2-Propanol, 1-propoxy-

Other names:	1-Propoxy-2-propanol
	1-propoxypropan-2-ol
	Propasol solvent P
	Propylene glycol n-propyl ether
	Propylene glycol-n-monopropyl ether
	propane, 2-hydroxy-1-propoxy-
	propylene glycol, 1-propyl ether
Inchi:	InChI=1S/C6H14O2/c1-3-4-8-5-6(2)7/h6-7H,3-5H2,1-2H3
InchiKey:	FENFUOGYJVOCRY-UHFFFAOYSA-N
Formula:	C6H14O2
SMILES:	CCCOCC(C)O
Mol. weight [g/mol]:	118.17
CAS:	1569-01-3

Physical Properties

Property code	Value	Unit	Source
gf	-244.62	kJ/mol	Joback Method
hf	-456.90	kJ/mol	Joback Method
hfus	13.05	kJ/mol	Joback Method
hvap	47.65	kJ/mol	Joback Method
log10ws	-0.80		Crippen Method
logp	0.794		Crippen Method
mcvol	107.140	ml/mol	McGowan Method
pc	3415.86	kPa	Joback Method
rinpol	840.10		NIST Webbook
rinpol	839.70		NIST Webbook
rinpol	805.00		NIST Webbook
rinpol	797.00		NIST Webbook
ripol	1263.80		NIST Webbook
tb	422.95	K	NIST Webbook
tc	615.45	K	Joback Method
tf	225.43	K	Joback Method
vc	0.403	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	258.28	J/mol×K	533.15	Joback Method
cpg	249.26	J/mol×K	505.71	Joback Method
cpg	239.95	J/mol×K	478.28	Joback Method
cpg	230.32	J/mol×K	450.84	Joback Method
cpg	283.50	J/mol×K	615.45	Joback Method
cpg	266.99	J/mol×K	560.58	Joback Method
cpg	275.39	J/mol×K	588.02	Joback Method
cpl	298.80	J/mol×K	330.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	297.50	J/mol×K	327.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	296.80	J/mol×K	326.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	296.10	J/mol×K	324.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	295.50	J/mol×K	323.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	294.80	J/mol×K	321.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	294.10	J/mol×K	320.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	293.40	J/mol×K	318.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	292.80	J/mol×K	317.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	292.10	J/mol×K	315.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	291.40	J/mol×K	314.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	290.70	J/mol×K	312.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	290.00	J/mol×K	311.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	289.20	J/mol×K	309.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	288.50	J/mol×K	308.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	287.80	J/mol×K	306.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	287.10	J/mol×K	305.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	286.40	J/mol×K	303.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	285.60	J/mol×K	302.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	284.90	J/mol×K	300.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	284.10	J/mol×K	299.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	283.60	J/mol×K	298.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	283.40	J/mol×K	297.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	

cpl	282.60	J/mol×K	296.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	281.90	J/mol×K	294.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	281.10	J/mol×K	293.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	280.30	J/mol×K	291.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	279.60	J/mol×K	290.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	278.80	J/mol×K	288.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	277.20	J/mol×K	285.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	298.10	J/mol×K	329.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	276.40	J/mol×K	284.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.

cpl	275.60	J/mol×K	282.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	274.80	J/mol×K	281.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	274.00	J/mol×K	279.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	273.20	J/mol×K	278.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	272.40	J/mol×K	276.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	299.40	J/mol×K	332.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	300.00	J/mol×K	333.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	
cpl	300.70	J/mol×K	335.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.	

cpl	301.30	J/mol×K	336.65	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	301.90	J/mol×K	338.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	278.00	J/mol×K	287.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	271.60	J/mol×K	275.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
cpl	302.40	J/mol×K	339.15	Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.
dvisc	0.0820702	Pa×s	225.43	Joback Method
dvisc	0.0143235	Pa×s	263.00	Joback Method
dvisc	0.0038675	Pa×s	300.57	Joback Method
dvisc	0.0013969	Pa×s	338.13	Joback Method
dvisc	0.0006185	Pa×s	375.70	Joback Method
dvisc	0.0003176	Pa×s	413.27	Joback Method
dvisc	0.0001822	Pa×s	450.84	Joback Method
pvap	3.84	kPa	338.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	0.48	kPa	303.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure

pvap	0.67	kPa	308.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	0.94	kPa	313.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	1.27	kPa	318.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	0.34	kPa	298.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	2.26	kPa	328.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	2.97	kPa	333.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	74.98	kPa	413.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure

pvap	64.10	kPa	408.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	54.75	kPa	403.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	46.38	kPa	398.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	39.18	kPa	393.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	32.80	kPa	388.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	27.42	kPa	383.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	22.65	kPa	378.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure

pvap	18.70	kPa	373.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	15.27	kPa	368.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	12.38	kPa	363.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	9.95	kPa	358.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	7.96	kPa	353.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	6.29	kPa	348.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
pvap	4.95	kPa	343.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure

pvap	1.71	kPa	323.15	Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure
rhol	894.46	kg/m3	283.15	Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K: The effect of branching on alkoxyalcohols
rhol	889.96	kg/m3	288.15	Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K: The effect of branching on alkoxyalcohols
rhol	885.46	kg/m3	293.15	Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K: The effect of branching on alkoxyalcohols
rhol	880.84	kg/m3	298.15	Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K: The effect of branching on alkoxyalcohols
rhol	876.28	kg/m3	303.15	Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K: The effect of branching on alkoxyalcohols
speedsl	1264.52	m/s	293.15	Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (283.15 to 303.15) K. Influence of solute structure

speedsl	1301.94	m/s	283.15	Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (283.15 to 303.15) K. Influence of solute structure
speedsl	1283.21	m/s	288.15	Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (283.15 to 303.15) K. Influence of solute structure
speedsl	1245.79	m/s	298.15	Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (283.15 to 303.15) K. Influence of solute structure
speedsl	1211.05	m/s	308.15	Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K
speedsl	1282.87	m/s	288.15	Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K

speedsl	1266.18	m/s	293.15	Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K
speedsl	1247.82	m/s	298.15	Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K
speedsl	1229.44	m/s	303.15	Densities and Speeds of Sound of Binary Liquid Mixtures of Some n-Alkoxypropanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K
speedsl	1227.33	m/s	303.15	Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (283.15 to 303.15) K. Influence of solute structure

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.61743e+01

Coeff. B	-4.21246e+03
Coeff. C	-5.84240e+01
Temperature range (K), min.	323.58
Temperature range (K), max.	446.21

Datasets

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
283.15	100.00	895.1
283.15	1000.00	895.7
283.15	2500.00	896.7
283.15	5000.00	898.5
283.15	7500.00	900.1
283.15	10000.00	901.8
283.15	15000.00	905.0
283.15	20000.00	908.1
283.15	25000.00	911.1
293.15	100.00	886.0
293.15	1000.00	886.6
293.15	2500.00	887.7
293.15	5000.00	889.6
293.15	7500.00	891.3
293.15	10000.00	893.1
293.15	15000.00	896.5
293.15	20000.00	899.8
293.15	25000.00	902.9
303.15	100.00	876.4
303.15	1000.00	877.2
303.15	2500.00	878.4
303.15	5000.00	880.3
303.15	7500.00	882.2
303.15	10000.00	884.0
303.15	15000.00	887.6
303.15	20000.00	891.1
303.15	25000.00	894.4
313.15	100.00	866.9
313.15	1000.00	867.6

313.15	2500.00	868.9
313.15	5000.00	871.0
313.15	7500.00	873.0
313.15	10000.00	875.0
313.15	15000.00	878.8
313.15	20000.00	882.4
313.15	25000.00	885.9
323.15	100.00	857.2
323.15	1000.00	858.0
323.15	2500.00	859.3
323.15	5000.00	861.4
323.15	7500.00	863.5
323.15	10000.00	865.6
323.15	15000.00	869.6
323.15	20000.00	873.5
323.15	25000.00	877.2
333.15	100.00	847.1
333.15	1000.00	847.9
333.15	2500.00	849.3
333.15	5000.00	851.7
333.15	7500.00	853.9
333.15	10000.00	856.1
333.15	15000.00	860.3
333.15	20000.00	864.3
333.15	25000.00	868.1
343.15	100.00	837.5
343.15	1000.00	838.4
343.15	2500.00	840.0
343.15	5000.00	842.4
343.15	7500.00	844.9
343.15	10000.00	847.2
343.15	15000.00	851.8
343.15	20000.00	856.0
343.15	25000.00	860.1
353.15	100.00	827.3
353.15	1000.00	828.3
353.15	2500.00	829.9
353.15	5000.00	832.6
353.15	7500.00	835.2
353.15	10000.00	837.7
353.15	15000.00	842.5
353.15	20000.00	847.0
353.15	25000.00	851.3

Sources

Phase behavior of glycol ether surfactant systems in the presence of brine and hydrocarbon: Experiment and modeling:	https://www.doi.org/10.1016/j.fluid.2016.01.019
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Volumetric properties of (1-propoxypropan-2-ol + water) mixtures between (283 and 303) K. The Effect of branching on alkoxyalcohols: Solvent:	https://www.doi.org/10.1016/j.jct.2009.06.016
Solubilities of Three Phosphorus Flame Retardants in Selected Organic Solvents:	https://www.doi.org/10.1021/je501173n
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Liquid-Liquid Equilibria for the Ternary System Water + Hexadecane + Propylene Glycol n-Propyl Ether:	https://www.doi.org/10.1021/je101281x
Mutual Solubility and Lower Critical Solution Temperature for Water + Glycol Ether Systems?	https://www.doi.org/10.1021/je049635u
Water activity in 1-propoxypropan-2-ol aqueous mixtures at T = 298 K:	https://www.doi.org/10.1016/j.jct.2014.05.010
Densities and Speeds of Sound of Binary Liquid Mixtures of Some 1-Alkoxy-2-propanols with Methyl Acetate, Ethyl Acetate, and n-Butyl Acetate at T = (288.15, 293.15, 298.15, 303.15, and 308.15) K:	https://www.doi.org/10.1021/je300789a
Liquid Liquid Equilibria for the Ternary System Water + Tetradecane + 1-Propoxypropan-2-ol at T = (288.15, 298.15, and 308.15) K:	https://www.doi.org/10.1021/je200320z
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1569013&Units=SI
Isobaric vapour liquid equilibria of binary 1-propoxy-2-propanol mixtures with water and alcohols at reduced pressure:	https://www.doi.org/10.1016/j.fluid.2008.06.022
(Liquid + liquid) equilibria for the ternary system (water + dodecane + propylene glycol n-propyl ether):	https://www.doi.org/10.1016/j.jct.2011.11.013
Ultrasound speeds and molar isentropic compressions of aqueous 1-propoxypropan-2-ol mixtures from T = (288.15 to 308.15) K. Influence of solute structure:	https://www.doi.org/10.1016/j.jct.2011.09.008
PpT Measurements and EoS Predictions of Glycol Ethers from (298.15 to 348.15) K at Pressures up to 25 MPa:	https://www.doi.org/10.1021/je049893r
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Heat capacity of dowanols within a temperature range of (275.15 to 339.15) K. Measurements and prediction.:	https://www.doi.org/10.1016/j.fluid.2016.09.002

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
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
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume