

Carbon Dioxide

1	Name	CARBON DIOXIDE
2	Formula	CO2
3	CAS Number	124-38-9
4	Molecular Weight	44.01
5	Melting point	216.58 K , -56.57 C , -69.83 F
6	Boiling point @ 101.325 kPa (1 atm)	194.7 K , -78.45 C , -109.21 F
7	Critical Temperature	304.19 K , -31.04 C , -87.87 F
8	Critical Pressure	73.82 bar , 72.85 atm , 1070.67 psia
9	Critical Volume	94 cm ³ /mol
10	Critical Density	0.4682 g/cm ³
11	Critical Compressibility Factor	0.274
12	Acentric Factor	0.228
13	Density of Liquid @ 25 C	0.713 g/cm ³
14	Coefficient of thermal Expansion of Liquid @ 25 C	0.02066 1/C
15	Surface Tension @ 25 C	0.57 dynes/cm
16	Density of Gas @ 1 atm and 70 F (21.1 C)	1.823 kg/m ³ , 0.1138 lb/ft ³
17	Relative Density of Gas @ 1 atm and 70 F (Air =1)	1.52
18	Enthalpy of Vaporization @ Boiling Point	-
19	Enthalpy of Fusion @ Melting Point	204.93 kJ/kg , 88.12 BTU/lb
20	Heat Capacity of Gas @ 25 C , Constant Pressure (CP)	0.873 kJ/(kg K) , 0.209 BTU/(lb R)
21	Heat Capacity of Gas @ 25 C , Constant Volume (CV)	0.684 kJ/(kg K) , 0.163 BTU/(lb R)
22	Ratio of Heat Capacities for Gas , CP/CV	1.276
23	Heat capacity of Liquid @ 7 C	3.048 kJ/(kg K) , 0.728 BTU/(lb R)
24	Heat capacity of Solid @ -103 C	1.1 kJ/(kg K) , 0.263 BTU/(lb R)
25	Entropy of Gas @ 25 C	213.69 J/(mol K)
26	Entropy of Formation of Gas @ 25 C	3.02 J/(mol K)
27	Enthalpy of Formation of Gas @ 25 C	-393.5 kJ/mol
28	Gibbs Energy of Formation of Gas @ 25 C	-394.4 kJ/mol
29	Solubility Parameter	14.564 (J/cm ³) ^{0.5}
30	Liquid Volume	37.278 cm ³ /mol
31	Solubility in Water @ 25 C	1950 parts per million (wt)
32	Octanol-Water Partition Coefficient , log K _{OW}	-1.33
33	Henry's Law Constant for Compound in Water @ 25 C	1635.2 atm/mol fraction
34	Viscosity of Gas @ 25 C	150.5 micropoise
35	Viscosity of Liquid @ -270 C	0.064 centipoise
36	Thermal Conductivity of Gas @ 25 C	0.01653 watts/(m K)
37	Thermal Conductivity of Liquid @ -270 C	0.0784 watts/(m K)
38	Lower Explosion Limit in Air	-
39	Upper Explosion Limit in Air	-
40	Flash Point Temperature	-
41	Autoignition Temperature	-
42	Enthalpy of Combustion @ 25 C (77 F)	-
43	Threshold Limit Value (ACGIH)	5000 parts per million (vol)
44	Permissible Exposure Limit (OSHA)	5000 parts per million (vol)
45	Recommended Exposure Limit (NIOSH)	5000 parts per million (vol)