1,1,1-Trifluorodecane

Other names: Decane, 1,1,1-trifluoro
Inchi: InChI=1S/C10H19F3/c1-2-3-4-5-6-7-8-9-10(11,12)13/h2-9H2,1H3
InchiKey: IGGXVAUUTYVHBN-UHFFFAOYSA-N
Formula: C10H19F3
SMILES: CCCCCCCCCC(F)(F)F
Mol. weight [g/mol]: 196.25
CAS: 26288-16-4

Physical Properties

Property code	Value	Unit	Source
gf	-548.27	kJ/mol	Joback Method
hf	-846.81	kJ/mol	Joback Method
hfus	23.48	kJ/mol	Joback Method
hvap	34.11	kJ/mol	Joback Method
log10ws	-4.67		Crippen Method
logp	4.689		Crippen Method
mcvol	157.070	ml/mol	McGowan Method
pc	1900.26	kPa	Joback Method
rinpol	918.50		NIST Webbook
rinpol	922.00		NIST Webbook
tb	422.78	K	Joback Method
tc	571.35	K	Joback Method
tf	206.65	K	Joback Method
vc	0.638	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	341.37	J/mol×K	422.78	Joback Method
cpg	355.77	J/mol×K	447.54	Joback Method
cpg	369.59	J/mol×K	472.30	Joback Method
cpg	382.84	J/mol×K	497.07	Joback Method
cpg	395.54	J/mol×K	521.83	Joback Method
cpg	407.70	J/mol×K	546.59	Joback Method

cpg	419.36	J/mol×K	571.35	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.29907e+01
Coeff. B	-3.38340e+03
Coeff. C	-6.06000e+01
Temperature range (K), min.	326.94
Temperature range (K), max.	501.19

Sources

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=R172913&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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
pvap:	Vapor pressure
rinpol:	Non-polar retention indices

tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume