Butanedioic acid, dipropyl ester

Other names:	Di-n-propyl succinate
	Dipropyl butanedioate
	Dipropyl succinate
	Dipropylester kyseliny jantarove
	Succinic acid, dipropyl ester
Inchi:	InChI=1S/C10H18O4/c1-3-7-13-9(11)5-6-10(12)14-8-4-2/h3-8H2,1-2H3
InchiKey:	SZHZCPHKDJWHNG-UHFFFAOYSA-N
Formula:	C10H18O4
SMILES:	CCCOC(=O)CCC(=O)OCCC
Mol. weight [g/mol]:	202.25
CAS:	925-15-5

Physical Properties

Property code	Value	Unit	Source
gf	-434.52	kJ/mol	Joback Method
hf	-739.33	kJ/mol	Joback Method
hfus	27.23	kJ/mol	Joback Method
hvap	56.17	kJ/mol	Joback Method
log10ws	-1.73		Crippen Method
logp	1.673		Crippen Method
mcvol	166.640	ml/mol	McGowan Method
pc	2298.11	kPa	Joback Method
rinpol	1357.00		NIST Webbook
rinpol	1336.00		NIST Webbook
rinpol	1336.00		NIST Webbook
rinpol	1339.00		NIST Webbook
rinpol	1338.00		NIST Webbook
rinpol	1338.00		NIST Webbook
rinpol	1336.00		NIST Webbook
rinpol	1357.00		NIST Webbook
rinpol	1338.00		NIST Webbook
rinpol	1357.00		NIST Webbook
tb	524.00 ± 1.00	K	NIST Webbook
tb	521.00 ± 1.50	K	NIST Webbook
tc	760.87	K	Joback Method
tf	346.78	K	Joback Method
vc	0.643	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	415.69	J/mol×K	580.78	Joback Method
cpg	428.88	J/mol×K	610.80	Joback Method
cpg	441.54	J/mol×K	640.81	Joback Method
cpg	453.66	J/mol×K	670.83	Joback Method
cpg	465.23	J/mol×K	700.84	Joback Method
cpg	476.26	J/mol×K	730.86	Joback Method
cpg	486.74	J/mol×K	760.87	Joback Method
dvisc	0.0019074	Pa×s	346.78	Joback Method
dvisc	0.0010682	Pa×s	385.78	Joback Method
dvisc	0.0006655	Pa×s	424.78	Joback Method
dvisc	0.0004489	Pa×s	463.78	Joback Method
dvisc	0.0003219	Pa×s	502.78	Joback Method
dvisc	0.0002421	Pa×s	541.78	Joback Method
dvisc	0.0001892	Pa×s	580.78	Joback Method
hvapt	59.40	kJ/mol	437.00	NIST Webbook
pvap	4.87e-03	kPa	308.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	6.85e-03	kPa	312.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	9.36e-03	kPa	316.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.01	kPa	318.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids

pvap	0.01	kPa	321.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.02	kPa	323.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.02	kPa	326.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.03	kPa	328.60	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.03	kPa	331.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.04	kPa	333.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.04	kPa	336.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	

pvap	0.05	kPa	338.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.06	kPa	341.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.07	kPa	343.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.68825e+01
Coeff. B	-6.07022e+03
Coeff. C	-2.89960e+01
Temperature range (K), min.	394.78
Temperature range (K), max.	553.60

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=C925155&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids:	https://www.doi.org/10.1021/je100231g

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume