dopentacontane

Inchi: InChI=1S/C52H106/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-35-37-39-41-43-45
InchiKey: HAIPLQZWDQVPPR-UHFFFAOYSA-N
Formula: C52H106
SMILES: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]: 731.40
CAS: 7719-79-1

Physical Properties

Property code	Value	Unit	Source
gf	386.96	kJ/mol	Joback Method
hf	-1116.61	kJ/mol	Joback Method
hfus	130.44	kJ/mol	Joback Method
hvap	261.80 ± 1.50	kJ/mol	NIST Webbook
log10ws	-21.59		Crippen Method
logp	20.531		Crippen Method
mcvol	743.540	ml/mol	McGowan Method
pc	259.31	kPa	Joback Method
tb	1389.16	K	Joback Method
tc	2411.65	K	Joback Method
tf	367.00 ± 5.00	K	NIST Webbook
vc	2.947	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	3786.42	J/mol×K	2241.24	Joback Method
cpg	4086.78	J/mol×K	2411.65	Joback Method
cpg	3039.24	J/mol×K	1389.16	Joback Method
cpg	3148.20	J/mol×K	1559.58	Joback Method
cpg	3259.35	J/mol×K	1729.99	Joback Method
cpg	3390.75	J/mol×K	1900.41	Joback Method
cpg	3560.42	J/mol×K	2070.82	Joback Method
dvisc	0.0000009	Pa×s	1270.27	Joback Method
dvisc	0.0000006	Pa×s	1389.16	Joback Method

dvisc	0.0000340	Pa×s	675.80	Joback Method
dvisc	0.0000107	Pa×s	794.69	Joback Method
dvisc	0.0000046	Pa×s	913.59	Joback Method
dvisc	0.0000024	Pa×s	1032.48	Joback Method
dvisc	0.0000014	Pa×s	1151.37	Joback Method
hfust	171.80	kJ/mol	366.70	NIST Webbook
hvapt	152.00	kJ/mol	736.00	NIST Webbook
hvapt	261.80	kJ/mol	298.15	Hypothetical Thermodynamic Properties: Vapor Pressures and Vaporization Enthalpies of the Even n-Alkanes from C40 to C76 at T = 298.15 K by Correlation-Gas Chromatography. Are the Vaporization Enthalpies a Linear Function of Carbon Number?

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7719791&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Hypothetical Thermodynamic Properties: Vapor Pressures and Vaporization Enthalpies of the Even n-Alkanes from C40 to C76 at T = 298.15 K by Correlation-Gas Chromatography. Are the Vaporization Enthalpies a Linear Function of Carbon Number?:	https://www.doi.org/10.1021/je7005852
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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume