

# 1,2-Dibutoxyethane

<b>Other names:</b>	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-
<b>Inchi:</b>	InChI=1S/C10H22O2/c1-3-5-7-11-9-10-12-8-6-4-2/h3-10H2,1-2H3
<b>InchiKey:</b>	GDXHBFHOEYVPED-UHFFFAOYSA-N
<b>Formula:</b>	C10H22O2
<b>SMILES:</b>	CCCCOCCOCCCC
<b>Mol. weight [g/mol]:</b>	174.28
<b>CAS:</b>	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
hvac	58.80 ± 0.10	kJ/mol	NIST Webbook
hvac	58.76 ± 0.08	kJ/mol	NIST Webbook
hvac	58.76	kJ/mol	NIST Webbook
log10ws	-2.18		Crippen Method
logp	2.620		Crippen Method
mccol	163.500	ml/mol	McGowan Method
pc	2043.76	kPa	Joback Method
ripol	1130.00		NIST Webbook
ripol	1144.00		NIST Webbook
ripol	1160.00		NIST Webbook
ripol	1117.00		NIST Webbook
ripol	1359.00		NIST Webbook
ripol	1348.00		NIST Webbook

ripol	1348.00		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	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	369.29	J/mol×K	473.04	Joback Method
cpg	383.82	J/mol×K	500.14	Joback Method
cpg	397.90	J/mol×K	527.25	Joback Method
cpg	411.54	J/mol×K	554.35	Joback Method
cpg	424.74	J/mol×K	581.45	Joback Method
cpg	437.50	J/mol×K	608.55	Joback Method
cpg	449.81	J/mol×K	635.66	Joback Method
dvisc	0.0013793	Paxs	284.61	Joback Method
dvisc	0.0030771	Paxs	246.92	Joback Method
dvisc	0.0007459	Paxs	322.29	Joback Method
dvisc	0.0004588	Paxs	359.98	Joback Method
dvisc	0.0003094	Paxs	397.67	Joback Method
dvisc	0.0002234	Paxs	435.35	Joback Method
dvisc	0.0001699	Paxs	473.04	Joback Method
hvapt	55.90	kJ/mol	416.00	NIST Webbook
rho1	859.90	kg/m <sup>3</sup>	273.15	Solubility Measurement and Thermodynamic Properties Calculation for Several CO <sub>2</sub> + Ether Absorbent Systems
rho1	849.30	kg/m <sup>3</sup>	283.15	Solubility Measurement and Thermodynamic Properties Calculation for Several CO <sub>2</sub> + Ether Absorbent Systems

# Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
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

McGowan Method:	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
NIST Webbook:	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C112481&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C112481&amp;Units=SI</a>
The Yaws Handbook of Vapor Pressure:	<a href="https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure">https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure</a>
Crippen Method:	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>
Crippen Method:	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
Solubility Measurement and Thermodynamic Properties Calculation for Several CO <sub>2</sub> + Ether Absorbent Systems:	<a href="https://www.doi.org/10.1021/acs.jced.8b00936">https://www.doi.org/10.1021/acs.jced.8b00936</a>
	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>dvisc:</b>	Dynamic viscosity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>hvapt:</b>	Enthalpy of vaporization at a given temperature
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>pvap:</b>	Vapor pressure
<b>rho:</b>	Liquid Density

<b>rinpol:</b>	Non-polar retention indices
<b>ripol:</b>	Polar retention indices
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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