

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

Printed 30.11.2010
Revision 30.11.2010 (GB) Version 7.4

Acetylene
1700 - 1703



1. 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

GHC Gerling, Holz & Co. Handels GmbH
Ruhrstraße 113, D-22761 Hamburg
Phone +49 (0) 40 853 123-0, Fax +49 (0) 40 853 123-66
E-Mail msds@ghc.de
Internet www.ghc.de

Advice

Phone +49 (0) 40 853 123-0
Fax +49 (0) 40 853 123-66

Emergency advice

GHC Gerling, Holz & Co. Handels GmbH
Phone +49 (0) 40 853 123-0

Recommended intended purpose(s)

Fuel gas.
Welding gas.

2. 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 categories	Hazard Statements	Classification procedure
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Flam. Gas 1	H220
Diss. Gas	H280

Hazard statements for physical hazards

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

Additional hints

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

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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.

3. Composition/information on ingredients

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

4. 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.

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.

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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.

5. 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.

6. 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.

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! 7. 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 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.

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 (Cu < 70%), carbon steels, aluminium 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

8. Exposure controls/personal protection

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
74-86-2	acetylene	8 hours Short-term	2662	2500	NIOSH, USA

Additional advice

no

Respiratory protection

Keep self contained breathing apparatus readily available for emergency use.

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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.

9. Physical and chemical properties

Form	Colour	Odour
pressurised dissolved gas	colourless	garlic-like

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	not applicable				
sublimation point	-84 °C		1013 hPa		
melting point	-80,8 °C				under pressure
Flash point	-84 °C				
Flammable solid	not applicable				
Ignition temperature	325 °C			DIN 51794	
Lower explosion limit	2,3 Vol-%				
Upper explosion limit	100 Vol-%				
Vapour pressure	44000 hPa	20 °C			
Density	0,729 g/cm3	-84 °C			liquid phase
Rel. vapour density	0,908				air = 1
Solubility in water	1185 mg/l	20 °C			

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	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.

10. 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.

11. Toxicological information

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
Irritability skin	non-irritant			
Irritability eye	non-irritant			
Skin sensitization	not determined			

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Mutagenicity	not determined			
Reproduction-Toxicity	not determined			

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	Value	Species	Method	Validation
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.

12. Ecological information

Data on elimination (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.			

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 200 mg/l (33 h)	brook trout		
Daphnia	not determined			
Algae	not determined			
Bacteria	not determined			

13. Disposal considerations

Waste code No.

15 01 11*

Name of waste

metallic packaging containing a dangerous solid porous matrix (e.g. asbestos), including empty pressure containers

16 05 04*

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.

Dispose of cylinder via gas supplier only; porous material may contain asbestos.

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14. Transport information

Land and inland navigation transport ADR/RID

UN 1001 ACETYLENE, DISSOLVED, 2.1, (B/D), Classification code: 4F

Marine transport IMDG

UN 1001 ACETYLENE, DISSOLVED, 2.1

Ems: F-D, S-U

Air transport ICAO/IATA-DGR

UN 1001 Acetylene, dissolved, 2.1

15. Regulatory information

VOC standard

VOC content

$\geq 99\%$ 20 °C 44000 hPa

16. Other information

Recommend 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.

R 5 Heating may cause an explosion.

R 6 Explosive with or without contact with air.

H220 Extremely flammable gas.