

# CO2+

Inchi:	InChI=1S/CO2/c2-1-3/q+1
InchiKey:	PCDPTONYKSNEJX-UHFFFAOYSA-N
Formula:	CO2+
SMILES:	O=C=[O+]
Mol. weight [g/mol]:	44.01
CAS:	12181-61-2

## Physical Properties

Property code	Value	Unit	Source
gf	-311.08	kJ/mol	Joback Method
hf	-284.79	kJ/mol	Joback Method
hfus	11.09	kJ/mol	Joback Method
hvap	29.78	kJ/mol	Joback Method
log10ws	0.79		Crippen Method
logp	-0.584		Crippen Method
mcvol	28.090	ml/mol	McGowan Method
pc	10080.48	kPa	Joback Method
tb	203.15	K	Joback Method
tc	331.33	K	Joback Method
tf	144.44	K	Joback Method
vc	0.126	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	32.51	J/molxK	203.15	Joback Method
cpg	34.58	J/molxK	224.51	Joback Method
cpg	36.48	J/molxK	245.88	Joback Method
cpg	38.22	J/molxK	267.24	Joback Method
cpg	39.81	J/molxK	288.60	Joback Method
cpg	41.25	J/molxK	309.97	Joback Method
cpg	42.55	J/molxK	331.33	Joback Method

# Sources

<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C12181612&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C12181612&amp;Units=SI</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci990307I">http://pubs.acs.org/doi/abs/10.1021/ci990307I</a>
<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>

# Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>h vap:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>m cvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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