Benzene, (1-pentyloctyl)-

Other names: Tridecane, 6-phenyl-
Inchi: InChI=1S/C19H32/c1-3-5-7-8-11-15-18(14-10-6-4-2)19-16-12-9-13-17-19/h9,12-13,16-18
InchiKey: OTSYFFDVDLHIKX-UHFFFAOYSA-N
Formula: C19H32
SMILES: CCCCCCCC(CCCCC)c1ccccc1
Mol. weight [g/mol]: 260.46
CAS: 4534-49-0

Physical Properties

Property code	Value	Unit	Source
gf	219.07	kJ/mol	Joback Method
hf	-204.24	kJ/mol	Joback Method
hfus	35.48	kJ/mol	Joback Method
hvap	59.78	kJ/mol	Joback Method
log10ws	-6.84		Crippen Method
logp	6.711		Crippen Method
mcvol	254.810	ml/mol	McGowan Method
pc	1368.70	kPa	Joback Method
rinpol	308.50		NIST Webbook
rinpol	1814.00		NIST Webbook
rinpol	1819.00		NIST Webbook
rinpol	1813.00		NIST Webbook
rinpol	1814.00		NIST Webbook
ripol	2015.00		NIST Webbook
tb	660.36	K	Joback Method
tc	847.35	K	Joback Method
tf	315.31	K	Joback Method
vc	0.986	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	710.04	J/mol×K	660.36	Joback Method
cpg	730.40	J/mol×K	691.52	Joback Method

cpg	749.69	J/mol×K	722.69	Joback Method
cpg	767.96	J/mol×K	753.85	Joback Method
cpg	785.26	J/mol×K	785.02	Joback Method
cpg	801.63	J/mol×K	816.18	Joback Method
cpg	817.11	J/mol×K	847.35	Joback Method
dvisc	0.0037196	Pa×s	315.31	Joback Method
dvisc	0.0012862	Pa×s	372.82	Joback Method
dvisc	0.0005907	Pa×s	430.33	Joback Method
dvisc	0.0003259	Pa×s	487.84	Joback Method
dvisc	0.0002039	Pa×s	545.34	Joback Method
dvisc	0.0001395	Pa×s	602.85	Joback Method
dvisc	0.0001019	Pa×s	660.36	Joback Method

Sources

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=C4534490&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point

vc: Critical Volume