Di-n-propyl oxalate

Other names:	Dipropyl oxalate
	dipropyl ethanedioate
	ethanedioic acid, dipropyl ester
	oxalic acid, dipropyl ester
Inchi:	InChI=1S/C8H14O4/c1-3-5-11-7(9)8(10)12-6-4-2/h3-6H2,1-2H3
InchiKey:	HZHMMLIMOUNKCK-UHFFFAOYSA-N
Formula:	C8H14O4
SMILES:	CCCOC(=O)C(=O)OCCC
Mol. weight [g/mol]:	174.19
CAS:	615-98-5

Physical Properties

Property code	Value	Unit	Source
gf	-451.36	kJ/mol	Joback Method
hf	-698.05	kJ/mol	Joback Method
hfus	22.05	kJ/mol	Joback Method
hvap	51.71	kJ/mol	Joback Method
log10ws	-0.90		Crippen Method
logp	0.893		Crippen Method
mcvol	138.460	ml/mol	McGowan Method
pc	2787.66	kPa	Joback Method
rinpol	1130.00		NIST Webbook
rinpol	1084.00		NIST Webbook
rinpol	1128.00		NIST Webbook
rinpol	1126.00		NIST Webbook
rinpol	1131.00		NIST Webbook
rinpol	1130.00		NIST Webbook
tb	487.10 ± 0.50	K	NIST Webbook
tc	718.73	K	Joback Method
tf	324.24	K	Joback Method
vc	0.531	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	322.22	J/mol×K	535.02	Joback Method
cpg	333.68	J/mol×K	565.64	Joback Method
cpg	344.72	J/mol×K	596.26	Joback Method
cpg	355.33	J/mol×K	626.88	Joback Method
cpg	365.50	J/mol×K	657.50	Joback Method
cpg	375.23	J/mol×K	688.12	Joback Method
cpg	384.50	J/mol×K	718.73	Joback Method
dvisc	0.0020386	Pa×s	324.24	Joback Method
dvisc	0.0011847	Pa×s	359.37	Joback Method
dvisc	0.0007583	Pa×s	394.50	Joback Method
dvisc	0.0005222	Pa×s	429.63	Joback Method
dvisc	0.0003804	Pa×s	464.76	Joback Method
dvisc	0.0002898	Pa×s	499.89	Joback Method
dvisc	0.0002287	Pa×s	535.02	Joback Method
hvapt	57.80	kJ/mol	406.50	NIST Webbook
pvap	9.43e-03	kPa	293.60	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.01	kPa	298.50	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.02	kPa	301.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.03	kPa	306.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.03	kPa	308.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids

pvap	0.04	kPa	311.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.04	kPa	313.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.05	kPa	316.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.06	kPa	318.60	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.07	kPa	321.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.09	kPa	323.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	
pvap	0.11	kPa	326.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids	

pvap	0.12	kPa	328.30	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.14	kPa	330.40	Vapor Pressures and Enthalpies of Vaporization of a Series of the Symmetric Linear n-Alkyl Esters of Dicarboxylic Acids
pvap	0.18	kPa	333.50	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	1.64154e+01
Coeff. B	-5.13237e+03
Coeff. C	-4.90960e+01
Temperature range (K), min.	367.33
Temperature range (K), max.	511.31

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C615985&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
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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