1,2-Dibutoxyethane

Other names:	1-(2-Butoxyethoxy)butane
	5,8-dioxadodecane
	Butane, 1,1'-[1,2-ethanediylbis(oxy)]bis-
	Dibutyl Oxitol
	Dibutyl cellosolve
	Dibutylether ethylenglykolu
	Ethane, 1,2-dibutoxy-
	Ethyl glycol dibutyl ether
	Ethylene glycol di-n-butyl ether
	Ethylene glycol dibutyl ether
	Glycol dibutyl ether
	butane, 1,1'-(1,2-ethanediylbis(oxy))bis-
Inchi:	InChI=1S/C10H22O2/c1-3-5-7-11-9-10-12-8-6-4-2/h3-10H2,1-2H3
InchiKey:	GDXHBFHOEYVPED-UHFFFAOYSA-N
Formula:	C10H22O2
SMILES:	CCCCOCCOCCCC
Mol. weight [g/mol]:	174.28
CAS:	112-48-1

Physical Properties

Property code	Value	Unit	Source
gf	-176.68	kJ/mol	Joback Method
hf	-514.17	kJ/mol	Joback Method
hfus	24.03	kJ/mol	Joback Method
hvap	58.76 ± 0.08	kJ/mol	NIST Webbook
hvap	58.80 ± 0.10	kJ/mol	NIST Webbook
hvap	58.76	kJ/mol	NIST Webbook
log10ws	-2.18		Crippen Method
logp	2.620		Crippen Method
mcvol	163.500	ml/mol	McGowan Method
pc	2043.76	kPa	Joback Method
rinpol	1117.00		NIST Webbook
rinpol	1160.00		NIST Webbook
rinpol	1130.00		NIST Webbook
rinpol	1144.00		NIST Webbook
ripol	1348.00		NIST Webbook
ripol	1348.00		NIST Webbook

ripol	1359.00		NIST Webbook
tb	478.95 ± 1.50	K	NIST Webbook
tb	474.00 ± 4.00	K	NIST Webbook
tb	469.00 ± 5.00	K	NIST Webbook
tc	635.66	K	Joback Method
tf	246.92	K	Joback Method
vc	0.631	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	437.50	J/mol×K	608.55	Joback Method
cpg	411.54	J/mol×K	554.35	Joback Method
cpg	397.90	J/mol×K	527.25	Joback Method
cpg	383.82	J/mol×K	500.14	Joback Method
cpg	369.29	J/mol×K	473.04	Joback Method
cpg	424.74	J/mol×K	581.45	Joback Method
cpg	449.81	J/mol×K	635.66	Joback Method
dvisc	0.0030771	Pa×s	246.92	Joback Method
dvisc	0.0001699	Pa×s	473.04	Joback Method
dvisc	0.0002234	Pa×s	435.35	Joback Method
dvisc	0.0003094	Pa×s	397.67	Joback Method
dvisc	0.0004588	Pa×s	359.98	Joback Method
dvisc	0.0007459	Pa×s	322.29	Joback Method
dvisc	0.0013793	Pa×s	284.61	Joback Method
hvapt	55.90	kJ/mol	416.00	NIST Webbook
rhol	849.30	kg/m3	283.15	Solubility Measurement and Thermodynamic Properties Calculation for Several CO2 + Ether Absorbent Systems
rhol	859.90	kg/m3	273.15	Solubility Measurement and Thermodynamic Properties Calculation for Several CO2 + Ether Absorbent Systems

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.60047e+01
Coeff. B	-4.61545e+03
Coeff. C	-7.36030e+01
Temperature range (K), min.	367.26
Temperature range (K), max.	505.22

Sources

Solubility Measurement and Thermodynamic Properties Calculation for Several CO2 + Ether Absorbent Systems:	https://www.doi.org/10.1021/acs.jced.8b00936
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=C112481&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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
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
pvap:	Vapor pressure
rhol:	Liquid Density

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