Ethyleneglycol,monobutylether acetate

Other names:	1-Acetoxy-2-butoxyethane
	2-Butoxyethanol acetate
	2-Butoxyethylester kyseliny octove
	2-butoxyethyl acetate
	2-butoxyethyl ethanoate
	Acetic acid, 2-butoxyethyl ester
	Butoxyethanol acetate
	Butoxyethyl acetate
	Butylcelosolvacetat
	Butylglycol acetate
	Ektasolve eb acetate
	Ethanol, 2-butoxy-, 1-acetate
	Ethylene glycol mono-n-butyl ether acetate
	butyl cellosolve acetate
	butyl glycol acetate
	ethanol, 2-butoxy-, acetate
	ethylene glycol butyl ether acetate
	ethylene glycol monobutyl ether acetate
	glycol monobutyl ether acetate
	n-Butyl cellosolve acetate
Inchi:	InChI=1S/C8H16O3/c1-3-4-5-10-6-7-11-8(2)9/h3-7H2,1-2H3
InchiKey:	NQBXSWAWVZHKBZ-UHFFFAOYSA-N
Formula:	C8H16O3
SMILES:	CCCCOCCOC(C)=O
Mol. weight [g/mol]:	160.21

Physical Properties

Property code	Value	Unit	Source
af	0.5744		Cheméo Relay (1.0)
gf	-322.44	kJ/mol	Joback Method
hf	-653.18	kJ/mol	Cheméo Relay (1.0)
hfus	20.45	kJ/mol	Joback Method
hvap	59.50 ± 0.10	kJ/mol	NIST Webbook
hvap	59.54 ± 0.04	kJ/mol	NIST Webbook
ie	9.64	eV	Cheméo Relay (1.0)
log10ws	-0.96		Cheméo Relay (1.0)
logp	1.366		Crippen Method

mcvol	136.890	ml/mol	McGowan Method
pc	2694.00 ± 40.00	kPa	NIST Webbook
rhoc	291.58 ± 6.41	kg/m3	NIST Webbook
rinpol	1090.00		NIST Webbook
rinpol	1089.80		NIST Webbook
rinpol	1087.00		NIST Webbook
rinpol	1053.00		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1053.00		NIST Webbook
rinpol	1090.00		NIST Webbook
rinpol	1120.20		NIST Webbook
rinpol	1096.00		NIST Webbook
tb	465.20	K	NIST Webbook
tb	466.20 ± 1.50	K	NIST Webbook
tc	640.20 ± 0.80	K	NIST Webbook
tc	641.20 ± 1.60	K	NIST Webbook
tf	209.70 ± 0.60	K	NIST Webbook
vc	0.519	m3/kmol	Cheméo Relay (1.0)

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	360.32	J/mol×K	626.64	Joback Method
cpg	370.44	J/mol×K	655.74	Joback Method
cpg	315.90	J/mol×K	510.25	Joback Method
cpg	327.58	J/mol×K	539.35	Joback Method
cpg	338.89	J/mol×K	568.45	Joback Method
cpg	349.80	J/mol×K	597.55	Joback Method
cpg	303.83	J/mol×K	481.15	Joback Method
dvisc	0.0007825	Pa×s	343.26	Joback Method
dvisc	0.0012972	Pa×s	308.78	Joback Method
dvisc	0.0024417	Pa×s	274.31	Joback Method
dvisc	0.0005177	Pa×s	377.73	Joback Method
dvisc	0.0003669	Pa×s	412.20	Joback Method
dvisc	0.0002743	Pa×s	446.68	Joback Method
dvisc	0.0002138	Pa×s	481.15	Joback Method
hvapt	51.90	kJ/mol	379.00	NIST Webbook

pvap	33.94	kPa	428.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	63.48	kPa	448.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	93.90	kPa	464.20	Estimation of Activity Coefficients for the Pairs of the System 2-Ethoxyethanol + 2-Ethoxyethyl Acetate + 2-Butoxyethanol + 2-Butoxyethyl Acetate
pvap	93.60	kPa	463.30	Estimation of Activity Coefficients for the Pairs of the System 2-Ethoxyethanol + 2-Ethoxyethyl Acetate + 2-Butoxyethanol + 2-Butoxyethyl Acetate
pvap	93.70	kPa	463.00	Estimation of Activity Coefficients for the Pairs of the System 2-Ethoxyethanol + 2-Ethoxyethyl Acetate + 2-Butoxyethanol + 2-Butoxyethyl Acetate
pvap	98.36	kPa	463.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K

pvap	85.24	kPa	458.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	54.64	kPa	443.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	2.92	kPa	363.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	4.57	kPa	373.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	6.72	kPa	383.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	9.96	kPa	393.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	14.42	kPa	403.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K

pvap	20.44	kPa	413.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	28.85	kPa	423.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	46.80	kPa	438.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	39.87	kPa	433.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
rfi	1.41183		298.15	Excess molar volumes and excess molar enthalpies of binary mixtures for 1,2-dichloropropane + 2-alkoxyethanol acetates at 298.15K
rhol	940.70	kg/m3	293.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	930.89	kg/m3	303.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate

rhol	950.40	kg/m3	283.15	Below the room temperature measurements of CO2 solubilities in six physical absorbents
rhol	960.40	kg/m3	273.15	Below the room temperature measurements of CO2 solubilities in six physical absorbents
rhol	901.29	kg/m3	333.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	911.18	kg/m3	323.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	921.05	kg/m3	313.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate

Sources

Estimation of Activity Coefficients for the Pairs of the System 2-Ethoxyethanol + 2-Ethoxyethyl Acetate + 2-Butoxyethanol + 2-Butoxyethyl Acetate:	https://www.doi.org/10.1021/je200565u
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C112072&Units=SI
Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate:	https://www.doi.org/10.1016/j.fluid.2014.02.029
Below the room temperature measurements of CO2 solubilities in six physical absorbents:	https://www.doi.org/10.1016/j.jct.2018.03.009
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Cheméo Relay (1.0, beta):	
Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K:	https://www.doi.org/10.1021/je049627d
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Excess molar volumes and excess molar enthalpies of binary mixtures for 1,2-dichloropropane + 2-alkoxyethanol acetates at 298.15K:	https://www.doi.org/10.1016/j.tca.2008.02.008
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

Cheméo Relay (1.0):

Solubilities of Sulfuryl Fluoride in 2-Butoxyethyl Acetate, 3-Methoxybutyl Acetate, 2-Methoxyethyl Acetate, 1-Methoxy-2-propyl Acetate, and 2-(2-Ethoxyethoxy)ethyl Acetate: https://www.doi.org/10.1021/acs.jced.8b00224

Critical Assessment of CO2 Solubility in Volatile Solvents at 298.15 K: https://www.doi.org/10.1021/je101161d

Legend

af:	Acentric Factor
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
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhoc:	Critical density
rhol:	Liquid Density
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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