Heptatriacontane

Other names: n-heptatriacontane
Inchi: InChI=1S/C37H76/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-35-37-36-34-32-30-
InchiKey: PXEZIKSRSYGOED-UHFFFAOYSA-N
Formula: C37H76
SMILES: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]: 521.00
CAS: 7194-84-5

Physical Properties

Property code	Value	Unit	Source
gf	260.66	kJ/mol	Joback Method
hf	-807.01	kJ/mol	Joback Method
hfus	91.59	kJ/mol	Joback Method
hvap	187.50	kJ/mol	NIST Webbook
log10ws	-15.31		Crippen Method
logp	14.680		Crippen Method
mcvol	532.190	ml/mol	McGowan Method
pc	439.50	kPa	Joback Method
tb	1045.96	K	Joback Method
tc	1351.59	K	Joback Method
tf	312.00 ± 5.00	K	NIST Webbook
tf	301.00 ± 5.00	K	NIST Webbook
tf	349.40 ± 4.00	K	NIST Webbook
tf	349.60 ± 4.00	K	NIST Webbook
vc	2.107	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1964.82	J/mol×K	1045.96	Joback Method
cpg	2002.24	J/mol×K	1096.90	Joback Method
cpg	2036.67	J/mol×K	1147.84	Joback Method
cpg	2068.45	J/mol×K	1198.77	Joback Method
cpg	2097.92	J/mol×K	1249.71	Joback Method

cpg	2125.41	J/mol×K	1300.65	Joback Method
cpg	2151.27	J/mol×K	1351.59	Joback Method
dvisc	0.0001247	Pa×s	596.62	Joback Method
dvisc	0.0003853	Pa×s	506.75	Joback Method
dvisc	0.0000542	Pa×s	686.49	Joback Method
dvisc	0.0000286	Pa×s	776.36	Joback Method
dvisc	0.0000172	Pa×s	866.22	Joback Method
dvisc	0.0000114	Pa×s	956.09	Joback Method
dvisc	0.0000081	Pa×s	1045.96	Joback Method
hvapt	187.50	kJ/mol	298.15	Vapor Pressures and Vaporization Enthalpies of the n-Alkanes from C31 to C38 at T = 298.15 K by Correlation Gas Chromatography
hvapt	155.00 ± 2.00	kJ/mol	491.00	NIST Webbook
hvapt	126.40	kJ/mol	659.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.54624e+01
Coeff. B	-6.70760e+03
Coeff. C	-1.57198e+02
Temperature range (K), min.	599.22
Temperature range (K), max.	817.99

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
Vapor Pressures and Vaporization Enthalpies of the n-Alkanes from C31 to C38 at T = 298.15 K by Correlation Gas Chromatography:	https://www.doi.org/10.1021/je030236t
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=C7194845&Units=SI

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