Naphthalene, 7-butyl-1-hexyl-

Other names: 7-Butyl-1-hexylnaphthalene
Inchi: InChI=1S/C20H28/c1-3-5-7-8-11-18-12-9-13-19-15-14-17(10-6-4-2)16-20(18)19/h9,12-16
InchiKey: LPEFBGSLSJQKAH-UHFFFAOYSA-N
Formula: C20H28
SMILES: CCCCCCc1cccc2ccc(CCCC)cc12
Mol. weight [g/mol]: 268.44
CAS: 55000-55-0

Physical Properties

Property code	Value	Unit	Source
gf	317.32	kJ/mol	Joback Method
hf	-51.47	kJ/mol	Joback Method
hfus	37.84	kJ/mol	Joback Method
hvap	65.35	kJ/mol	Joback Method
log10ws	-7.39		Crippen Method
logp	6.305		Crippen Method
mcvol	249.440	ml/mol	McGowan Method
pc	1488.44	kPa	Joback Method
tb	712.62	K	Joback Method
tc	915.83	K	Joback Method
tf	399.32	K	Joback Method
vc	0.970	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	706.03	J/mol×K	712.62	Joback Method
cpg	724.75	J/mol×K	746.49	Joback Method
cpg	742.42	J/mol×K	780.36	Joback Method
cpg	759.09	J/mol×K	814.22	Joback Method
cpg	774.83	J/mol×K	848.09	Joback Method
cpg	789.71	J/mol×K	881.96	Joback Method
cpg	803.79	J/mol×K	915.83	Joback Method
dvisc	0.0013226	Pa×s	399.32	Joback Method

dvisc	0.0007792	Pa×s	451.54	Joback Method
dvisc	0.0005123	Pa×s	503.75	Joback Method
dvisc	0.0003644	Pa×s	555.97	Joback Method
dvisc	0.0002748	Pa×s	608.19	Joback Method
dvisc	0.0002167	Pa×s	660.40	Joback Method
dvisc	0.0001770	Pa×s	712.62	Joback Method
hvapt	78.10	kJ/mol	449.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.12368e+01
Coeff. B	-1.11831e+04
Coeff. C	5.31860e+01
Temperature range (K), min.	480.64
Temperature range (K), max.	649.04

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C55000550&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

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
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