Octane, 1,1'-oxybis-

Other names:	1,1'-Oxybisoctane
	1-(Octyloxy)octane
	Antar
	Caprylic ether
	Di-n-octyl ether
	Dicaprylyl ether
	Dioctyl ether
	Ether, di-n-octyl-
	NSC 28948
	Octyl ether
	bis(1-octyl) ether
	cetiol OE
	n-Octyl ether
Inchi:	InChI=1S/C16H34O/c1-3-5-7-9-11-13-15-17-16-14-12-10-8-6-4-2/h3-16H2,1-2H3
InchiKey:	NKJOXAZJBOMXID-UHFFFAOYSA-N
Formula:	C16H34O
SMILES:	CCCCCCCCOCCCCCCCC
Mol. weight [g/mol]:	242.44
CAS:	629-82-3

Physical Properties

Property code	Value	Unit	Source
gf	-21.16	kJ/mol	Joback Method
hf	-505.79	kJ/mol	Joback Method
hfus	38.38	kJ/mol	Joback Method
hvap	53.62	kJ/mol	Joback Method
log10ws	-5.61		Crippen Method
logp	5.724		Crippen Method
mcvol	242.170	ml/mol	McGowan Method
pc	1302.35	kPa	Joback Method
rinpol	1657.00		NIST Webbook
rinpol	1657.00		NIST Webbook
rinpol	1660.00		NIST Webbook
ripol	1761.00		NIST Webbook
ripol	1760.00		NIST Webbook
ripol	1763.00		NIST Webbook
ripol	1763.00		NIST Webbook

ripol	1761.00		NIST Webbook
tb	559.70 ± 1.50	K	NIST Webbook
tb	559.70	K	NIST Webbook
tc	723.00	K	Critical properties of some aliphatic symmetrical ethers
tf	265.60 ± 1.00	K	NIST Webbook
vc	0.950	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	643.59	J/mol×K	587.90	Joback Method
cpg	662.46	J/mol×K	614.43	Joback Method
cpg	680.61	J/mol×K	640.97	Joback Method
cpg	698.07	J/mol×K	667.50	Joback Method
cpg	714.84	J/mol×K	694.03	Joback Method
cpg	730.94	J/mol×K	720.56	Joback Method
cpg	746.38	J/mol×K	747.10	Joback Method
dvisc	0.0033879	Pa×s	292.31	Joback Method
dvisc	0.0013014	Pa×s	341.57	Joback Method
dvisc	0.0006363	Pa×s	390.84	Joback Method
dvisc	0.0003651	Pa×s	440.11	Joback Method
dvisc	0.0002343	Pa×s	489.37	Joback Method
dvisc	0.0001631	Pa×s	538.63	Joback Method
dvisc	0.0001206	Pa×s	587.90	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.55254e+01
Coeff. B	-5.04961e+03
Coeff. C	-9.67330e+01
Temperature range (K), min.	428.12
Temperature range (K), max.	591.12

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.98579e+02
Coeff. B	-1.79056e+04
Coeff. C	-2.61592e+01
Coeff. D	1.13104e-05
Temperature range (K), min.	265.55
Temperature range (K), max.	707.00

Sources

Critical properties of some aliphatic symmetrical ethers:	https://www.doi.org/10.1016/j.jct.2013.09.019
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1026
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1027.mol
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C629823&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Chemical Equilibrium of the Liquid-Phase Dehydration of 1-Octanol to 1-(Octyloxy)octane:	https://www.doi.org/10.1021/je301236k
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

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
ripol:	Polar retention indices

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