Benzene, 1,1'-(1,1,2,2-tetramethyl-1,2-ethanediyl)bis-

Other names: 1,1'-(1,1,2,2-tetramethylethylene)dibenzene
1,1'-[1,1,2,2-Tetramethyl-1,2-ethandiyl]bis[benzene]
1,1,2,2-Tetramethyl-1,2-diphenylethane
1,2-DIPHENYLTETRAMETHYLETHANE
2,3-Dimethyl-2,3-diphenylbutane
2,3-Diphenyl-2,3-dimethylbutane
Bibenzyl, «alpha»,«alpha»,«alpha»',«alpha»'-tetramethyl-
Bibenzyl, Â«alphaÂ»,Â«alphaÂ»,Â«alphaÂ»',Â«alphaÂ»'-tetramethyl-
Bicumyl
Butane, 2,3-dimethyl-2,3-diphenyl-
DICUMENE
Dicumyl
Interox CC-DFB
NSC 34859
Perkadox 30
«alpha»,«alpha»'-Dicumyl
Â«alphaÂ»,Â«alphaÂ»'-Dicumyl

Inchi: InChI=1S/C18H22/c1-17(2,15-11-7-5-8-12-15)18(3,4)16-13-9-6-10-14-16/h5-14H,1-4H3
InchiKey: HGTUJZTUQFXBIH-UHFFFAOYSA-N
Formula: C18H22
SMILES: CC(C)(c1ccccc1)C(C)(C)c1ccccc1
Mol. weight [g/mol]: 238.37
CAS: 1889-67-4

Physical Properties

Property code	Value	Unit	Source
chs	-10188.00 ± 3.00	kJ/mol	NIST Webbook
gf	331.18	kJ/mol	Joback Method
hf	57.00 ± 3.00	kJ/mol	NIST Webbook
hfs	-39.30 ± 3.00	kJ/mol	NIST Webbook
hfus	15.63	kJ/mol	Joback Method
hsub	96.30	kJ/mol	NIST Webbook
hsub	96.70 ± 0.80	kJ/mol	NIST Webbook
hvap	57.62	kJ/mol	Joback Method
log10ws	-4.91		Crippen Method
logp	4.942		Crippen Method
mcvol	216.960	ml/mol	McGowan Method

pc	1982.35	kPa	Joback Method
tb	658.14	K	Joback Method
tc	907.10	K	Joback Method
tf	392.00 ± 1.00	K	NIST Webbook
tf	393.00 ± 4.00	K	NIST Webbook
vc	0.805	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	686.23	J/mol×K	907.10	Joback Method
cpg	672.45	J/mol×K	865.61	Joback Method
cpg	657.54	J/mol×K	824.11	Joback Method
cpg	641.33	J/mol×K	782.62	Joback Method
cpg	623.65	J/mol×K	741.13	Joback Method
cpg	604.33	J/mol×K	699.63	Joback Method
cpg	583.19	J/mol×K	658.14	Joback Method
cps	321.10	J/mol×K	298.00	NIST Webbook
dvisc	0.0005267	Pa×s	452.91	Joback Method
dvisc	0.0000908	Pa×s	658.14	Joback Method
dvisc	0.0027465	Pa×s	350.30	Joback Method
dvisc	0.0001261	Pa×s	606.83	Joback Method
dvisc	0.0001859	Pa×s	555.53	Joback Method
dvisc	0.0002968	Pa×s	504.22	Joback Method
dvisc	0.0010824	Pa×s	401.61	Joback Method
hfust	25.52	kJ/mol	392.00	NIST Webbook
hfust	25.52	kJ/mol	392.00	NIST Webbook
hsubt	96.70 ± 0.80	kJ/mol	320.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.32072e+01
Coeff. B	-4.33074e+03
Coeff. C	-1.04892e+02
Temperature range (K), min.	440.15

Temperature range (K), max.	653.15

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.36853e+02
Coeff. B	-1.44359e+04
Coeff. C	-1.72116e+01
Coeff. D	5.92895e-06
Temperature range (K), min.	392.15
Temperature range (K), max.	805.00

Sources

KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=811
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
KDB:	https://www.cheric.org/files/research/kdb/mol/mol811.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1889674&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
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
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume