Cyclohexane, hexadecyl-

Other names: n-Hexadecyl-cyclohexane
Inchi: InChI=1S/C22H44/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-16-19-22-20-17-15-18-21-22/h22H
InchiKey: NRHBFNBZAZZTAU-UHFFFAOYSA-N
Formula: C22H44
SMILES: CCCCCCCCCCCCCCCCC1CCCCC1
Mol. weight [g/mol]: 308.58
CAS: 6812-38-0

Physical Properties

Property code	Value	Unit	Source
chl	-14485.30 ± 3.50	kJ/mol	NIST Webbook
gf	158.81	kJ/mol	Joback Method
hf	-460.50 ± 3.70	kJ/mol	NIST Webbook
hfus	44.57	kJ/mol	Joback Method
hvap	109.30	kJ/mol	NIST Webbook
log10ws	-8.68		Crippen Method
logp	8.438		Crippen Method
mcvol	309.980	ml/mol	McGowan Method
pc	1024.00	kPa	Joback Method
rinpol	2285.70		NIST Webbook
rinpol	2279.00		NIST Webbook
rinpol	2280.10		NIST Webbook
rinpol	2272.00		NIST Webbook
ripol	2304.20		NIST Webbook
tb	722.31	K	Joback Method
tc	900.92	K	Joback Method
tf	308.80 ± 1.00	K	NIST Webbook
tf	305.70 ± 1.00	K	NIST Webbook
tf	304.15 ± 2.00	K	NIST Webbook
tf	305.20 ± 2.00	K	NIST Webbook
tf	306.90 ± 2.00	K	NIST Webbook
vc	1.200	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	961.67	J/mol×K	722.31	Joback Method
cpg	985.23	J/mol×K	752.08	Joback Method
cpg	1007.60	J/mol×K	781.85	Joback Method
cpg	1028.83	J/mol×K	811.61	Joback Method
cpg	1048.97	J/mol×K	841.38	Joback Method
cpg	1068.04	J/mol×K	871.15	Joback Method
cpg	1086.10	J/mol×K	900.92	Joback Method
dvisc	0.0035167	Pa×s	345.08	Joback Method
dvisc	0.0011482	Pa×s	407.95	Joback Method
dvisc	0.0005055	Pa×s	470.82	Joback Method
dvisc	0.0002700	Pa×s	533.69	Joback Method
dvisc	0.0001646	Pa×s	596.57	Joback Method
dvisc	0.0001103	Pa×s	659.44	Joback Method
dvisc	0.0000792	Pa×s	722.31	Joback Method
hvapt	79.60	kJ/mol	598.00	NIST Webbook

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C6812380&Units=SI
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

chl: Standard liquid enthalpy of combustion
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
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