

CARBON DI-OXIDE Gas Properties

Molecular Weight

Molecular Weight 44.01 g/mol

Gaseous phase

Gas density (1.013 bar at boiling point) 2.814 kg/m3

Specific gravity (air = 1) (1.013 bar and 21°C (70°F)) 1.521

Specific volume (1.013 bar and 21°C (70°F)) : 0.547 m3/kg Heat capacity at constant pressure(Cp) (1.013 bar and 25°C (77°F)) : 0.037 kJ/(mol.K) Heat capacity at constant volume (Cv) (1.013 bar and 25°C (77°F)) 0.028 kJ/(mol.K)

Ratio of specific heats (Gamma: Cp/Cv) (1.013 bar and 25°C (77°F)) : 1.293759

Viscosity (0°C (32°F) and 1.013 bar) : 0.0001372 Poise Thermal conductivity (0°C (32°F) and 1.013 bar) 14.65 mW/(m.K) Gas density of the gas phase (1.013 bar and 15°C (59°F)) : 1.87 kg/m3

Solid phase

Solid density 1562 kg/m3

Liquid phase

Liquid density : at (-) 20 °C or (-) 4°F and

19,7 bar): 1032 kg/m3

Liquid/gas equivalent (1.013 bar and 15°C (per kg of solid)) : 845 vol/vol Boiling point (Sublimation) : (-) 78.5°C Latent heat of vapourization (1.013 bar at boiling point) 571.08 kJ/kg Vapour pressure (at 20°C or 68°F) : 58.5 bar

Critical point

: 73.825 bar Critical pressure : 31°C Critical temperature Critical density 464 kg/m3

Triple point

Triple point pressure : 5.185 bar Triple point temperature : (-) 56.6°C

Miscellaneous

Concentration in air 0.03 vol % Solubility in water (0°C (32°F) and 1.013 bar) 1.7163 vol/vol

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