Propane, 2,2-dimethoxy-

Other names:	2,2-dimethoxypropane
	3,3-dimethyl-2,4-dioxapentane
	Acetone dimethyl ketal
	acetone, dimethyl acetal
Inchi:	InChI=1S/C5H12O2/c1-5(2,6-3)7-4/h1-4H3
InchiKey:	HEWZVZIVELJPQZ-UHFFFAOYSA-N
Formula:	C5H12O2
SMILES:	COC(C)(C)OC
Mol. weight [g/mol]:	104.15
CAS:	77-76-9

Physical Properties

Property code	Value	Unit	Source
gf	-215.94	kJ/mol	Joback Method
hf	-425.00 ± 1.00	kJ/mol	NIST Webbook
hf	-424.31 ± 0.98	kJ/mol	NIST Webbook
hf	-421.90	kJ/mol	NIST Webbook
hfl	-460.70 ± 0.80	kJ/mol	NIST Webbook
hfl	-459.48 ± 0.64	kJ/mol	NIST Webbook
hfl	-457.06 ± 0.96	kJ/mol	NIST Webbook
hfus	3.67	kJ/mol	Joback Method
hvap	37.60 ± 0.40	kJ/mol	NIST Webbook
hvap	35.70	kJ/mol	NIST Webbook
hvap	35.27	kJ/mol	NIST Webbook
hvap	35.20	kJ/mol	NIST Webbook
hvap	29.40	kJ/mol	NIST Webbook
log10ws	-0.70		Crippen Method
logp	1.015		Crippen Method
mcvol	93.050	ml/mol	McGowan Method
pc	3407.89	kPa	Joback Method
rinpol	627.00		NIST Webbook
rinpol	620.00		NIST Webbook
rinpol	616.00		NIST Webbook
rinpol	615.00		NIST Webbook
rinpol	638.00		NIST Webbook
rinpol	615.00		NIST Webbook
tb	353.00	K	NIST Webbook

tb	356.20	K	NIST Webbook
tc	532.08	K	Joback Method
tf	192.99	K	Joback Method
vc	0.341	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	216.59	J/mol×K	502.63	Joback Method
cpg	199.04	J/mol×K	443.74	Joback Method
cpg	207.98	J/mol×K	473.19	Joback Method
cpg	224.89	J/mol×K	532.08	Joback Method
cpg	170.32	J/mol×K	355.41	Joback Method
cpg	180.22	J/mol×K	384.85	Joback Method
cpg	189.79	J/mol×K	414.30	Joback Method
cpl	218.00	J/mol×K	298.15	NIST Webbook
cpl	217.70	J/mol×K	298.15	NIST Webbook
dvisc	0.0006890	Pa×s	274.20	Joback Method
dvisc	0.0002399	Pa×s	355.41	Joback Method
dvisc	0.0004551	Pa×s	301.27	Joback Method
dvisc	0.0003218	Pa×s	328.34	Joback Method
dvisc	0.0048081	Pa×s	192.99	Joback Method
dvisc	0.0021455	Pa×s	220.06	Joback Method
dvisc	0.0011425	Pa×s	247.13	Joback Method
hvapt	33.40 ± 0.20	kJ/mol	324.50	NIST Webbook
hvapt	38.20 ± 0.40	kJ/mol	286.50	NIST Webbook
hvapt	35.30	kJ/mol	323.50	NIST Webbook
rfi	1.37800		293.15	Isothermal and Isobaric Vapor-Liquid Equilibria of the Ternary System of 2,2-Dimethoxypropane + Acetone + Methanol

srf	0.02	N/m	313.15	Excess Molar Volumes and Surface Tensions of 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene with 1,1-Diethoxyethane and 2,2-Dimethoxypropane at (298.15, 308.15, and 313.15) K
srf	0.02	N/m	308.15	Excess Molar Volumes and Surface Tensions of 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene with 1,1-Diethoxyethane and 2,2-Dimethoxypropane at (298.15, 308.15, and 313.15) K
srf	0.02	N/m	298.15	Excess Molar Volumes and Surface Tensions of 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene with 1,1-Diethoxyethane and 2,2-Dimethoxypropane at (298.15, 308.15, and 313.15) K

Sources

Excess Molar Volumes and Surface Tensions of 1,2,4- Trimethylbenzene and 1,3,5- Trimethylbenzene with 1,1-Diethoxyethane and 2,2-Dimethoxypropane at (298.15, 308.15, and 313.15) K:	https://www.doi.org/10.1021/je060490w
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=C77769&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Isothermal and Isobaric Vapor-Liquid Equilibria of the Ternary System of 2,2-Dimethoxypropane + Acetone + Methanol:	https://www.doi.org/10.1021/je050013y

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
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
rfi:	Refractive Index
rinpol:	Non-polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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