

Tartronic acid

Other names:	Hydroxymalonic acid Propanedioic acid, hydroxy- Malonic acid, hydroxy- 2-Hydroxypropanedioic acid
Inchi:	InChI=1S/C3H4O5/c4-1(2(5)6)3(7)8/h1,4H,(H,5,6)(H,7,8)
InchiKey:	ROBFUDYVXSDBQM-UHFFFAOYSA-N
Formula:	C3H4O5
SMILES:	O=C(O)C(O)C(=O)O
Mol. weight [g/mol]:	120.06
CAS:	80-69-3

Physical Properties

Property code	Value	Unit	Source
gf	-696.36	kJ/mol	Joback Method
hf	-952.00 ± 1.50	kJ/mol	NIST Webbook
hfs	-1068.40 ± 1.40	kJ/mol	NIST Webbook
hfus	15.46	kJ/mol	Joback Method
hsub	116.40 ± 0.30	kJ/mol	NIST Webbook
hsub	116.40	kJ/mol	NIST Webbook
hvap	85.41	kJ/mol	Joback Method
log10ws	1.35		Crippen Method
logp	-1.483		Crippen Method
mcvol	73.880	ml/mol	McGowan Method
pc	8324.90	kPa	Joback Method
tb	651.88	K	Joback Method
tc	826.58	K	Joback Method
tf	390.89	K	Joback Method
vc	0.267	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	177.49	J/mol×K	651.88	Joback Method
cpg	181.16	J/mol×K	681.00	Joback Method

cpg	184.62	J/mol×K	710.11	Joback Method
cpg	187.87	J/mol×K	739.23	Joback Method
cpg	190.92	J/mol×K	768.35	Joback Method
cpg	193.78	J/mol×K	797.46	Joback Method
cpg	196.45	J/mol×K	826.58	Joback Method
dvisc	0.0065567	Pa×s	390.89	Joback Method
dvisc	0.0013115	Pa×s	434.39	Joback Method
dvisc	0.0003517	Pa×s	477.89	Joback Method
dvisc	0.0001174	Pa×s	521.38	Joback Method
dvisc	0.0000464	Pa×s	564.88	Joback Method
dvisc	0.0000210	Pa×s	608.38	Joback Method
dvisc	0.0000105	Pa×s	651.88	Joback Method

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
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=C80693&Units=SI

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hsub:	Enthalpy of sublimation 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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