

C5O2

Other names:	Pentacarbon dioxide
Inchi:	InChI=1S/C5O2/c6-4-2-1-3-5-7
InchiKey:	BKMBQDLZBSCFGV-UHFFFAOYSA-N
Formula:	C5O2
SMILES:	O=C=C=C=C=O
Mol. weight [g/mol]:	92.05
CAS:	51799-36-1

Physical Properties

Property code	Value	Unit	Source
gf	235.72	kJ/mol	Joback Method
hf	283.77	kJ/mol	Joback Method
hfus	29.97	kJ/mol	Joback Method
hvap	40.42	kJ/mol	Joback Method
log10ws	-9.27		Crippen Method
logp	-0.329		Crippen Method
mcvol	67.250	ml/mol	McGowan Method
pc	9764.25	kPa	Joback Method
tb	307.75	K	Joback Method
tc	494.45	K	Joback Method
tf	215.56	K	Joback Method
vc	0.270	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	114.55	J/mol×K	307.75	Joback Method
cpg	115.65	J/mol×K	338.87	Joback Method
cpg	116.87	J/mol×K	369.98	Joback Method
cpg	118.18	J/mol×K	401.10	Joback Method
cpg	119.58	J/mol×K	432.21	Joback Method
cpg	121.04	J/mol×K	463.33	Joback Method
cpg	122.56	J/mol×K	494.45	Joback Method
hvapt	4.60	kJ/mol	229.50	NIST Webbook

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C51799361&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071

Legend

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

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