Butanedioic acid, methyl-

Other names:	Succinic acid, methyl-
	Methylsuccinic acid
	Pyrotartaric acid
	1,2-Propanedicarboxylic acid
	Methylbutanedioic acid
	2-Methylsuccinic acid
	2-Methylbutanedioic acid
Inchi:	InChI=1S/C5H8O4/c1-3(5(8)9)2-4(6)7/h3H,2H2,1H3,(H,6,7)(H,8,9)
InchiKey:	WXUAQHNMJWJLTG-UHFFFAOYSA-N
Formula:	C5H8O4
SMILES:	CC(CC(=O)O)C(=O)O
Mol. weight [g/mol]:	132.11
CAS:	498-21-5

Physical Properties

Property code	Value	Unit	Source
chs	-2152.70 ± 1.00	kJ/mol	NIST Webbook
gf	-542.70	kJ/mol	Joback Method
hf	-681.43	kJ/mol	Joback Method
hfus	16.56	kJ/mol	Joback Method
hvap	73.19	kJ/mol	Joback Method
log10ws	0.13		Crippen Method
logp	0.182		Crippen Method
mcvol	96.190	ml/mol	McGowan Method
pc	5251.00	kPa	Joback Method
tb	380.65 ± 2.00	K	NIST Webbook
tc	783.09	K	Joback Method
tf	352.61	K	Joback Method
vc	0.359	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	232.92	J/mol×K	605.46	Joback Method

cpg	239.21	J/mol×K	635.07	Joback Method
cpg	245.20	J/mol×K	664.67	Joback Method
cpg	250.87	J/mol×K	694.28	Joback Method
cpg	256.24	J/mol×K	723.88	Joback Method
cpg	261.32	J/mol×K	753.49	Joback Method
cpg	266.11	J/mol×K	783.09	Joback Method
cps	199.60	J/mol×K	323.00	NIST Webbook
dvisc	0.0123933	Pa×s	352.61	Joback Method
dvisc	0.0029414	Pa×s	394.75	Joback Method
dvisc	0.0009213	Pa×s	436.89	Joback Method
dvisc	0.0003540	Pa×s	479.04	Joback Method
dvisc	0.0001588	Pa×s	521.18	Joback Method
dvisc	0.0000803	Pa×s	563.32	Joback Method
dvisc	0.0000446	Pa×s	605.46	Joback Method

Sources

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=C498215&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase 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