Ethanol, 2-(1-methylethoxy)-

Other names:	2-Isopropoxyethanol
	2-[(1-Methylethyl)oxy]ethanol
	4-Methyl-3-oxa-1-pentanol
	Dowanal EiPAT
	Dowanol EiPAT
	Ethanol, 2-isopropoxy-
	Ethylene glycol isopropyl ether
	Ethylene glycol monisopropyl ether
	Ethylene glycol monoisopropyl
	Ethylene glycol monoisopropyl ether
	Isopropyl Cellosolve
	Isopropyl Oxitol
	Isopropyl glycol
	Monoisopropyl ether of ethylene glycol
	NSC 1259
	Ucar AC
	«beta»-Hydroxyethyl isopropyl ether
	Â«betaÂ»-Hydroxyethyl isopropyl ether
Inchi:	InChI=1S/C5H12O2/c1-5(2)7-4-3-6/h5-6H,3-4H2,1-2H3
InchiKey:	HCGFUIQPSOCUHI-UHFFFAOYSA-N
Formula:	C5H12O2
SMILES:	CC(C)OCCO
Mol. weight [g/mol]:	104.15
CAS:	109-59-1

Physical Properties

Property code	Value	Unit	Source
gf	-253.04	kJ/mol	Joback Method
hf	-436.26	kJ/mol	Joback Method
hfus	10.46	kJ/mol	Joback Method
hvap	50.14	kJ/mol	NIST Webbook
hvap	50.10 ± 0.10	kJ/mol	NIST Webbook
log10ws	-0.38		Crippen Method
logp	0.404		Crippen Method
mcvol	93.050	ml/mol	McGowan Method
pc	3834.03	kPa	Joback Method
rinpol	768.00		NIST Webbook

tb	414.70	K	NIST Webbook
tc	593.40	K	Joback Method
tf	214.16	K	Joback Method
vc	0.346	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	238.21	J/mol×K	593.40	Joback Method
cpg	231.03	J/mol×K	565.83	Joback Method
cpg	223.60	J/mol×K	538.25	Joback Method
cpg	215.92	J/mol×K	510.68	Joback Method
cpg	207.98	J/mol×K	483.11	Joback Method
cpg	199.79	J/mol×K	455.53	Joback Method
cpg	191.34	J/mol×K	427.96	Joback Method
cpl	238.80	J/mol×K	298.15	NIST Webbook
dvisc	0.0007551	Pa×s	356.69	Joback Method
dvisc	0.0017280	Pa×s	321.06	Joback Method
dvisc	0.0002180	Pa×s	427.96	Joback Method
dvisc	0.1081645	Pa×s	214.16	Joback Method
dvisc	0.0183815	Pa×s	249.79	Joback Method
dvisc	0.0048625	Pa×s	285.43	Joback Method
dvisc	0.0003835	Pa×s	392.33	Joback Method
hvapt	45.10	kJ/mol	377.00	NIST Webbook
hvapt	40.42	kJ/mol	414.70	NIST Webbook
pvap	100.00	kPa	414.21	Isobaric vapor liquid equilibria for the n-hexane + 2-isopropoxyethanol and n-heptane + 2-isopropoxyethanol systems
pvap	80.00	kPa	407.13	Isobaric vapor liquid equilibria for the n-hexane + 2-isopropoxyethanol and n-heptane + 2-isopropoxyethanol systems

pvap	60.00	kPa	398.12	Isobaric vapor liquid equilibria for the n-hexane + 2-isopropoxyethanol and n-heptane + 2-isopropoxyethanol systems
rfi	1.40790		298.15	Density, Speed of Sound, and Refractive Index of Aqueous Binary Mixtures of Some Glycol Ethers at T = 298.15 K

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	316.20	K	1.70	NIST Webbook
tbrp	417.20	K	99.10	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.67352e+01
Coeff. B	-4.32941e+03
Coeff. C	-5.73960e+01
Temperature range (K), min.	320.62
Temperature range (K), max.	436.38

Datasets

Viscosity, Pa*s

Temperature, K - Liquid	Pressure, kPa - Liquid	Viscosity, Pa*s - Liquid
293.15	20000.00	0.0029390
293.15	40000.00	0.0034930
293.15	60000.00	0.0040730
293.15	80000.00	0.0046610
293.15	100000.00	0.0052410
303.15	20000.00	0.0022840
303.15	40000.00	0.0026910
303.15	60000.00	0.0031230
303.15	80000.00	0.0035660
303.15	100000.00	0.0040080
313.15	20000.00	0.0018610
313.15	40000.00	0.0021860
313.15	60000.00	0.0025120
313.15	80000.00	0.0028380
313.15	100000.00	0.0031620
323.15	20000.00	0.0014850
323.15	40000.00	0.0017310
323.15	60000.00	0.0020020
323.15	80000.00	0.0022960
323.15	100000.00	0.0026110
333.15	20000.00	0.0012500
333.15	40000.00	0.0014800
333.15	60000.00	0.0017200
333.15	80000.00	0.0019660
333.15	100000.00	0.0022120
343.15	20000.00	0.0010460
343.15	40000.00	0.0012360
343.15	60000.00	0.0014450
343.15	80000.00	0.0016690
343.15	100000.00	0.0019030
353.15	20000.00	0.0009270
353.15	40000.00	0.0010900
353.15	60000.00	0.0012360
353.15	80000.00	0.0013680
353.15	100000.00	0.0015360

Reference *https://www.doi.org/10.1016/j.fluid.2005.02.009*

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
293.15	100.00	904.0
293.15	5000.00	907.3
293.15	10000.00	910.8
293.15	15000.00	914.1
293.15	20000.00	917.3
293.15	25000.00	920.4
293.15	30000.00	923.6
293.15	35000.00	926.4
293.15	40000.00	929.2
293.15	45000.00	932.0
293.15	50000.00	934.5
293.15	55000.00	937.1
293.15	60000.00	939.6
303.15	100.00	895.0
303.15	5000.00	898.4
303.15	10000.00	902.1
303.15	15000.00	905.5
303.15	20000.00	908.8
303.15	25000.00	912.1
303.15	30000.00	915.2
303.15	35000.00	918.2
303.15	40000.00	921.2
303.15	45000.00	924.0
303.15	50000.00	927.0
303.15	55000.00	929.7
303.15	60000.00	932.1
313.15	100.00	885.5
313.15	5000.00	889.2
313.15	10000.00	893.2
313.15	15000.00	896.9
313.15	20000.00	900.4
313.15	25000.00	903.7
313.15	30000.00	907.2
313.15	35000.00	910.2
313.15	40000.00	913.3
313.15	45000.00	916.2
313.15	50000.00	919.1
313.15	55000.00	921.9
313.15	60000.00	924.8
323.15	100.00	875.9
323.15	5000.00	880.1
323.15	10000.00	884.3
323.15	15000.00	888.2

323.15	20000.00	891.9
323.15	25000.00	895.4
323.15	30000.00	899.0
323.15	35000.00	902.3
323.15	40000.00	905.4
323.15	45000.00	908.5
323.15	50000.00	911.4
323.15	55000.00	914.5
323.15	60000.00	917.3
333.15	100.00	866.4
333.15	5000.00	871.0
333.15	10000.00	875.2
333.15	15000.00	879.4
333.15	20000.00	883.3
333.15	25000.00	887.0
333.15	30000.00	890.7
333.15	35000.00	894.2
333.15	40000.00	897.4
333.15	45000.00	900.7
333.15	50000.00	903.6
333.15	55000.00	906.9
333.15	60000.00	910.0
343.15	100.00	856.8
343.15	5000.00	861.5
343.15	10000.00	866.1
343.15	15000.00	870.5
343.15	20000.00	874.7
343.15	25000.00	878.6
343.15	30000.00	882.5
343.15	35000.00	886.1
343.15	40000.00	889.5
343.15	45000.00	893.1
343.15	50000.00	896.4
343.15	55000.00	899.4
343.15	60000.00	902.5
353.15	100.00	846.8
353.15	5000.00	851.9
353.15	10000.00	856.7
353.15	15000.00	861.6
353.15	20000.00	865.8
353.15	25000.00	870.0
353.15	30000.00	874.1
353.15	35000.00	877.8
353.15	40000.00	881.6

353.15	45000.00	885.2
353.15	50000.00	888.3
353.15	55000.00	891.7
353.15	60000.00	894.9

Reference *https://www.doi.org/10.1021/je049929f*

Sources

Isobaric vapor liquid equilibria for the n-hexane + 2-isopropoxyethanol and n-heptane + 2-isopropoxyethanol systems:	https://www.doi.org/10.1016/j.fluid.2008.09.026
Density, Speed of Sound, and Refractive Index of Aqueous Binary Mixtures of Some Glycol Ethers at T = 298.15 K:	https://www.doi.org/10.1021/je901072c
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Influence of the molecular structure on the viscosity of some alkoxyethanols:	https://www.doi.org/10.1016/j.fluid.2005.02.009
A (vapor + liquid) equilibria of the {carbon dioxide + isopropoxyethanol (ICE1) and the carbon dioxide + 2-butoxyethanol (IBE1)} systems:	https://www.doi.org/10.1016/j.jct.2007.06.005
Prediction of Physicochemical Properties from Solubilities:	https://www.doi.org/10.1021/je501140p
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C109591&Units=SI
2,4-Dihydroxybenzophenone, Biotin, and Caprolactam as Examples:	
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
High-Pressure Volumetric Properties of Three Monoethylene Glycol Alkyl Ethers:	https://www.doi.org/10.1021/je049929f
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

cpg:	Ideal gas heat capacity
cpl:	Liquid phase 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
rfi:	Refractive Index

rhol:	Liquid Density
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume