Benzene, 1,4-didecyl-

Other names:	1,4-Di-n-decylbenzene
	1,4-Didecylbenzene
	Benzene, p-didecyl-
Inchi:	InChI=1S/C26H46/c1-3-5-7-9-11-13-15-17-19-25-21-23-26(24-22-25)20-18-16-14-12-10-
InchiKey:	LVYZEGXWMAKHQM-UHFFFAOYSA-N
Formula:	C26H46
SMILES:	CCCCCCCCCCc1ccc(CCCCCCCCCC)cc1
Mol. weight [g/mol]:	358.64
CAS:	2655-95-0

Physical Properties

Property code	Value	Unit	Source
gf	270.82	kJ/mol	Joback Method
hf	-354.91	kJ/mol	Joback Method
hfus	56.75	kJ/mol	Joback Method
hvap	76.41	kJ/mol	Joback Method
log10ws	-9.77		Crippen Method
logp	9.053		Crippen Method
mcvol	353.440	ml/mol	McGowan Method
pc	866.07	kPa	Joback Method
tb	825.94	K	Joback Method
tc	1014.63	K	Joback Method
tf	303.00 ± 1.00	K	NIST Webbook
tf	302.15 ± 0.50	K	NIST Webbook
vc	1.383	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1132.75	J/mol×K	825.94	Joback Method
cpg	1154.45	J/mol×K	857.39	Joback Method
cpg	1174.99	J/mol×K	888.84	Joback Method
cpg	1194.43	J/mol×K	920.29	Joback Method
cpg	1212.82	J/mol×K	951.73	Joback Method

cpg	1230.21	J/mol×K	983.18	Joback Method
cpg	1246.67	J/mol×K	1014.63	Joback Method
dvisc	0.0010867	Pa×s	421.72	Joback Method
dvisc	0.0004439	Pa×s	489.09	Joback Method
dvisc	0.0002253	Pa×s	556.46	Joback Method
dvisc	0.0001323	Pa×s	623.83	Joback Method
dvisc	0.0000862	Pa×s	691.20	Joback Method
dvisc	0.0000606	Pa×s	758.57	Joback Method
dvisc	0.0000452	Pa×s	825.94	Joback Method
hvapt	95.20	kJ/mol	502.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.34844e+01
Coeff. B	-5.05701e+03
Coeff. C	-1.28800e+02
Temperature range (K), min.	512.00
Temperature range (K), max.	747.55

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2655950&Units=SI

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

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