

Carbon dioxide

Product Designation	Carbon dioxide
Physical state	liquefied
Chemical symbol	CO ₂
Purity	99,9 vol.%
Other names	R-744 Carbon dioxide Carbon dioxide Carbonic anhydride E 290
Standard	EN ISO 14175

Delivery formats

For static and mobile tank installations

Size, content and operating pressure are configured to individual requirements for both static and mobile tank installations.

Other delivery formats

on request

Alumini® 12, 200 Carbon dioxide 4.5

in static tank: Liquid 3.0 carbon dioxide, liquid Protadur® E 290, liquid R-744

in steel cylinders and bundles: Carbon dioxide to DIN EN ISO 14175, MR, 3.0, 4.5, 5.0, Protadur® E 290, R-744, Corpadur® C, Secudur® C

Properties	asphyxiant
Valve connection	plant specific
Shoulder colour	none, proper transport marking in accordance with ADR

Typical applications

as an extinguishing gas in fire suppression (with/ without odorant)

for inerting of atmospheres

for material treatment in foundry technology

for MAG welding of unalloyed steels

for dry ice blasting

for gas treatment of greenhouses

Carbon dioxide

- for heat treatment as a protective atmosphere
- for freeze-drying
- for treatment of drinking water for neutralisation

Carbon dioxide

Conversions

1 m ³	at 288.15 K (15°C); 1 bar	=	1,848 kg
1 m ³		=	1,569 l liquid
1 kg		=	0,541 m ³
1 kg		=	0,849 l liquid
1 l liquid	at T triple point; 5,2 bar	=	0,637 m ³
1 l liquid		=	1,178 kg

Physical data:

Molar Mass	Molar mass	44,01 g mol ⁻¹
Sublimation point	Sublimation temperature	194,65 (-78,5) K (°C)
	Heat of sublimation	571,08 kJ kg ⁻¹
Gaseous state	Density	1562 kg m ⁻³
	Density (at 273.15 K and 1.013 bar)	1,98 kg m ⁻³
	Density Ratio to Air (at 288.15 K and 1.013 bar)	1,53
	Specific heat (at 298.15 K and 1.013 bar)	0,83 kJ kg ⁻¹ K ⁻¹
	Thermal Conductivity (at 288.15 K and 1.013 bar)	0,0157 J s ⁻¹ m ⁻¹ K ⁻¹
Critical Point	Temperature	304,21 (31,1) K (°C)
	Pressure	73,83 bar
	Density	464 kg m ⁻³
Triple Point	Temperature	216,6 (-56,6) K (°C)
	Vapour Pressure	5,185 bar
	Heat of Fusion	196,7 kJ kg ⁻¹
Additional operating	Ignition Point	-- K (°C)
	Ignition Range in Air	-- vol.%
	Calorific Value to DIN 51850	-- kJ kg ⁻³

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