1,3-Dioxolane, 2-methyl-

Other names:	2-Methyldioxolane
	2-methyl-1,3-dioxacyclopentane
	2-methyl-1,3-dioxolane
	Methyldioxolane
Inchi:	InChI=1S/C4H8O2/c1-4-5-2-3-6-4/h4H,2-3H2,1H3
InchiKey:	HTWIZMNMTWYQRN-UHFFFAOYSA-N
Formula:	C4H8O2
SMILES:	CC1OCCO1
Mol. weight [g/mol]:	88.11
CAS:	497-26-7

Physical Properties

Property code	Value	Unit	Source
chl	-2332.30 ± 2.20	kJ/mol	NIST Webbook
gf	-152.89	kJ/mol	Joback Method
hf	-350.00 ± 3.00	kJ/mol	NIST Webbook
hfl	-385.10 ± 2.20	kJ/mol	NIST Webbook
hfus	16.01	kJ/mol	Joback Method
hvap	35.10	kJ/mol	NIST Webbook
log10ws	-0.17		Crippen Method
logp	0.379		Crippen Method
mcvol	68.100	ml/mol	McGowan Method
pc	4822.53	kPa	Joback Method
rinpol	618.00		NIST Webbook
rinpol	636.00		NIST Webbook
rinpol	632.00		NIST Webbook
rinpol	676.00		NIST Webbook
rinpol	627.00		NIST Webbook
rinpol	627.00		NIST Webbook
ripol	953.00		NIST Webbook
ripol	973.00		NIST Webbook
tb	354.70	K	NIST Webbook
tb	355.70 ± 1.00	K	NIST Webbook
tc	559.81	K	Joback Method
tf	198.88	K	Joback Method
vc	0.242	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	121.57	J/mol×K	360.10	Joback Method
cpg	141.94	J/mol×K	426.67	Joback Method
cpg	151.39	J/mol×K	459.96	Joback Method
cpg	160.37	J/mol×K	493.24	Joback Method
cpg	168.89	J/mol×K	526.53	Joback Method
cpg	176.96	J/mol×K	559.81	Joback Method
cpg	132.00	J/mol×K	393.39	Joback Method
dvisc	0.0023943	Pa×s	225.75	Joback Method
dvisc	0.0014587	Pa×s	252.62	Joback Method
dvisc	0.0009775	Pa×s	279.49	Joback Method
dvisc	0.0007028	Pa×s	306.36	Joback Method
dvisc	0.0005328	Pa×s	333.23	Joback Method
dvisc	0.0044930	Pa×s	198.88	Joback Method
dvisc	0.0004210	Pa×s	360.10	Joback Method
hvapt	43.00 ± 0.60	kJ/mol	289.00	NIST Webbook
pvap	33.15	kPa	323.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	83.87	kPa	348.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water

pvap	70.39	kPa	343.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	58.78	kPa	338.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	48.83	kPa	333.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	40.35	kPa	328.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	99.46	kPa	353.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water

pvap	27.07	kPa	318.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	21.98	kPa	313.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	17.72	kPa	308.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	14.20	kPa	303.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water
pvap	11.29	kPa	298.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water

pvap	99.00	kPa	356.00	Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water

Sources

Vapor-Liquid-Liquid Equilibrium (VLLE) and Vapor Pressure Data for the Systems 2-Methyl-1,3-dioxolane (2MD) + Water and 2,4-Dimethyl-1,3-dioxolane (24DMD) + Water:	https://www.doi.org/10.1021/je025534p
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C497267&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature

tf: Normal melting (fusion) point

vc: Critical Volume