Benzene, nonadecyl-

Other names:	1-Phenylnonadecane
	Nonadecane, 1-phenyl-
	Nonadecylbenzene
	benzene, nondecyl-
	n-Nonadecylbenzene
Inchi:	InChI=1S/C25H44/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-19-22-25-23-20-18-21-24
InchiKey:	SHWJJBRTHGGZBE-UHFFFAOYSA-N
Formula:	C25H44
SMILES:	CCCCCCCCCCCCCCCCCCCCc1ccccc1
Mol. weight [g/mol]:	344.62
CAS:	29136-19-4

Physical Properties

Property code	Value	Unit	Source
gf	272.03	kJ/mol	Joback Method
hf	-322.80	kJ/mol	Joback Method
hfus	54.55	kJ/mol	Joback Method
hvap	73.52	kJ/mol	Joback Method
log10ws	-9.39		Crippen Method
logp	8.881		Crippen Method
mcvol	339.350	ml/mol	McGowan Method
pc	925.55	kPa	Joback Method
tb	798.08	K	Joback Method
tc	983.47	K	Joback Method
tf	298.16 ± 0.40	K	NIST Webbook
tf	302.70 ± 0.04	K	NIST Webbook
tf	298.10 ± 0.03	K	NIST Webbook
vc	1.327	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1069.33	J/mol×K	798.08	Joback Method
cpg	1090.78	J/mol×K	828.98	Joback Method

cpg	1111.10	J/mol×K	859.88	Joback Method
cpg	1130.35	J/mol×K	890.78	Joback Method
cpg	1148.57	J/mol×K	921.68	Joback Method
cpg	1165.84	J/mol×K	952.57	Joback Method
cpg	1182.19	J/mol×K	983.47	Joback Method
dvisc	0.0015356	Pa×s	397.93	Joback Method
dvisc	0.0005803	Pa×s	464.62	Joback Method
dvisc	0.0002800	Pa×s	531.31	Joback Method
dvisc	0.0001589	Pa×s	598.00	Joback Method
dvisc	0.0001011	Pa×s	664.70	Joback Method
dvisc	0.0000698	Pa×s	731.39	Joback Method
dvisc	0.0000513	Pa×s	798.08	Joback Method
hvapt	103.60	kJ/mol	558.50	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tfp	302.60	K	100.00	Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes
tfp	307.20	K	20000.00	Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes
tfp	311.60	K	40200.00	Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes
tfp	319.70	K	80200.00	Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes
tfp	322.90	K	99600.00	Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.36049e+01
Coeff. B	-4.57796e+03
Coeff. C	-1.78408e+02
Temperature range (K), min.	522.17
Temperature range (K), max.	730.40

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Solid-Liquid Equilibria under High Pressure of Nine Pure n-Alkylbenzenes:	https://www.doi.org/10.1021/je700529y
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=C29136194&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
tfp:	Melting point
vc:	Critical Volume