1,1'-Biphenyl, 3,4-dimethyl-

Other names: 3,4-dimethylbiphenyl
biphenyl, 3,4-dimethyl-
Inchi: InChI=1S/C14H14/c1-11-8-9-14(10-12(11)2)13-6-4-3-5-7-13/h3-10H,1-2H3
InchiKey: CKENDVLIAVMNDW-UHFFFAOYSA-N
Formula: C14H14
SMILES: Cc1ccc(-c2ccccc2)cc1C
Mol. weight [g/mol]: 182.26
CAS: 4433-11-8

Physical Properties

Property code	Value	Unit	Source
gf	272.56	kJ/mol	Joback Method
hf	117.83	kJ/mol	Joback Method
hfus	19.32	kJ/mol	Joback Method
hvap	52.63	kJ/mol	Joback Method
log10ws	-5.03		Crippen Method
logp	3.970		Crippen Method
mcvol	160.600	ml/mol	McGowan Method
pc	2684.64	kPa	Joback Method
rinpol	1683.00		NIST Webbook
rinpol	1697.00		NIST Webbook
ripol	2324.00		NIST Webbook
ripol	2279.00		NIST Webbook
tb	555.00 ± 4.00	K	NIST Webbook
tb	555.00 ± 4.00	K	NIST Webbook
tc	824.77	K	Joback Method
tf	302.60 ± 1.50	K	NIST Webbook
vc	0.604	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	371.85	J/mol×K	583.04	Joback Method
cpg	388.95	J/mol×K	623.33	Joback Method

cpg	404.83	J/mol×K	663.62	Joback Method
cpg	419.57	J/mol×K	703.90	Joback Method
cpg	433.22	J/mol×K	744.19	Joback Method
cpg	445.84	J/mol×K	784.48	Joback Method
cpg	457.50	J/mol×K	824.77	Joback Method
dvisc	0.0014925	Pa×s	325.42	Joback Method
dvisc	0.0008435	Pa×s	368.36	Joback Method
dvisc	0.0005371	Pa×s	411.29	Joback Method
dvisc	0.0003724	Pa×s	454.23	Joback Method
dvisc	0.0002751	Pa×s	497.17	Joback Method
dvisc	0.0002132	Pa×s	540.10	Joback Method
dvisc	0.0001716	Pa×s	583.04	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.44135e+01
Coeff. B	-4.50104e+03
Coeff. C	-9.54820e+01
Temperature range (K), min.	414.12
Temperature range (K), max.	589.99

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C4433118&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

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
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
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