Ethanol, 2-(2-ethoxyethoxy)-, acetate

Other names:	2-(2-Ethoxyethoxy)ethanol acetate
	2-(2-Ethoxyethoxy)ethyl acetate
	2-(2-Ethoxyethoxy)ethylester kyseliny octove
	Acetic acid 2-(2-ethoxyethoxy)ethyl ester
	Carbitol acetate
	Diethylene glycol ethyl ether acetate
	Diethylene glycol monoethyl ether acetate
	Diethyleneglycol acetate monoethylether
	Diglycol monoethyl ether acetate
	Ektasolve de acetate
	Ethanol, 2-(2-ethoxyethoxy)-, 1-acetate
	Ethyldiglycol acetate
	Glycol ether de acetate
	Karbitolacetat
	NSC 8702
	diethylene glycol monoethyl ether ethanoate
Inchi:	InChI=1S/C8H16O4/c1-3-10-4-5-11-6-7-12-8(2)9/h3-7H2,1-2H3
InchiKey:	FPZWZCWUIYYYBU-UHFFFAOYSA-N
Formula:	C8H16O4
SMILES:	CCOCCOCCOC(C)=O
Mol. weight [g/mol]:	176.21
CAS:	112-15-2

Physical Properties

Property code	Value	Unit	Source
gf	-427.44	kJ/mol	Joback Method
hf	-717.69	kJ/mol	Joback Method
hfus	21.64	kJ/mol	Joback Method
hvap	47.38	kJ/mol	Joback Method
log10ws	-0.21		Crippen Method
logp	0.603		Crippen Method
mcvol	142.760	ml/mol	McGowan Method
pc	2730.00 ± 200.00	kPa	NIST Webbook
rinpol	1147.00		NIST Webbook
rinpol	1183.80		NIST Webbook
rinpol	1183.80		NIST Webbook
rinpol	1184.00		NIST Webbook

tb	491.70	K	NIST Webbook
tc	663.00 ± 3.00	K	NIST Webbook
tf	296.54	K	Joback Method
vc	0.543	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	394.38	J/mol×K	677.62	Joback Method
cpg	339.95	J/mol×K	532.58	Joback Method
cpg	351.57	J/mol×K	561.59	Joback Method
cpg	362.83	J/mol×K	590.59	Joback Method
cpg	373.73	J/mol×K	619.60	Joback Method
cpg	384.25	J/mol×K	648.61	Joback Method
cpg	327.98	J/mol×K	503.57	Joback Method
dvisc	0.0018020	Pa×s	296.54	Joback Method
dvisc	0.0009997	Pa×s	331.05	Joback Method
dvisc	0.0006199	Pa×s	365.55	Joback Method
dvisc	0.0004174	Pa×s	400.06	Joback Method
dvisc	0.0002993	Pa×s	434.56	Joback Method
dvisc	0.0002253	Pa×s	469.06	Joback Method
dvisc	0.0001764	Pa×s	503.57	Joback Method
hvapt	51.70	kJ/mol	392.00	NIST Webbook
pvap	11.91	kPa	413.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	2.02	kPa	363.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	2.95	kPa	373.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K

pvap	4.29	kPa	383.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	6.04	kPa	393.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	8.53	kPa	403.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	64.24	kPa	473.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	56.75	kPa	468.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	49.87	kPa	463.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	
pvap	38.36	kPa	453.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K	

pvap	29.01	kPa	443.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	21.85	kPa	433.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
pvap	16.24	kPa	423.15	Vapor Pressures of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at Temperatures up to 473.15 K
rhol	999.19	kg/m3	303.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	1020.00	kg/m3	283.15	Below the room temperature measurements of CO2 solubilities in six physical absorbents
rhol	1030.00	kg/m3	273.15	Below the room temperature measurements of CO2 solubilities in six physical absorbents
rhol	968.38	kg/m3	333.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	1009.46	kg/m3	293.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate

rhol	988.92	kg/m3	313.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate
rhol	978.66	kg/m3	323.15	Solubilities of CO2 capture absorbents 2-ethoxyethyl ether, 2-butoxyethyl acetate and 2-(2-ethoxyethoxy)ethyl acetate

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.67698e+01
Coeff. B	-5.82618e+03
Coeff. C	-1.10880e+01
Temperature range (K), min.	364.57
Temperature range (K), max.	519.55

Sources

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
Vapor Pressure of Morpholine, Diethyl Methylmalonate, and Five Glycol Ethers at (298.15 to 478.15) K:	https://www.doi.org/10.1021/je049627d
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Below the room temperature measurements of CO2 solubilities in six physical absorbents:	https://www.doi.org/10.1016/j.jct.2018.03.009
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C112152&Units=SI

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