Pentane, 1-propoxy-

Other names:	1-propoxypentane
	4-oxanonane
	ether, pentyl propyl
	pentyl propyl ether
	propyl pentyl ether
Inchi:	InChI=1S/C8H18O/c1-3-5-6-8-9-7-4-2/h3-8H2,1-2H3
InchiKey:	DMUSSSYUUUYJRM-UHFFFAOYSA-N
Formula:	C8H18O
SMILES:	CCCCCOCCC
Mol. weight [g/mol]:	130.23
CAS:	18641-82-2

Physical Properties

Property code	Value	Unit	Source
gf	-88.52	kJ/mol	Joback Method
hf	-340.67	kJ/mol	Joback Method
hfus	17.66	kJ/mol	Joback Method
hvap	42.81	kJ/mol	NIST Webbook
log10ws	-2.26		Crippen Method
logp	2.603		Crippen Method
mcvol	129.450	ml/mol	McGowan Method
pc	2492.52	kPa	Joback Method
tb	405.20	K	NIST Webbook
tc	568.81	K	Joback Method
tf	202.15	K	Joback Method
vc	0.501	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	305.91	J/mol×K	514.16	Joback Method
cpg	282.47	J/mol×K	459.51	Joback Method
cpg	270.17	J/mol×K	432.19	Joback Method
cpg	257.48	J/mol×K	404.86	Joback Method

cpg	317.06	J/mol×K	541.49	Joback Method
cpg	327.83	J/mol×K	568.81	Joback Method
cpg	294.38	J/mol×K	486.84	Joback Method
dvisc	0.0017915	Pa×s	235.94	Joback Method
dvisc	0.0009546	Pa×s	269.72	Joback Method
dvisc	0.0005852	Pa×s	303.50	Joback Method
dvisc	0.0003956	Pa×s	337.29	Joback Method
dvisc	0.0002873	Pa×s	371.08	Joback Method
dvisc	0.0041498	Pa×s	202.15	Joback Method
dvisc	0.0002200	Pa×s	404.86	Joback Method
hvapt	35.00	kJ/mol	405.20	NIST Webbook
rhol	742.73	kg/m3	323.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	747.19	kg/m3	318.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	756.01	kg/m3	308.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	760.40	kg/m3	303.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model

rhol	764.78	kg/m3	298.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	769.12	kg/m3	293.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	773.45	kg/m3	288.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model
rhol	751.60	kg/m3	313.15	Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Liquid-liquid equilibrium in binary systems of isomeric C8 aliphatic monoethers with nitromethane:	https://www.doi.org/10.1016/j.fluid.2013.07.002
(Liquid + liquid) equilibrium in binary systems of isomeric C8 aliphatic monoethers with acetonitrile and its description by the COSMO-SAC model:	https://www.doi.org/10.1016/j.jct.2014.12.025
Excess Enthalpies in Binary Systems of Isomeric C8 Aliphatic Monoethers with Acetonitrile and Their Description by the COSMO-SAC Model:	https://www.doi.org/10.1021/acs.jced.5b00838
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=C18641822&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
rhol:	Liquid Density
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume