



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 1 / 6



2.1 : flammable gas.

Danger



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

Product identifier	Acetylene (dissolved)
Trade name	Acetylene (dissolved)
Chemical description	Cas No. : 000074-86-2 EC-No. : 200-816-9 Index No. : 601-015-00-0
Chemical formula	C ₂ H ₂
Registration-No.	Registration deadline not expired.
Use	Industrial and professional. Perform risk assessment prior to use.
Company identification	INTERNATIONAL GAS & SERVICES N.V. DE VEERT 16 B-2830 WILLEBROEK BELGIE

2 Hazards identification

Classification of the substance or mixture

Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)

° Physical hazards

Flammable gases – Category 1 – Danger (H220)
Gases under pressure – Dissolved gas – Warning (H280)
Explosive with or without contact with air. (EUH006)

Classification EC 67/548 or EC 1999/45

F+; R12
R5
R6

Label elements

Labelling Regulation EC 1272/2008 (CLP)

° Hazards pictograms



° Hazard pictograms code
° Signal word

Danger

INT. GAS & SERVICES N.V.
De Veert 16 B-2830 Willebroek
TEL. 0032/3.860.95.60 FAX. 0032/3.860.95.65 www.igs-cymaco.eu



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 2 / 6

- ° Hazard statements
H220 : Extremely flammable gas.
H280 : Contains gas under pressure; may explode if heated.
- ° Supplemental hazard information
Explosive with or without contact with air.
- ° Precautionary statements
- Prevention
P210 : Keep away from heat, sparks, open flames or 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 well-ventilated place.

Labelling EC 67/548 or EC 1999/45
Symbols



- R Phrase(s)
R5 : Heating may cause an explosion.
R6 : Explosive with or without contact with air.
R12 : Extremely flammable.
- S Phrase(s)
S2 : Keep out of the reach of children.
S9 : Keep container in a well-ventilated place.
S16 : Keep away from sources of ignition – No smoking.
S33 : Take precautionary measures against static discharges.

Other hazards

Other hazards None.

3 Composition/information on ingredients

Substance / Preparation	Substance.					
Substance name	Contents	CAS No.	EC No.	Index No.	Registration No.	Classification
Acetyleen (opgelost)	100%	74-86-2	200-816-9	601-015-00-0	NOTE 2	F+, R12 R5 R6 ----- Flam. Gas (H220) Press. Gas (H280) Expl. (EUH006)

Contains no other components or impurities which will influence the classification of the product.

Note 1 : listed in Annex IV/V REACH, exempted from registration.

Note 2 : Registration deadline not expired.

Full text of R phrases see chapter 16

4 First aid measures

- First aid measures
- Inhalation
In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/ consciousness. Victim may not be aware of asphyxiation.
In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.
Remove victim to uncontaminated area wearing self contained breathing apparatus.
Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
 - Ingestion
Ingestion is not considered a potential route of exposure.



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 3 / 6

5 Fire-fighting measures

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	Incomplete combustion may form carbon monoxide.
Extinguishing media	All known extinguishants can be used.
- Suitable extinguishing media	If possible, stop flow of product.
Specific methods	Move away from the container and cool with water from a protected position. Continue water spray from protected position until container stays cool. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Special protective equipment for fire fighters.	In confined space use self-contained breathing apparatus.

6 Accidental release measures

Personal precautions	Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.
Environmental precautions	Eliminate ignition sources.
Clean up methods	Try to stop release. Ventilate area.

7 Handling and storage

Handling	Take precautionary measures against static discharge. Avoid contact with pure copper, mercury, silver and brass with greater than 70% copper. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Do not allow backfeed into the container. Use only properly specified equipment which is suitable to this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Refer to supplier's container handling instructions.
Storage	Segregate from oxidant gases and other oxidants in store. Keep container below 50°C in a well ventilated place.

8 Exposure controls/personal protection

Personal protection	Ensure adequate ventilation. Wear suitable hand, body and head protection. Wear goggles with suitable filter lenses When use is cutting/welding. Do not smoke while handling product.
---------------------	--



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 4 / 6

9 Physical and chemical properties

Physical state at 20°C	Gas.
Colour	Colourless gas.
Odour	Garlic like. Poor warning properties at low concentrations.
Molecular weight	26
Melting point (°C)	-80.8
Boiling point (°C)	-84(s)
Critical temperature (°C)	35
Vapour pressure (20°C)	44 bar
Relative density, gas (air=1)	0.9
Relative density, liquid (water=1)	Not applicable.
Solubility in water (mg/l)	1185
Flammability range (vol% in air)	2.3 to 100
Auto-ignition temperature [°C]	325

10 Stability and reactivity

Hazardous decomposition products	None.
Incompatible materials	Air, Oxidiser. Can form explosive mixture with air. Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 70% copper. May react violently with oxidants.
Conditions to avoid	Keep away from heat/sparks/open flames/hot surfaces. – No smoking. May decompose violently at high temperature and/or pressure or in the presence of a catalyst.
Chemical stability	Dissolved in a solvent supported in a porous mass.

11 Toxicological information

Toxicity information	No known toxicological effects from this product.
----------------------	---

12 Ecological information

Ecological effects information	No known ecological damage caused by this product.
--------------------------------	--

13 Disposal considerations

General	Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.
Disposal method	Dispose of cylinder via gas supplier only; Cylinder contains a porous material which in some cases contains asbestos.



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 5 / 6

14 Transport information

UN number 1001

° Labelling ADR, IMDG, IATA



2.1 : flammable gas.

Land transport

ADR/RID

° H.I. No. 239
° UN proper shipping name ACETYLENE, DISSOLVED
° Transport hazard class(es) 2
ADR/RID Classification code 4 F
Packing Instruction(s) – General P200
Tunnel Restriction B/D : Tank carriage : Passage forbidden through tunnels of category B, C, D and E.
Other carriage : Passage forbidden through tunnels of category D and E;

Sea transport

IMO-IMDG code

° Proper shipping name ACETYLENE, DISSOLVED
° Class 2.1
Emergency Schedule (EmS) – Fire F-D
Emergency Schedule (EmS) – Spillage S-U

Air transport

ICAO/IATA

° Proper shipping name ACETYLENE, DISSOLVED
° Class 2.1
° Passenger and Cargo Aircraft DO NOT LOAD IN PASSENGER AIRCRAFT.
° Cargo Aircraft only Allowed.
Packing instruction 200

Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers :

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.



MATERIAL SAFETY DATA SHEET

ACETYLENE

MSDS No. : 001 IGS

Edition : 4
Date : 14/11/2011

Page 6 / 6

15 Regulatory information

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

Ensure all national/local regulations are observed.

Seveso regulation 96/82/EC

Listed.

16 Other information

Ensure operators understand the flammability hazard.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.

List of full text of R-phrases in section 3

R5 : Heating may cause an explosion.
R6 : Explosive with or without contact with air.
R12 : Extremely flammable.

The Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

DISCLAIMER OF LIABILITY

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press.
Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.