Benzene, (1-hexylheptyl)-

Other names: Tridecane, 7-phenyl-
7-Phenyltridecane
Inchi: InChI=1S/C19H32/c1-3-5-7-10-14-18(15-11-8-6-4-2)19-16-12-9-13-17-19/h9,12-13,16-18
InchiKey: IMXZNWPPLCVUDT-UHFFFAOYSA-N
Formula: C19H32
SMILES: CCCCCCC(CCCCCC)c1ccccc1
Mol. weight [g/mol]: 260.46
CAS: 2400-01-3

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
ie	8.90 ± 0.10	eV	NIST Webbook
log10ws	-6.84		Crippen Method
logp	6.711		Crippen Method
mcvol	254.810	ml/mol	McGowan Method
pc	1368.70	kPa	Joback Method
rinpol	308.30		NIST Webbook
rinpol	1818.00		NIST Webbook
rinpol	1813.00		NIST Webbook
tb	660.36	K	Joback Method
tc	847.35	K	Joback Method
tf	244.95 ± 0.50	K	NIST Webbook
vc	0.986	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	817.11	J/mol×K	847.35	Joback Method
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
dvisc	0.0001019	Pa×s	660.36	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
hvapt	76.20	kJ/mol	441.50	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2400013&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
hvapt: Enthalpy of vaporization at a given temperature
ie: Ionization energy
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
tb: Normal Boiling Point Temperature
tc: Critical Temperature

tf: Normal melting (fusion) point

vc: Critical Volume