Benzene, 1,4-bis(phenylmethyl)-

Other names: 1,4-Dibenzylbenzene
Inchi: InChI=1S/C20H18/c1-3-7-17(8-4-1)15-19-11-13-20(14-12-19)16-18-9-5-2-6-10-18/h1-14H
InchiKey: LTGXPINWZFIICV-UHFFFAOYSA-N
Formula: C20H18
SMILES: c1ccc(Cc2ccc(Cc3ccccc3)cc2)cc1
Mol. weight [g/mol]: 258.36
CAS: 793-23-7

Physical Properties

Property code	Value	Unit	Source
gf	445.12	kJ/mol	Joback Method
hf	241.99	kJ/mol	Joback Method
hfus	29.29	kJ/mol	Joback Method
hvap	67.60	kJ/mol	Joback Method
log10ws	-5.67		Crippen Method
logp	4.868		Crippen Method
mcvol	221.380	ml/mol	McGowan Method
pc	2143.35	kPa	Joback Method
tb	742.02	K	Joback Method
tc	999.43	K	Joback Method
tf	354.00 ± 2.00	K	NIST Webbook
vc	0.832	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	603.34	J/mol×K	742.02	Joback Method
cpg	680.67	J/mol×K	956.53	Joback Method
cpg	667.88	J/mol×K	913.63	Joback Method
cpg	653.88	J/mol×K	870.73	Joback Method
cpg	638.55	J/mol×K	827.82	Joback Method
cpg	621.74	J/mol×K	784.92	Joback Method
cpg	692.38	J/mol×K	999.43	Joback Method
dvisc	0.0001007	Pa×s	742.02	Joback Method

dvisc	0.0001288	Pa×s	686.17	Joback Method
dvisc	0.0001720	Pa×s	630.33	Joback Method
dvisc	0.0002431	Pa×s	574.48	Joback Method
dvisc	0.0003702	Pa×s	518.63	Joback Method
dvisc	0.0006238	Pa×s	462.79	Joback Method
dvisc	0.0012130	Pa×s	406.94	Joback Method

Sources

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
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C793237&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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