

UN	1001
HAZCHEM	2SE
CLASS	2.1

# Acetylene, compressed, dissolved

## TECH SPECS

CONTAINER	'G'	'E'	'D'	PACK 4	PACK 9
CONTENT m <sup>3</sup> (101.325 kPa @ 15° C)	7.0	3.2	1.0	28.0	63.0
GAUGE PRESSURE (kPa @ 15° C)	1,550	1,550	1,550	1,550	1,550
AVERAGE WEIGHT kg (full)	64	32	14.2	370	802
AVERAGE WEIGHT kg (empty)	55	28	13.1	340	730
OUTLET CONNECTION A.S. 2473 Type 20	VERTICAL	VERTICAL	VERTICAL	HORIZ.	HORIZ.

NOTE: The above data is typical of the most common containers.

### CONTAINER

Acetylene > 98.0%  
(on Acetone free basis)

### PHYSICAL DATA

Chemical Symbol	C <sub>2</sub> H <sub>2</sub>
Boiling Point	-75°C
Relative Density (Air = 1)	0.91
Molecular Weight	26.04
Critical Temperature	35.2°C
Auto-ignition Temperature	305°C
Flammability Limits (in air)	2.2 - 81.0%
Density of Gas (@ 101.3kPa & 15°C)	1.108 kg/m <sup>3</sup>
Solubility in Water (@101.3 kPa & 20°C)	0.95
Specific Volume (@101.3 kPa & 15°C)	0.903 kg/m <sup>3</sup>

### PROPERTIES

Acetylene is a colourless, highly flammable gas with a distinctive odour.

### USES

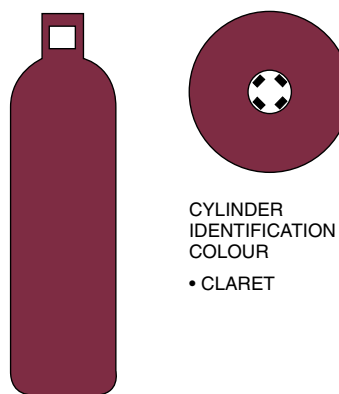
Acetylene is used in combination with oxygen for flame applications such as heating, welding and cutting

In the chemical industry it is employed for the production of:

- ethylene
- vinyl acetate
- vinyl ethers
- styrene
- carbazole
- diols
- vinyl amides
- acrylic acids
- very fine carbon black, called 'acetylene black'
- acetaldehyde
- vinyl chloride
- acrylic ethers
- acrylonitrile
- pyrrolidine
- vinyl acetylene
- vinyl sulfides
- polyoxymethylene

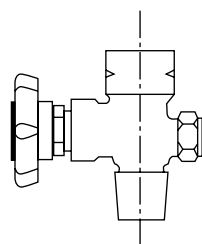
### HAZARDS

Acetylene is highly flammable and forms an explosive mixture with air. Requires very low ignition energy. Acetylene acts as a simple asphyxiant and also has anaesthetic properties.



CYLINDER IDENTIFICATION COLOUR

• CLARET



OUTLET CONNECTION

AS 2473 TYPE 20  
FEMALE L.H. THREAD



CLASS LABEL

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# TECH SPECS

## HANDLING & SAFETY

### CYLINDER STORAGE AND HANDLING

Store cylinders upright in a cool, well ventilated area away from sources of heat and combustible materials.

Protect cylinders, particularly the valve, against physical damage whether full or empty.

Do not artificially heat cylinder. Keep away from artificial heat.

Do not allow any part of the cylinder to be exposed to temperatures above 55°C.

Check that cylinders are clearly labelled.

Keep outlet seals in place on full cylinders.

Close valves on empty cylinders.

### LEAKING CYLINDERS

Move to a well ventilated area.

Stop leak if possible to do so.

Evacuate area away from direction of movement of gas.

No smoking or naked lights.

If leak cannot be stopped, move cylinder to a safe area and allow to empty.

Call Air Liquide for emergency assistance.

### MATERIALS COMPATIBILITY

Steel, stainless steel, aluminium and wrought iron are recommended for use with acetylene. Joints may be welded or made of threaded or flanged fittings. The use of cast iron fittings is not permissible. Unalloyed copper, silver, and mercury should never be used in direct contact with acetylene due to the possible formation of explosive acetylides.

### PRECAUTIONS IN USE

Never allow oil or grease on cylinder or valve.

Close cylinder valve when not in use.

Always use regulator to connect to system.

Secure cylinders to prevent falling over.

Open cylinder valve slowly.

Do not reticulate at pressure greater than 100 kPa.

No smoking or naked flames within the specified area.

Always use cylinders in an upright position.

Rate of draw off from cylinder should not exceed 1/7 of capacity per hour.

### PERSONAL PROTECTION

Personnel regularly engaged in the use and movement of gas cylinders must be provided with:

- Safety footwear
- Leather or PVC gloves

Full cover overalls & safety glasses are recommended.

### FIRE

Acetylene is highly flammable and forms an explosive mixture with air. Cut off source of gas if possible. If escaping gas has ignited, allow it to burn under supervision. Call fire brigade. Cool cylinders by drenching with water from a protected location. Do not approach cylinders suspected to be hot. Remove cool cylinders from path of fire.

If unable to cool cylinders, evacuate area.

### FIRST AID

If victim is conscious:

- Move to uncontaminated area to breathe fresh air.
- Keep warm and quiet.
- Call doctor.

If victim is unconscious:

- Move to uncontaminated area and give assisted respiration.
- When breathing is restored, treatment as above. Continued treatment should be symptomatic and supportive.

### ADDITIONAL INFORMATION

The information, recommendations and data contained in this publication are intended to give basic guidance to users of Air Liquide gases for their safe handling and use.

Material Safety Data Sheets (MSDS) for gases and gas mixtures supplied by Air Liquide are also available.

It is essential for the safe use of gases that personnel are properly trained and are fully aware of the possible hazards.

Further information and advice on any matter relating to the safe handling or use of these products may be obtained from the nearest Air Liquide office.