2-Propenoic acid, pentyl ester

Other names:	2-Propenoic acid,n-pentyl ester
	Pentyl acrylate
	acrylic acid, pentyl ester
	amyl acrylate
	n-Amyl acrylate
	n-pentyl acrylate
	pentyl 2-propenoate
Inchi:	InChI=1S/C8H14O2/c1-3-5-6-7-10-8(9)4-2/h4H,2-3,5-7H2,1H3
InchiKey:	ULDDEWDFUNBUCM-UHFFFAOYSA-N
Formula:	C8H14O2
SMILES:	C=CC(=O)OCCCCC
Mol. weight [g/mol]:	142.20
CAS:	2998-23-4

Physical Properties

Property code	Value	Unit	Source
gf	-129.60	kJ/mol	Joback Method
hf	-327.82	kJ/mol	Joback Method
hfus	17.98	kJ/mol	Joback Method
hvap	41.89	kJ/mol	Joback Method
log10ws	-1.89		Crippen Method
logp	1.906		Crippen Method
mcvol	126.720	ml/mol	McGowan Method
pc	2775.92	kPa	Joback Method
rinpol	978.00		NIST Webbook
rinpol	978.00		NIST Webbook
rinpol	975.00		NIST Webbook
rinpol	978.00		NIST Webbook
rinpol	973.00		NIST Webbook
rinpol	978.00		NIST Webbook
rinpol	976.00		NIST Webbook
rinpol	975.00		NIST Webbook
rinpol	978.00		NIST Webbook
ripol	1273.00		NIST Webbook
ripol	1273.00		NIST Webbook
ripol	1265.00		NIST Webbook
ripol	1276.00		NIST Webbook

tb	455.41	K	Joback Method
tc	633.98	K	Joback Method
tf	250.32	K	Joback Method
vc	0.488	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	263.07	J/mol×K	455.41	Joback Method
cpg	274.71	J/mol×K	485.17	Joback Method
cpg	285.90	J/mol×K	514.93	Joback Method
cpg	296.66	J/mol×K	544.69	Joback Method
cpg	306.99	J/mol×K	574.46	Joback Method
cpg	316.89	J/mol×K	604.22	Joback Method
cpg	326.37	J/mol×K	633.98	Joback Method
dvisc	0.0029783	Pa×s	250.32	Joback Method
dvisc	0.0015454	Pa×s	284.50	Joback Method
dvisc	0.0009231	Pa×s	318.68	Joback Method
dvisc	0.0006093	Pa×s	352.87	Joback Method
dvisc	0.0004328	Pa×s	387.05	Joback Method
dvisc	0.0003249	Pa×s	421.23	Joback Method
dvisc	0.0002547	Pa×s	455.41	Joback Method
hvapt	44.90	kJ/mol	382.50	NIST Webbook

Sources

High-Pressure Phase Behavior for Pentyl Acrylate and Pentyl Methacrylate in Supercritical Carbon Dioxide:	https://www.doi.org/10.1021/je060122s
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=C2998234&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
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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume