4-Benzylbiphenyl

Other names: 1,1'-Biphenyl, 4-(phenylmethyl)-
4-(phenylmethyl)-1,1'-biphenyl
Inchi: InChI=1S/C19H16/c1-3-7-16(8-4-1)15-17-11-13-19(14-12-17)18-9-5-2-6-10-18/h1-14H,1
InchiKey: AGPLQTQFIZBOLI-UHFFFAOYSA-N
Formula: C19H16
SMILES: c1ccc(Cc2ccc(-c3ccccc3)cc2)cc1
Mol. weight [g/mol]: 244.33
CAS: 613-42-3

Physical Properties

Property code	Value	Unit	Source
gf	436.70	kJ/mol	Joback Method
hf	262.63	kJ/mol	Joback Method
hfus	26.70	kJ/mol	Joback Method
hvap	65.38	kJ/mol	Joback Method
log10ws	-6.18		Crippen Method
logp	4.944		Crippen Method
mcvol	207.290	ml/mol	McGowan Method
pc	2347.36	kPa	Joback Method
tb	719.14	K	Joback Method
tc	982.73	K	Joback Method
tf	359.50 ± 0.50	K	NIST Webbook
vc	0.775	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	549.12	J/mol×K	719.14	Joback Method
cpg	567.38	J/mol×K	763.07	Joback Method
cpg	584.00	J/mol×K	807.00	Joback Method
cpg	599.11	J/mol×K	850.94	Joback Method
cpg	612.85	J/mol×K	894.87	Joback Method
cpg	625.34	J/mol×K	938.80	Joback Method
cpg	636.74	J/mol×K	982.73	Joback Method

dvisc	0.0012908	Pa×s	395.67	Joback Method
dvisc	0.0006731	Pa×s	449.58	Joback Method
dvisc	0.0004035	Pa×s	503.49	Joback Method
dvisc	0.0002671	Pa×s	557.40	Joback Method
dvisc	0.0001901	Pa×s	611.32	Joback Method
dvisc	0.0001430	Pa×s	665.23	Joback Method
dvisc	0.0001122	Pa×s	719.14	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	470.50 ± 2.50	K	0.50	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C613423&Units=SI
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

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
tb: Normal Boiling Point Temperature
tbrp: Boiling point at reduced pressure

tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume