1,1'-Biphenyl, 2,2',5,5'-tetramethyl-

Other names: 2,2',5,5'-Tetramethyl-1,1'-biphenyl
Biphenyl-, 2,2',5,5'-tetramethyl-
Inchi: InChI=1S/C16H18/c1-11-5-7-13(3)15(9-11)16-10-12(2)6-8-14(16)4/h5-10H,1-4H3
InchiKey: ZHTROMYSDSTCCE-UHFFFAOYSA-N
Formula: C16H18
SMILES: Cc1ccc(C)c(-c2cc(C)ccc2C)c1
Mol. weight [g/mol]: 210.31
CAS: 3075-84-1

Physical Properties

Property code	Value	Unit	Source
gf	270.14	kJ/mol	Joback Method
hf	53.61	kJ/mol	Joback Method
hfus	23.72	kJ/mol	Joback Method
hvap	58.41	kJ/mol	Joback Method
log10ws	-5.98		Crippen Method
logp	4.587		Crippen Method
mcvol	188.780	ml/mol	McGowan Method
pc	2159.31	kPa	Joback Method
rinpol	1668.50		NIST Webbook
rinpol	1663.60		NIST Webbook
rinpol	1663.20		NIST Webbook
rinpol	1656.50		NIST Webbook
tb	638.76	K	Joback Method
tc	872.54	K	Joback Method
tf	323.00 ± 4.00	K	NIST Webbook
tf	326.00 ± 4.00	K	NIST Webbook
vc	0.716	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	470.87	J/mol×K	638.76	Joback Method
cpg	548.43	J/mol×K	833.58	Joback Method

cpg	535.01	J/mol×K	794.62	Joback Method
cpg	520.59	J/mol×K	755.65	Joback Method
cpg	505.13	J/mol×K	716.69	Joback Method
cpg	488.57	J/mol×K	677.72	Joback Method
cpg	560.89	J/mol×K	872.54	Joback Method
dvisc	0.0001447	Pa×s	638.76	Joback Method
dvisc	0.0001759	Pa×s	594.47	Joback Method
dvisc	0.0002209	Pa×s	550.17	Joback Method
dvisc	0.0002885	Pa×s	505.88	Joback Method
dvisc	0.0003967	Pa×s	461.59	Joback Method
dvisc	0.0005836	Pa×s	417.29	Joback Method
dvisc	0.0009410	Pa×s	373.00	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	557.20	K	97.60	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.29479e+01
Coeff. B	-4.05388e+03
Coeff. C	-9.63160e+01
Temperature range (K), min.	416.52
Temperature range (K), max.	627.18

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C3075841&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
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume