cu >= 70%).

Advice on storage compatibility

Do not store together with animal feedstuffs.
 Do not store together with food.
 Do not store together with oxidizing agents.

Further information on storage conditions

Ensure valve protection device is correctly fitted.
 Keep container tightly closed and store at cool and aired place.
 Prevent cylinders from falling over.
 Storage temperature may not exceed 50°C (=122°F).

Recommendation(s) for intended use

no

Exposure controls/personal protection

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m ³]	[ppm]	Remark
74-86-2	acetylene	8 hours Short-term	2662	2500	NIOSH, USA

Acetylene

C₂H₂

Additional advice

no

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

Protective gloves

Leather gloves

Eye protection

Wear goggles with suitable filter lenses when use is cutting/welding.
safety goggles, in case of increased risk add protective face shield

Skin protection

protective clothing

General protective measures

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink and smoke.

Limitation and surveillance of the environment

See chapter 7.

Physical and chemical properties

Form

pressurised dissolved gas

Colour

colourless

Odour

garlic-like

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	not applicable				
sublimation point	-84 °C		hPa		
melting point	-80,8 °C				under pressure
Flash point	-84 °C				
Flammable solid	not applicable				
Ignition temperature	°C			DIN 51794	
Lower explosion limit	2,3 Vol-%				
Upper explosion limit	Vol-%				
Vapour pressure	hPa	°C			
Density	0,729 g/cm ³	-84 °C			liquid phase

Acetylene

C₂H₂

Rel. vapour density	0,908		air = 1
Solubility in water	mg/l	°C	

Acetylene

C₂H₂

	Value	Temperature	at	Method	Remark
Solubility/other					soluble in organic solvent
Partition coefficient (log p_{OW})	0,37				
Viscosity dynamic	0,103 mPa*s	20 °C			

Additional information

Poor warning properties at low concentrations.

Stability and reactivity

Conditions to avoid

May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Formation of explosive gas/air mixtures. Heat sources / heat - risk of bursting.

Materials to avoid

Reactions with oxidising agents.

Hazardous decomposition products

Carbon monoxide

Thermal decomposition

Remark No decomposition if used as directed.

Additional information

Stable under normal conditions.

Dissolved in a solvent supported in a porous mass.

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C₂H₂

Toxicological information

Acute toxicity/Irritability/Sensitization

Value	Species	Method	Validation
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Carcinogenicity not determined

Toxicity test (Additional information)

No experimental indication of genotoxicity in vitro (Ames-test negative).

Experiences made from practice

Gases have a suffocating effect.

Inhalation causes narcotic effect/intoxication.

Ecological information

Data on elimination (persistence and degradability)

Elimination rate Value/Validation	Method of analysis Species	Method Method	Validation Remark
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Irritability skin non-irritant

Irritability eye non-irritant

Skin sensitization not determined

Subacute Toxicity - Carcinogenicity

Value	Species	Method	Validation
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Mutagenicity not determined

Physico-chemical degradability

At normal temperature very highly volatile or gaseous product that can be released to atmosphere.
Elimination test cannot be employed.

Ecotoxicological effects

Value	Species	Method	Validation
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Fish LC50 200 mg/l (33 h) brook trout

Daphnia not determined

Algae not determined

Bacteria not determined

