Cyclohexane, nonadecyl-

Other names: 1-Cyclohexylnonadecane
Nonadecylcyclohexane
Inchi: InChI=1S/C25H50/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: YVTPTBVYGTYTKP-UHFFFAOYSA-N
Formula: C25H50
SMILES: CCCCCCCCCCCCCCCCCCCC1CCCCC1
Mol. weight [g/mol]: 350.66
CAS: 22349-03-7

Physical Properties

Property code	Value	Unit	Source
gf	184.07	kJ/mol	Joback Method
hf	-505.01	kJ/mol	Joback Method
hfus	52.34	kJ/mol	Joback Method
hvap	71.67	kJ/mol	Joback Method
log10ws	-9.94		Crippen Method
logp	9.608		Crippen Method
mcvol	352.250	ml/mol	McGowan Method
pc	858.47	kPa	Joback Method
rinpol	2573.56		NIST Webbook
ripol	2665.56		NIST Webbook
ripol	2665.56		NIST Webbook
tb	790.95	K	Joback Method
tc	973.54	K	Joback Method
tf	303.10 ± 0.14	K	NIST Webbook
tf	315.70 ± 0.05	K	NIST Webbook
vc	1.369	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1199.46	J/mol×K	851.81	Joback Method
cpg	1279.14	J/mol×K	973.54	Joback Method
cpg	1260.88	J/mol×K	943.11	Joback Method

cpg	1241.55	J/mol×K	912.67	Joback Method
cpg	1221.09	J/mol×K	882.24	Joback Method
cpg	1152.47	J/mol×K	790.95	Joback Method
cpg	1176.60	J/mol×K	821.38	Joback Method
dvisc	0.0007838	Pa×s	447.57	Joback Method
dvisc	0.0003422	Pa×s	516.24	Joback Method
dvisc	0.0001815	Pa×s	584.92	Joback Method
dvisc	0.0001100	Pa×s	653.60	Joback Method
dvisc	0.0000733	Pa×s	722.27	Joback Method
dvisc	0.0024250	Pa×s	378.89	Joback Method
dvisc	0.0000524	Pa×s	790.95	Joback Method
hfust	77.80	kJ/mol	317.00	NIST Webbook
hfust	78.80	kJ/mol	313.20	NIST Webbook
hfust	77.79	kJ/mol	316.20	NIST Webbook
hfust	79.90	kJ/mol	315.70	NIST Webbook
hvapt	102.80	kJ/mol	558.00	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tfp	315.70	K	100.00	Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes
tfp	320.60	K	19800.00	Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes
tfp	324.80	K	39500.00	Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes
tfp	329.20	K	59800.00	Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes
tfp	333.70	K	78000.00	Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.42474e+01
Coeff. B	-4.70174e+03
Coeff. C	-1.84475e+02
Temperature range (K), min.	521.28
Temperature range (K), max.	710.64

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C22349037&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
Solid-Liquid Equilibria under High Pressure of Eight Pure n-Alkylcyclohexanes:	https://www.doi.org/10.1021/je600575r
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
hfust:	Enthalpy of fusion at a given temperature
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

rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tfp:	Melting point
vc:	Critical Volume