Ethanol, 2-(2-propoxyethoxy)-

Other names:	2-(2-propoxyethoxy)ethanol
	diethylene glycol monopropyl ether
	propyl carbitol
Inchi:	InChI=1S/C7H16O3/c1-2-4-9-6-7-10-5-3-8/h8H,2-7H2,1H3
InchiKey:	DJCYDDALXPHSHR-UHFFFAOYSA-N
Formula:	C7H16O3
SMILES:	CCCOCCOCCO
Mol. weight [g/mol]:	148.20
CAS:	6881-94-3

Physical Properties

Property code	Value	Unit	Source
gf	-338.76	kJ/mol	Joback Method
hf	-604.48	kJ/mol	Joback Method
hfus	20.35	kJ/mol	Joback Method
hvap	65.70 ± 0.80	kJ/mol	NIST Webbook
log10ws	-0.19		Crippen Method
logp	0.422		Crippen Method
mcvol	127.100	ml/mol	McGowan Method
pc	3040.00 ± 400.00	kPa	NIST Webbook
pc	3000.00 ± 20.00	kPa	NIST Webbook
rhoc	284.54 ± 19.27	kg/m3	NIST Webbook
rhoc	302.33 ± 4.45	kg/m3	NIST Webbook
rinpol	1046.00		NIST Webbook
tb	486.00 ± 5.00	K	NIST Webbook
tc	680.00 ± 7.00	K	NIST Webbook
tc	687.00 ± 13.00	K	NIST Webbook
tc	679.80 ± 1.00	K	NIST Webbook
tf	219.90 ± 0.60	K	NIST Webbook
vc	0.482	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	294.88	J/mol×K	496.58	Joback Method
cpg	305.21	J/mol×K	523.34	Joback Method
cpg	315.24	J/mol×K	550.11	Joback Method
cpg	324.98	J/mol×K	576.87	Joback Method
cpg	334.40	J/mol×K	603.63	Joback Method
cpg	343.52	J/mol×K	630.39	Joback Method
cpg	352.32	J/mol×K	657.16	Joback Method
cpl	345.60	J/mol×K	337.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	322.00	J/mol×K	277.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	322.60	J/mol×K	279.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	323.30	J/mol×K	281.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	324.00	J/mol×K	283.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	324.70	J/mol×K	285.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	325.40	J/mol×K	287.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	326.10	J/mol×K	289.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	326.80	J/mol×K	291.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	327.50	J/mol×K	293.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	328.20	J/mol×K	295.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	329.00	J/mol×K	297.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	329.40	J/mol×K	298.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	

cpl	329.70	J/mol×K	299.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	330.50	J/mol×K	301.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	331.30	J/mol×K	303.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	332.00	J/mol×K	305.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	332.80	J/mol×K	307.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	321.30	J/mol×K	275.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	334.40	J/mol×K	311.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	335.20	J/mol×K	313.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	336.00	J/mol×K	315.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	336.90	J/mol×K	317.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	337.70	J/mol×K	319.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	338.50	J/mol×K	321.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	339.40	J/mol×K	323.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	
cpl	340.30	J/mol×K	325.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)	

cpl	341.10	J/mol×K	327.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	342.00	J/mol×K	329.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	342.90	J/mol×K	331.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	343.80	J/mol×K	333.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	344.70	J/mol×K	335.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	333.60	J/mol×K	309.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	346.50	J/mol×K	339.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
dvisc	0.0144494	Pa×s	273.93	Joback Method
dvisc	0.0040273	Pa×s	311.04	Joback Method
dvisc	0.0014739	Pa×s	348.15	Joback Method
dvisc	0.0006546	Pa×s	385.25	Joback Method
dvisc	0.0003353	Pa×s	422.36	Joback Method

dvisc	0.0001914	Pa×s	459.47	Joback Method
dvisc	0.0001188	Pa×s	496.58	Joback Method
hvapt	65.30	kJ/mol	386.50	NIST Webbook
rfi	1.42727		298.15	Excess molar volumes and excess molar enthalpies of the binary mixtures of 1,2-dichloropropane with di- and triethylene glycol mono-alkyl ethers at T=298.15K

Sources

Excess molar volumes and excess molar enthalpies of the binary mixtures of 1,2-dichloropropane with di- and triethylene glycol mono-alkyl ethers at T=298.15K:	https://www.doi.org/10.1016/j.fluid.2009.06.018
Measurement and Prediction of Molar Heat Capacities of Liquid Ethylene Glycol Monoalkyl Ethers (CnEm):	https://www.doi.org/10.1021/acs.jced.5b00051
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=C6881943&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
cpl:	Liquid phase 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
rfi:	Refractive Index
rhoc:	Critical density

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