

Triethylene glycol, octyl ether

Other names:

2-[2-[2-(octyloxy)ethoxy]ethoxy]ethanol
Triethylene glycol, monoethyl ether
ethanol, 2-[2-[2-(octyloxy)ethoxy]ethoxy]-
triethylene glycol mono-n-octyl ether
triethylene glycol monoethyl ether
triethylene glycol octyl ether

Inchi:

InChI=1S/C14H30O4/c1-2-3-4-5-6-7-9-16-11-13-18-14-12-17-10-8-15/h15H,2-14H2,1H3

InchiKey:

XIVLVYLYOMHUGB-UHFFFAOYSA-N

Formula:

C14H30O4

SMILES:

CCCCCCCCOCCOCCOCCO

Mol. weight [g/mol]:

262.39

CAS:

19327-38-9

Physical Properties

Property code	Value	Unit	Source
gf	-384.82	kJ/mol	Joback Method
hf	-881.18	kJ/mol	Joback Method
hfus	39.67	kJ/mol	Joback Method
hvap	70.67	kJ/mol	Joback Method
log10ws	-2.21		Crippen Method
logp	2.389		Crippen Method
mvol	231.600	ml/mol	McGowan Method
pc	1573.45	kPa	Joback Method
rinpol	1855.00		NIST Webbook
rinpol	1855.00		NIST Webbook
tb	679.16	K	Joback Method
tc	841.42	K	Joback Method
tf	375.05	K	Joback Method
vc	0.892	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	671.66	J/mol×K	679.16	Joback Method

cpg	702.21	J/mol×K	733.25	Joback Method
cpg	716.53	J/mol×K	760.29	Joback Method
cpg	730.22	J/mol×K	787.33	Joback Method
cpg	743.27	J/mol×K	814.37	Joback Method
cpg	755.69	J/mol×K	841.42	Joback Method
cpg	687.25	J/mol×K	706.20	Joback Method
cpl	569.50	J/mol×K	289.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	570.40	J/mol×K	291.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	571.30	J/mol×K	293.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	572.20	J/mol×K	295.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	573.20	J/mol×K	297.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	573.70	J/mol×K	298.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	574.20	J/mol×K	299.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	575.20	J/mol×K	301.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	576.20	J/mol×K	303.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	577.30	J/mol×K	305.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	578.40	J/mol×K	307.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	579.50	J/mol×K	309.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	568.60	J/mol×K	287.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	581.70	J/mol×K	313.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	582.90	J/mol×K	315.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	584.10	J/mol×K	317.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	585.30	J/mol×K	319.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	567.70	J/mol×K	285.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	587.70	J/mol×K	323.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	589.00	J/mol×K	325.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	590.30	J/mol×K	327.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	591.60	J/mol×K	329.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	592.90	J/mol×K	331.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	594.30	J/mol×K	333.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	595.60	J/mol×K	335.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	597.00	J/mol×K	337.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	598.40	J/mol×K	339.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)

cpl	566.90	J/mol×K	283.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	566.00	J/mol×K	281.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	565.20	J/mol×K	279.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	564.50	J/mol×K	277.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	580.60	J/mol×K	311.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	586.50	J/mol×K	321.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
cpl	563.70	J/mol×K	275.15	Measurement and Prediction of Molar Heat Capacities of Liquid Polyoxyethylene Glycol Monoalkyl Ethers (CnEm)
dvisc	0.0000356	Paxs	628.48	Joback Method
dvisc	0.0000598	Paxs	577.79	Joback Method
dvisc	0.0001110	Paxs	527.11	Joback Method
dvisc	0.0002349	Paxs	476.42	Joback Method
dvisc	0.0005943	Paxs	425.74	Joback Method

dvisc	0.0019323	Paxs	375.05	Joback Method
dvisc	0.0000229	Paxs	679.16	Joback Method

Sources

Effect of the ethoxy groups distribution on the phase behaviour of the binary systems carbon dioxide with non-ionic surfactants	https://www.doi.org/10.1016/j.jct.2012.09.001
Measurement and Prediction of Molar Heat Capacities of Glycol Monoalkyl Ethers (C _n F _m): McGowan Method:	https://www.doi.org/10.1021/acs.jced.5b00051
NIST Webbook:	https://en.wikipedia.org/wiki/Joback_method
Crippen Method:	http://link.springer.com/article/10.1007/BF02311772
Crippen Method:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C19327389&Units=SI
Measurement of the phase behaviour of the binary systems {carbon dioxide (CO ₂) + non-ionic surfactants (CiEOj)}:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
	https://www.chemeo.com/doc/models/crippen_log10ws
	https://www.doi.org/10.1016/j.jct.2011.09.018

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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rinpolar:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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