Benzene, (2-decyldodecyl)-

Other names: 11-Benzylheneicosane
2-Decyl-1-phenyldodecane
Inchi: InChI=1S/C28H50/c1-3-5-7-9-11-13-15-18-22-27(26-28-24-20-17-21-25-28)23-19-16-14-
InchiKey: QSAWTJXMGNQJFJ-UHFFFAOYSA-N
Formula: C28H50
SMILES: CCCCCCCCCCC(CCCCCCCCCC)Cc1ccccc1
Mol. weight [g/mol]: 386.70
CAS: 55334-72-0

Physical Properties

Property code	Value	Unit	Source
gf	294.85	kJ/mol	Joback Method
hf	-390.00	kJ/mol	Joback Method
hfus	58.79	kJ/mol	Joback Method
hvap	79.81	kJ/mol	Joback Method
log10ws	-10.40		Crippen Method
logp	9.907		Crippen Method
mcvol	381.620	ml/mol	McGowan Method
pc	785.95	kPa	Joback Method
tb	866.28	K	Joback Method
tc	1061.29	K	Joback Method
tf	416.74	K	Joback Method
vc	1.490	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1260.80	J/mol×K	866.28	Joback Method
cpg	1283.37	J/mol×K	898.78	Joback Method
cpg	1304.68	J/mol×K	931.28	Joback Method
cpg	1324.79	J/mol×K	963.78	Joback Method
cpg	1343.79	J/mol×K	996.28	Joback Method
cpg	1361.73	J/mol×K	1028.79	Joback Method
cpg	1378.70	J/mol×K	1061.29	Joback Method

dvisc	0.0013175	Pa×s	416.74	Joback Method
dvisc	0.0004370	Pa×s	491.66	Joback Method
dvisc	0.0001940	Pa×s	566.59	Joback Method
dvisc	0.0001042	Pa×s	641.51	Joback Method
dvisc	0.0000637	Pa×s	716.43	Joback Method
dvisc	0.0000427	Pa×s	791.36	Joback Method
dvisc	0.0000307	Pa×s	866.28	Joback Method
hvapt	102.50	kJ/mol	514.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.17891e+01
Coeff. B	-4.18660e+03
Coeff. C	-1.37140e+02
Temperature range (K), min.	501.14
Temperature range (K), max.	783.46

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C55334720&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

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

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