Heneicosane, 11-decyl-

Other names: 11-Decylheneicosane
11-n-Decylheneicosane
Inchi: InChI=1S/C31H64/c1-4-7-10-13-16-19-22-25-28-31(29-26-23-20-17-14-11-8-5-2)30-27-2
InchiKey: BCWYKEQUGMQGAP-UHFFFAOYSA-N
Formula: C31H64
SMILES: CCCCCCCCCCC(CCCCCCCCCC)CCCCCCCCCC
Mol. weight [g/mol]: 436.84
CAS: 55320-06-4

Physical Properties

Property code	Value	Unit	Source
chl	-20492.00 ± 7.90	kJ/mol	NIST Webbook
chl	-20503.30 ± 8.40	kJ/mol	NIST Webbook
gf	207.70	kJ/mol	Joback Method
hf	-711.20	kJ/mol	NIST Webbook
hf	-700.00 ± 9.20	kJ/mol	NIST Webbook
hfl	-842.20 ± 8.80	kJ/mol	NIST Webbook
hfl	-853.40 ± 8.00	kJ/mol	NIST Webbook
hfus	72.52	kJ/mol	Joback Method
hvap	142.00 ± 0.80	kJ/mol	NIST Webbook
log10ws	-12.56		Crippen Method
logp	12.195		Crippen Method
mcvol	447.650	ml/mol	McGowan Method
pc	570.69	kPa	Joback Method
sl	1086.20	J/mol×K	NIST Webbook
tb	908.24	K	Joback Method
tc	1122.22	K	Joback Method
tf	281.85 ± 0.40	K	NIST Webbook
tf	282.20 ± 1.00	K	NIST Webbook
tf	283.20 ± 2.00	K	NIST Webbook
tf	282.40 ± 1.00	K	NIST Webbook
tf	281.90 ± 0.50	K	NIST Webbook
tt	282.34 ± 0.10	K	NIST Webbook
vc	1.766	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1695.88	J/mol×K	1122.22	Joback Method
cpg	1675.10	J/mol×K	1086.56	Joback Method
cpg	1653.05	J/mol×K	1050.89	Joback Method
cpg	1629.63	J/mol×K	1015.23	Joback Method
cpg	1604.74	J/mol×K	979.57	Joback Method
cpg	1578.28	J/mol×K	943.90	Joback Method
cpg	1550.16	J/mol×K	908.24	Joback Method
cpl	949.80	J/mol×K	300.00	NIST Webbook
dvisc	0.0000415	Pa×s	746.87	Joback Method
dvisc	0.0000704	Pa×s	666.18	Joback Method
dvisc	0.0000191	Pa×s	908.24	Joback Method
dvisc	0.0003377	Pa×s	504.81	Joback Method
dvisc	0.0011568	Pa×s	424.13	Joback Method
dvisc	0.0000271	Pa×s	827.56	Joback Method
dvisc	0.0001384	Pa×s	585.50	Joback Method
hfust	71.21	kJ/mol	282.34	NIST Webbook
hfust	71.13	kJ/mol	282.30	NIST Webbook
hfust	71.13	kJ/mol	282.30	NIST Webbook
hvapt	110.90	kJ/mol	305.50	NIST Webbook
sfust	252.20	J/mol×K	282.34	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.63010e+01
Coeff. B	-6.73381e+03
Coeff. C	-1.44410e+02
Temperature range (K), min.	564.92
Temperature range (K), max.	757.16

Sources

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
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C55320064&Units=SI

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume

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