[1,1'-Biphenyl]-2,2'-dicarboxylic acid

Other names:	2,2'-Bibenzoic acid
	2,2'-Biphenyldicarboxylic acid
	2,2'-Dicarboxybiphenyl
	2,2'-Diphenic acid
	Biphenyl-2,2'-dicarboxylic acid
	Diphenic acid
	Diphenyl-2,2'-dicarboxylic acid
	NSC 1966
	o,o'-Bibenzoic acid
	o,o'-Diphenic acid
Inchi:	InChI=1S/C14H10O4/c15-13(16)11-7-3-1-5-9(11)10-6-2-4-8-12(10)14(17)18/h1-8H,(H,15
InchiKey:	GWZCCUDJHOGOSO-UHFFFAOYSA-N
Formula:	C14H10O4
SMILES:	O=C(O)c1ccccc1-c1ccccc1C(=O)O
Mol. weight [g/mol]:	242.23
CAS:	482-05-3

Physical Properties

Property code	Value	Unit	Source
gf	-258.92	kJ/mol	Joback Method
hf	-411.79	kJ/mol	Joback Method
hfus	30.69	kJ/mol	Joback Method
hsub	151.90 ± 3.50	kJ/mol	NIST Webbook
hvap	99.48	kJ/mol	Joback Method
log10ws	-2.28		Aqueous Solubility Prediction Method
logp	2.750		Crippen Method
mcvol	175.480	ml/mol	McGowan Method
pc	3810.39	kPa	Joback Method
tb	875.14	K	Joback Method
tc	1096.05	K	Joback Method
tf	504.40	K	Aqueous Solubility Prediction Method
vc	0.653	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	489.67	J/mol×K	875.14	Joback Method
cpg	497.61	J/mol×K	911.96	Joback Method
cpg	504.85	J/mol×K	948.78	Joback Method
cpg	511.44	J/mol×K	985.60	Joback Method
cpg	517.43	J/mol×K	1022.42	Joback Method
cpg	522.86	J/mol×K	1059.24	Joback Method
cpg	527.79	J/mol×K	1096.05	Joback Method
dvisc	0.0002265	Pa×s	546.92	Joback Method
dvisc	0.0000904	Pa×s	601.62	Joback Method
dvisc	0.0000420	Pa×s	656.33	Joback Method
dvisc	0.0000220	Pa×s	711.03	Joback Method
dvisc	0.0000126	Pa×s	765.73	Joback Method
dvisc	0.0000078	Pa×s	820.44	Joback Method
dvisc	0.0000051	Pa×s	875.14	Joback Method
hsubt	166.10	kJ/mol	463.00	NIST Webbook

Sources

Aqueous Solubility Prediction Method: http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa
McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C482053&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
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
hsub: Enthalpy of sublimation at standard conditions
hsubt: Enthalpy of sublimation at a given temperature

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