

2-Propanol, 1-methoxy-

Other names:	1-Methoxy-2-hydroxypropane 1-Methoxypropan-2-ol 1-methoxy-2-propanol 2-Methoxy-1-methylethanol Closol Dowanol-33B Dowtherm 209 Glycol ether pm Icinol PM Methoxyisopropanol Methoxypropanol, «alpha» isomer NSC 2409 PGME Poly-solv MPM Poly-solve MPM Propan-1-methoxy-2-ol Propan-2-ol, 1-methoxy- Propasol solvent M Propylene glycol 1-methyl ether Solvent PM Ucar solvent Im propylene glycol monomethyl ether «alpha»-Propylene glycol monomethyl ether
Inchi:	InChI=1S/C4H10O2/c1-4(5)3-6-2/h4-5H,3H2,1-2H3
InchiKey:	ARXJGSRGQADJSQ-UHFFFAOYSA-N
Formula:	C4H10O2
SMILES:	COCC(C)O
Mol. weight [g/mol]:	90.12
CAS:	107-98-2

Physical Properties

Property code	Value	Unit	Source
gf	-261.46	kJ/mol	Joback Method
hf	-415.62	kJ/mol	Joback Method

hfus	3.61	kJ/mol	Solid-Liquid Equilibria for Binary Organic Systems Containing 1-Methoxy-2-propanol and 2-Butoxy Ethanol
hvap	46.40	kJ/mol	NIST Webbook
hvap	46.20	kJ/mol	NIST Webbook
log10ws	0.04		Crippen Method
logp	0.014		Crippen Method
mcvol	78.960	ml/mol	McGowan Method
pc	4113.00 ± 10.00	kPa	NIST Webbook
ripol	658.00		NIST Webbook
ripol	649.00		NIST Webbook
ripol	673.00		NIST Webbook
ripol	673.00		NIST Webbook
ripol	636.00		NIST Webbook
ripol	634.00		NIST Webbook
ripol	672.00		NIST Webbook
ripol	673.40		NIST Webbook
ripol	669.00		NIST Webbook
ripol	673.20		NIST Webbook
ripol	1146.90		NIST Webbook
ripol	1135.00		NIST Webbook
ripol	1108.00		NIST Webbook
ripol	1131.00		NIST Webbook
ripol	1160.00		NIST Webbook
tb	393.15	K	Isobaric Vapor Liquid Equilibria for (Water + 1-Methoxy-2-propanol), (Water + 2-Methoxy-1-propanol), and (1-Methoxy-2-propanol + 2-Methoxy-1-propanol) at 101.3 kPa
tb	391.70	K	NIST Webbook
tb	393.30	K	Isobaric vapor-liquid equilibria of the binary mixtures propylene glycol methyl ether + propylene glycol methyl ether acetate, methyl acetate + propylene glycol methyl ether and methanol + propylene glycol methyl ether acetate at 101.3 kPa
tb	394.15	K	NIST Webbook
tc	579.80 ± 0.30	K	NIST Webbook
tf	202.89	K	Joback Method
vc	0.290	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	175.56	J/molxK	488.15	Joback Method
cpg	168.81	J/molxK	460.46	Joback Method
cpg	161.85	J/molxK	432.77	Joback Method
cpg	154.70	J/molxK	405.08	Joback Method
cpg	194.63	J/molxK	571.21	Joback Method
cpg	188.48	J/molxK	543.52	Joback Method
cpg	182.12	J/molxK	515.84	Joback Method
dvisc	0.0010690	Paxs	318.15	Excess Molar Volumes and Viscosities for Binary Mixtures of Propylene Glycol Monomethyl Ether with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K
dvisc	0.0013060	Paxs	308.15	Excess Molar Volumes and Viscosities for Binary Mixtures of Propylene Glycol Monomethyl Ether with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K

dvisc	0.0017070	Paxs	298.15	Excess Molar Volumes and Viscosities for Binary Mixtures of Propylene Glycol Monomethyl Ether with Methacrylic Acid, Benzyl Methacrylate, and 2-Hydroxyethyl Methacrylate at (298.15, 308.15, and 318.15) K
pvap	739.81	kPa	473.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	61.89	kPa	378.01	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	52.30	kPa	373.22	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	52.16	kPa	373.15	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	43.29	kPa	368.03	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol

pvap	36.03	kPa	363.15	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	35.72	kPa	362.93	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	29.35	kPa	357.89	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	24.25	kPa	353.15	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	3.61	kPa	313.15	Vapor-Liquid Equilibria on Four Binary Systems: 2-Phenylpropionaldehyde + Phenol, Propylene Glycol Monomethyl Ether + Nitroethane, Dimethyl Ether + Propylene, and N-Butyric Acid + Propionic Acid
pvap	24.18	kPa	353.15	Vapor-Liquid Equilibria on Four Binary Systems: 2-Phenylpropionaldehyde + Phenol, Propylene Glycol Monomethyl Ether + Nitroethane, Dimethyl Ether + Propylene, and N-Butyric Acid + Propionic Acid

pvap	50.45	kPa	373.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	23.74	kPa	352.64	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
pvap	232.93	kPa	423.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	48.26	kPa	373.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	230.60	kPa	423.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	48.55	kPa	373.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	232.13	kPa	423.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation

pvap	231.95	kPa	423.15	Vapor Liquid Equilibrium for Several Compounds Relevant to the Biofuels Industry Modeled with the Wilson Equation
pvap	26.70	kPa	355.83	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	40.00	kPa	365.99	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	53.30	kPa	373.87	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	66.70	kPa	380.27	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures

pvap	80.00	kPa	385.71	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	93.30	kPa	390.45	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	98.70	kPa	392.20	Isobaric vapor liquid equilibria for water + propylene glycol monomethyl ether (PGME), water + propyleneglycol monomethyl ether acetate (PGMEA), and PGME+PGMEA at reduced pressures
pvap	15.00	kPa	342.30	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	23.50	kPa	352.50	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa

pvap	32.00	kPa	360.10	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	42.10	kPa	367.40	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	49.10	kPa	371.60	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	57.60	kPa	376.00	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	66.10	kPa	380.00	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	74.60	kPa	383.50	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa

pvap	52.31	kPa	373.31	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	92.60	kPa	390.10	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	99.90	kPa	392.80	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	116.90	kPa	397.90	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	125.50	kPa	400.00	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	134.00	kPa	402.20	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa

pvap	142.50	kPa	404.30	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	151.00	kPa	406.30	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	159.50	kPa	408.20	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	168.00	kPa	410.00	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	176.50	kPa	411.80	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	101.30	kPa	393.15	Isobaric Vapor Liquid Equilibria for (Water + 1-Methoxy-2-propanol), (Water + 2-Methoxy-1-propanol), and (1-Methoxy-2-propanol + 2-Methoxy-1-propanol) at 101.3 kPa

pvap	9.25	kPa	331.47	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	10.01	kPa	333.15	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	13.11	kPa	339.12	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	15.79	kPa	343.15	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	19.25	kPa	347.71	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	22.64	kPa	351.56	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	24.17	kPa	353.15	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	26.69	kPa	355.59	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	29.57	kPa	358.15	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol

pvap	32.79	kPa	360.78	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	35.74	kPa	363.01	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	43.48	kPa	368.23	Vapor-Liquid Equilibrium for Acetonitrile + Propanenitrile and 1-Pentanamine + 1-Methoxy-2-propanol
pvap	83.30	kPa	386.90	Supplementary vapor pressure data of the glycol ethers, 1-methoxy-2-propanol, and 2-methoxyethanol at a pressure range of (15 to 177) kPa
pvap	19.25	kPa	347.62	Vapor-Liquid Equilibrium for Propylene Glycol + 2-(2-Hexyloxyethoxy)ethanol and 1-Methyl-2-pyrrolidone + 1-Methoxypropan-2-ol
rfi	1.40100		298.15	Density, Speed of Sound, and Refractive Index of Aqueous Binary Mixtures of Some Glycol Ethers at T = 298.15 K
speedsl	231.80	m/s	558.23	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa

speedsl	1243.03	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	1261.54	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	1280.08	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	1298.14	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	104.80	m/s	577.92	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	138.70	m/s	573.29	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa

speedsl	204.20	m/s	563.74	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	1224.50	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	260.70	m/s	553.70	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	304.10	m/s	542.86	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	384.10	m/s	524.99	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	486.90	m/s	500.92	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	572.30	m/s	479.45	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	670.70	m/s	453.43	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	744.50	m/s	434.19	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa

speedsl	828.20	m/s	412.24	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa
speedsl	158.10	m/s	570.21	Speed of Sound Measurement in 1-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa

Sources

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<http://webbook.nist.gov/cgi/cbook.cgi?ID=C107982&Units=SI>

Density, Speed of Sound, and Refractive Index of Aqueous Binary Mixtures of Some Organic Esters at T = 298.15 K: Methyl Acrylate + Acrylonitrile + Propanenitrile and Propyl Acrylate + Propanenitrile

<https://www.doi.org/10.1021/je901072c>

Supplementary vapor pressure data of the methyl ether spanol: Vanomoluz, Propanol and Glycol

<https://www.doi.org/10.1021/je025660t>

Vanomoluz, Propanol and Glycol: A Study of the Phase Change and the Vapor Pressure of Several Compounds of Interest to the Biofuels Industry

<https://www.doi.org/10.1016/j.jct.2012.04.029>

Model Measurements on E-Methoxy-2-propanol from (306.81 to 648.29) K and up to 10 MPa

<https://www.doi.org/10.1021/je034096z>

Binary Systems: 2-Phenylpropionaldehyde + Propyl Acrylate and Propyl Acrylate + Propyl Methacrylate

<https://www.doi.org/10.1021/je400885z>

Mechanism Investigation of Diethyl Ether + Dimethyl Sulfoxide System: Densities and Speeds of Sound of Binary Liquid Mixtures of Some Azeotropic and Near-Azeotropic Systems

<https://www.doi.org/10.1021/acs.jced.8b00845>

for General Binary Organic Systems (Carbon Dioxide, Ethyl Ether, and Ethyl Acrylate + Methoxy-2-propanol), (Water + Some Other Properties) and the Binary Mixtures of Propylene Glycol

<https://www.doi.org/10.1021/je050327l>

and Diethyl Ether + Propylene Glycol

<https://www.doi.org/10.1021/acs.jced.6b00660>

at the Critical Point of Benzene, and Other Binary Systems

<https://www.doi.org/10.1021/je300789a>

Diethyl Ether + Propylene Glycol and Ethyl Ether + Propylene Glycol

<https://www.doi.org/10.1021/je060026r>

Isobutane Vapor Liquid Equilibria for Water + Propylene Glycol Monomethyl Ether

<https://www.doi.org/10.1021/acs.jced.6b00895>

Solubility of Water Phosphorus Vapor Retardants in Selected Organic Media, and POME + POMEA at reduced pressures

<https://www.doi.org/10.1016/j.fluid.2014.01.022>

Joback Method:

<https://www.doi.org/10.1021/acs.jced.9b00011>

Excess Molar Volumes and Viscosities for Binary Mixtures of Propylene Glycol

<https://www.doi.org/10.1021/je060229f>

Monomethyl Ether (MPE) and Propylene Glycol Monomethyl Ether (PGME) with 1,2-dimethoxyethane (DME), 2-methoxyethanol (ME), and 1,2-dimethoxyethane (DME) at pressures of 0.1, 0.5, 1.013, and 134.0 kPa

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https://en.wikipedia.org/wiki/Joback_method

<https://www.doi.org/10.1021/je060288t>

<https://www.doi.org/10.1016/j.jct.2015.03.013>

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
hvac:	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
rfi:	Refractive Index
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

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