Perfluorotetradecane

Other names:	tetradecane, triacontafluoro-
	triacontafluorotetradecane
Inchi:	InChI=1S/C14F30/c15-1(16,3(19,20)5(23,24)7(27,28)9(31,32)11(35,36)13(39,40)41)2(17
InchiKey:	HYZQZWDYBKVIRI-UHFFFAOYSA-N
Formula:	C14F30
SMILES:	FC(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F)C(F)(F
Mol. weight [g/mol]:	738.10
CAS:	307-62-0

Physical Properties

Property code	Value	Unit	Source
gf	-5737.54	kJ/mol	Joback Method
hf	-6338.09	kJ/mol	Joback Method
hfus	31.50	kJ/mol	Applications of Correlation Gas Chromatography and Transpiration Studies for the Evaluation of the Vaporization and Sublimation Enthalpies of Some Perfluorinated Hydrocarbons
hvap	4.10	kJ/mol	Joback Method
log10ws	-10.78		Crippen Method
logp	9.735		Crippen Method
mcvol	261.220	ml/mol	McGowan Method
pc	752.26	kPa	Joback Method
rinpol	644.00		NIST Webbook
rinpol	644.00		NIST Webbook
tb	452.60	K	Joback Method
tc	556.22	K	Joback Method
tf	377.40 ± 0.20	K	NIST Webbook
tf	375.00 ± 1.00	K	NIST Webbook
vc	1.206	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	769.98	J/mol×K	452.60	Joback Method
cpg	786.29	J/mol×K	469.87	Joback Method
cpg	801.56	J/mol×K	487.14	Joback Method
cpg	815.82	J/mol×K	504.41	Joback Method
cpg	829.11	J/mol×K	521.68	Joback Method
cpg	841.47	J/mol×K	538.95	Joback Method
cpg	852.95	J/mol×K	556.22	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C307620&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Applications of Correlation Gas Chromatography and Transpiration Studies for the Evaluation of the Vaporization and Sublimation Enthalpies of Some Perfluorinated Hydrocarbons:	https://www.doi.org/10.1021/je300504f
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

cpg:	Ideal gas heat capacity
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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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