

Dimethyl methoxymalonate

Other names:	Methoxymalonic acid dimethyl ester Propanedioic acid, methoxy-, dimethyl ester
Inchi:	InChI=1S/C6H10O5/c1-9-4(5(7)10-2)6(8)11-3/h4H,1-3H3
InchiKey:	ORXJMBXYSGGCHG-UHFFFAOYSA-N
Formula:	C6H10O5
SMILES:	<chem>COC(=O)C(OC)C(=O)OC</chem>
Mol. weight [g/mol]:	162.14
CAS:	5018-30-4

Physical Properties

Property code	Value	Unit	Source
gf	-575.64	kJ/mol	Joback Method
hf	-794.27	kJ/mol	Joback Method
hfus	14.54	kJ/mol	Joback Method
hvap	49.28	kJ/mol	Joback Method
log10ws	0.74		Crippen Method
logp	-0.653		Crippen Method
mcvol	116.150	ml/mol	McGowan Method
pc	3415.86	kPa	Joback Method
tb	511.24	K	Joback Method
tc	701.91	K	Joback Method
tf	308.93	K	Joback Method
vc	0.431	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	258.28	J/molxK	511.24	Joback Method
cpg	267.81	J/molxK	543.02	Joback Method
cpg	277.07	J/molxK	574.80	Joback Method
cpg	286.03	J/molxK	606.57	Joback Method
cpg	294.67	J/molxK	638.35	Joback Method
cpg	302.96	J/molxK	670.13	Joback Method
cpg	310.89	J/molxK	701.91	Joback Method

dvisc	0.0020172	Paxs	308.93	Joback Method
dvisc	0.0011472	Paxs	342.65	Joback Method
dvisc	0.0007218	Paxs	376.37	Joback Method
dvisc	0.0004902	Paxs	410.09	Joback Method
dvisc	0.0003530	Paxs	443.80	Joback Method
dvisc	0.0002663	Paxs	477.52	Joback Method
dvisc	0.0002085	Paxs	511.24	Joback Method

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=C5018304&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	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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