Nonadecane, 3-methyl-

Other names: 3-Methylnonadecane
Inchi: InChI=1S/C20H42/c1-4-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20(3)5-2/h20H,4-19H2,1
InchiKey: NYRRMADCQLTNBX-UHFFFAOYSA-N
Formula: C20H42
SMILES: CCCCCCCCCCCCCCCCC(C)CC
Mol. weight [g/mol]: 282.55
CAS: 6418-45-7

Physical Properties

Property code	Value	Unit	Source
gf	115.08	kJ/mol	Joback Method
hf	-461.41	kJ/mol	Joback Method
hfus	44.03	kJ/mol	Joback Method
hvap	59.73	kJ/mol	Joback Method
log10ws	-7.95		Crippen Method
logp	7.904		Crippen Method
mcvol	292.660	ml/mol	McGowan Method
pc	1020.73	kPa	Joback Method
rinpol	1972.00		NIST Webbook
rinpol	1972.00		NIST Webbook
rinpol	1968.30		NIST Webbook
rinpol	1971.20		NIST Webbook
rinpol	1972.00		NIST Webbook
rinpol	1974.00		NIST Webbook
rinpol	1973.80		NIST Webbook
rinpol	1973.80		NIST Webbook
rinpol	1974.00		NIST Webbook
rinpol	1965.00		NIST Webbook
rinpol	1974.00		NIST Webbook
rinpol	1968.00		NIST Webbook
rinpol	1968.00		NIST Webbook
rinpol	1974.00		NIST Webbook
rinpol	1974.00		NIST Webbook
ripol	1969.20		NIST Webbook
ripol	1969.20		NIST Webbook
tb	656.56	K	Joback Method
tc	818.58	K	Joback Method

tf	280.80 ± 0.50	K	NIST Webbook
vc	1.149	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	955.21	J/mol×K	818.58	Joback Method
cpg	840.82	J/mol×K	656.56	Joback Method
cpg	862.00	J/mol×K	683.56	Joback Method
cpg	882.29	J/mol×K	710.57	Joback Method
cpg	901.73	J/mol×K	737.57	Joback Method
cpg	920.35	J/mol×K	764.58	Joback Method
cpg	938.17	J/mol×K	791.58	Joback Method
dvisc	0.0000902	Pa×s	656.56	Joback Method
dvisc	0.0051032	Pa×s	300.16	Joback Method
dvisc	0.0014944	Pa×s	359.56	Joback Method
dvisc	0.0006199	Pa×s	418.96	Joback Method
dvisc	0.0003200	Pa×s	478.36	Joback Method
dvisc	0.0001911	Pa×s	537.76	Joback Method
dvisc	0.0001265	Pa×s	597.16	Joback Method
hvapt	71.30	kJ/mol	536.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.41354e+01
Coeff. B	-4.49303e+03
Coeff. C	-1.41050e+02
Temperature range (K), min.	465.51
Temperature range (K), max.	650.23

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C6418457&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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume