Ethyl hydrogen succinate

Other names:	4-ethoxy-4-oxobutanoic acid
	Butanedioic acid, 1-ethyl ester
	Butanedioic acid, monoethyl ester
	Monoethyl butanedioate
	Succinic acid monoethyl ester
	monoethyl succinate
Inchi:	InChI=1S/C6H10O4/c1-2-10-6(9)4-3-5(7)8/h2-4H2,1H3,(H,7,8)
InchiKey:	LOLKAJARZKDJTD-UHFFFAOYSA-N
Formula:	C6H10O4
SMILES:	CCOC(=O)CCC(=O)O
Mol. weight [g/mol]:	146.14
CAS:	1070-34-4

Physical Properties

Property code	Value	Unit	Source
gf	-500.02	kJ/mol	Joback Method
hf	-676.78	kJ/mol	Joback Method
hfus	19.77	kJ/mol	Joback Method
hvap	61.53	kJ/mol	Joback Method
log10ws	-0.30		Crippen Method
logp	0.414		Crippen Method
mcvol	110.280	ml/mol	McGowan Method
pc	3940.66	kPa	Joback Method
ripol	2395.00		NIST Webbook
ripol	2350.00		NIST Webbook
ripol	2368.00		NIST Webbook
ripol	2367.00		NIST Webbook
tb	559.02	K	Joback Method
tc	738.59	K	Joback Method
tf	340.29	K	Joback Method
vc	0.420	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	257.90	J/mol×K	559.02	Joback Method
cpg	266.10	J/mol×K	588.95	Joback Method
cpg	273.95	J/mol×K	618.88	Joback Method
cpg	281.47	J/mol×K	648.80	Joback Method
cpg	288.64	J/mol×K	678.73	Joback Method
cpg	295.48	J/mol×K	708.66	Joback Method
cpg	301.97	J/mol×K	738.59	Joback Method
dvisc	0.0052745	Pa×s	340.29	Joback Method
dvisc	0.0021175	Pa×s	376.75	Joback Method
dvisc	0.0009987	Pa×s	413.20	Joback Method
dvisc	0.0005320	Pa×s	449.65	Joback Method
dvisc	0.0003115	Pa×s	486.11	Joback Method
dvisc	0.0001965	Pa×s	522.56	Joback Method
dvisc	0.0001317	Pa×s	559.02	Joback Method
pvap	10.13	kPa	454.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	2.09	kPa	421.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	2.59	kPa	425.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	3.09	kPa	428.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	3.60	kPa	433.00	Phase equilibria in binary mixtures with monoethyl succinate
pvap	4.10	kPa	435.60	Phase equilibria in binary mixtures with monoethyl succinate
pvap	4.60	kPa	436.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	5.10	kPa	439.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	5.61	kPa	440.30	Phase equilibria in binary mixtures with monoethyl succinate

pvap	6.11	kPa	443.00	Phase equilibria in binary mixtures with monoethyl succinate
pvap	6.61	kPa	444.30	Phase equilibria in binary mixtures with monoethyl succinate
pvap	7.11	kPa	445.90	Phase equilibria in binary mixtures with monoethyl succinate
pvap	7.61	kPa	447.60	Phase equilibria in binary mixtures with monoethyl succinate
pvap	8.12	kPa	449.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	8.62	kPa	450.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	9.12	kPa	452.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	9.62	kPa	453.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	1.59	kPa	417.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	10.63	kPa	455.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	11.13	kPa	456.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	11.63	kPa	457.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	12.14	kPa	458.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	12.64	kPa	458.40	Phase equilibria in binary mixtures with monoethyl succinate
pvap	13.14	kPa	459.80	Phase equilibria in binary mixtures with monoethyl succinate

pvap	13.64	kPa	460.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	14.14	kPa	460.30	Phase equilibria in binary mixtures with monoethyl succinate
pvap	14.65	kPa	461.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	15.15	kPa	462.00	Phase equilibria in binary mixtures with monoethyl succinate
pvap	15.65	kPa	463.30	Phase equilibria in binary mixtures with monoethyl succinate
pvap	16.15	kPa	463.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	16.66	kPa	464.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	17.16	kPa	464.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	17.66	kPa	465.20	Phase equilibria in binary mixtures with monoethyl succinate
pvap	18.16	kPa	465.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	18.67	kPa	466.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	19.17	kPa	467.30	Phase equilibria in binary mixtures with monoethyl succinate
pvap	19.67	kPa	467.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	20.17	kPa	468.30	Phase equilibria in binary mixtures with monoethyl succinate

pvap	20.67	kPa	468.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	21.18	kPa	469.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	21.68	kPa	469.70	Phase equilibria in binary mixtures with monoethyl succinate
pvap	22.18	kPa	469.80	Phase equilibria in binary mixtures with monoethyl succinate
pvap	22.68	kPa	470.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	23.19	kPa	470.30	Phase equilibria in binary mixtures with monoethyl succinate
pvap	23.69	kPa	470.40	Phase equilibria in binary mixtures with monoethyl succinate
pvap	24.19	kPa	470.50	Phase equilibria in binary mixtures with monoethyl succinate
pvap	24.69	kPa	471.10	Phase equilibria in binary mixtures with monoethyl succinate
pvap	25.20	kPa	471.40	Phase equilibria in binary mixtures with monoethyl succinate
pvap	25.70	kPa	471.90	Phase equilibria in binary mixtures with monoethyl succinate

Sources

Phase equilibria in binary mixtures with monoethyl succinate:	https://www.doi.org/10.1016/j.fluid.2011.06.020
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=C1070344&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
pvap:	Vapor pressure
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume