Propyl tert-pentyl ether

Other names:	1,1-dimethylpropyl propyl ether
	2-methyl-2-propoxybutane
	butane, 2-methyl-2-propoxy-
	tert-pentyl propyl ether
Inchi:	InChI=1S/C8H18O/c1-5-7-9-8(3,4)6-2/h5-7H2,1-4H3
InchiKey:	LFKBOUUQIPXNTJ-UHFFFAOYSA-N
Formula:	C8H18O
SMILES:	CCCOC(C)(C)CC
Mol. weight [g/mol]:	130.23

Physical Properties

Property code	Value	Unit	Source
gf	-85.68	kJ/mol	Joback Method
hf	-349.42	kJ/mol	Joback Method
hfus	10.25	kJ/mol	Joback Method
hvap	34.52	kJ/mol	Joback Method
log10ws	-2.37		Crippen Method
logp	2.602		Crippen Method
mcvol	129.450	ml/mol	McGowan Method
pc	2540.49	kPa	Joback Method
rinpol	812.00		NIST Webbook
tb	401.63	K	Joback Method
tc	576.09	K	Joback Method
tf	204.57	K	Joback Method
vc	0.490	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	335.39	J/mol×K	576.09	Joback Method
cpg	273.09	J/mol×K	430.71	Joback Method
cpg	286.65	J/mol×K	459.78	Joback Method
cpg	299.64	J/mol×K	488.86	Joback Method
cpg	312.08	J/mol×K	517.94	Joback Method

cpg	323.99	J/mol×K	547.02	Joback Method
cpg	258.96	J/mol×K	401.63	Joback Method
dvisc	0.0073558	Pa×s	204.57	Joback Method
dvisc	0.0028037	Pa×s	237.41	Joback Method
dvisc	0.0013510	Pa×s	270.26	Joback Method
dvisc	0.0007626	Pa×s	303.10	Joback Method
dvisc	0.0004814	Pa×s	335.94	Joback Method
dvisc	0.0003298	Pa×s	368.79	Joback Method
dvisc	0.0002404	Pa×s	401.63	Joback Method
pvap	0.40	kPa	274.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.44	kPa	276.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.53	kPa	278.10	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.61	kPa	280.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.72	kPa	282.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.79	kPa	284.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	0.80	kPa	285.10	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers

pvap	1.00	kPa	287.30	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	1.20	kPa	290.30	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	1.43	kPa	293.30	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	1.80	kPa	296.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	2.07	kPa	299.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers
pvap	2.33	kPa	302.20	Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers

Sources

Thermochemistry of Branched Ethers:	https://www.doi.org/10.1021/je034172y
Experimental Study of Chemical Equilibrium in the Reacting System of tert-Amyl Alkyl Ether Synthesis:	https://en.wikipedia.org/wiki/Joback_method
Joback Method:	http://link.springer.com/article/10.1007/BF02311772
McGowan Method:	http://webbook.nist.gov/cgi/cbook.cgi?ID=R559865&Units=SI
NIST Webbook:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Crippen Method:	https://www.doi.org/10.1021/je0255980
Determination of Ambient Temperature Vapor Pressures and Vaporization Enthalpies of Branched Ethers:	

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume