

CARBON DIOXIDE (CO₂)

Synonyms : Carbonic anhydride; Dry Ice, Carbonic acid gas



Gas Description

Carbon Dioxide gas is formed from the combination of carbon and oxygen. It is produced from the combustion of coal and hydrocarbons, the fermentation of liquids and the breathing of humans and animals. Found in small proportions in the atmosphere, it is assimilated by plants which in turn produce oxygen. Carbon Dioxide has a slightly irritating odour, is colourless, is heavier than air and cannot sustain life.

Typical applications :

Carbonation of beverages
Inerting, purging and sheilding gas
Refrigeration
Neutralization agent for pH control
Heat treatment
Lasers
Fire extinguishers
Propellant

Transport Regulations :

UN Number : 1013
Shipping Name : CARBON DIOXIDE
Class : 2.2 : Non-Flammable Gas
CAS Number : 124-38-9
Hazchem : 2RE

[Click here](#) for MSDS
[Click here](#) for more information

Physical Properties

Chemical symbol : CO₂
Molecular weight : 44.01
Specific gravity (Air=1) : 1.521
Specific volume (m³/kg) : 0.55
Critical temperature : 31°C
Boiling point : -78.5°C

Melting Point : NDA
Critical pressure (bar) : 73.90
Major hazards : Inhalation / High Pressure
Toxicity : TWA 5,000 STEL 3,0000
Flammability Range: Non-Flammable
Odour : Slightly Irritating

[Click here](#) for more information

Application

INDUSTRY

Laboratories and Analysis

Food Processing

Machine / Metal Construction

Other

Healthcare

APPLICATION

"Cryo" cooling in GC's
Specimen sample preservation.

Carbonation of carbonated beverages,
draft beer and quick-freezing

Shielding of welds against oxidation.

Carbon dioxide snow for fire extinguishers;
pH control and regulation of waste wates,
swimming pools etc.

Surgical dilation by intra-abdominal
insufflation.

[Click here](#) for more information

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Carbon Dioxide : **Research**

Min Purity 99.999%

<u>Gas</u>		<u>Cylinder information</u>			
Typical impurities (ppm molar)		Cylinder Size	Valve Connection	Pressure (kPa)	Contents (m ³)
H ₂ O	< 4ppm	G	AS 2473 T 30	5,700	31
O ₂	< 4ppm	E			15
N ₂	< 8ppm	D			9
CH ₄	< 2ppm				

Recommended Equipment

Single stage chrome plated brass body regulator with a stainless steel diaphragm.
For further information [Contact](#) the specialty gases representative in your region.

Carbon Dioxide : **SFC**

Super Critical Chromatography

<u>Gas</u>		<u>Cylinder information</u>			
Typical impurities (ppm molar)		Cylinder Size	Valve Connection	Pressure (kPa)	Contents (m ³)
Ar	< 5ppm	G	AS 2473 T 30	5,700	31
H ₂ O	< 3ppm	E			15
O ₂	< 2ppm	D			9
N ₂	< 50ppm				
H ₂	< 5ppm				
CO	< 5ppm				
CH ₄	< 2ppm				

Recommended Equipment

Single stage chrome plated brass body regulator with a stainless steel diaphragm.

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Carbon Dioxide : **High Purity**

Min Purity 99.995%

<u>Gas</u>		<u>Cylinder information</u>			
Typical impurities (ppm molar)		Cylinder Size	Valve Connection	Pressure (kPa)	Contents (m ³)
		G	AS 2473 T 30	5,700	31
		E			15
		D			9

Recommended Equipment

Dual stage chrome plated brass body regulator with a stainless steel diaphragm.
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Carbon Dioxide : **Coleman Instrument** Min Purity 99.99%

<u>Gas</u>	<u>Cylinder information</u>			
Typical impurities (ppm molar)	Cylinder Size	Valve Connection	Pressure (kPa)	Contents (m ³)
	G	AS 2473 T 30	5,700	31
	E			15
	D			9

Recommended Equipment

Dual stage chrome plated brass body regulator with a stainless steel diaphragm.
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Carbon Dioxide : **Anaerobic** Min Purity 99.995%

<u>Gas</u>	<u>Cylinder information</u>			
Typical impurities (ppm molar)	Cylinder Size	Valve Connection	Pressure (kPa)	Contents (m ³)
O ₂ 10ppm max	G	AS 2473 T 30	5,700	31
	E			15
	D			9

Recommended Equipment

Dual stage chrome plated brass body regulator with a stainless steel diaphragm.

For further information [Contact](#) the specialty gases representative in your region.