4-Decene

Inchi:	InChI=1S/C10H20/c1-3-5-7-9-10-8-6-4-2/h7,9H,3-6,8,10H2,1-2H3
InchiKey:	SOVOPSCRHKEUNJ-UHFFFAOYSA-N
Formula:	C10H20
SMILES:	CCCC=CCCCCC
Mol. weight [g/mol]:	140.27
CAS:	19689-18-0

Physical Properties

Property code	Value	Unit	Source
gf	113.54	kJ/mol	Joback Method
hf	-132.51	kJ/mol	Joback Method
hfus	21.86	kJ/mol	Joback Method
hvap	37.81	kJ/mol	Joback Method
log10ws	-3.86		Crippen Method
logp	3.923		Crippen Method
mcvol	147.460	ml/mol	McGowan Method
pc	2212.45	kPa	Joback Method
rinpol	997.00		NIST Webbook
tb	432.36	K	Joback Method
tc	602.58	K	Joback Method
tf	197.38	K	Joback Method
vc	0.576	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	300.30	J/mol×K	432.36	Joback Method
cpg	369.04	J/mol×K	574.21	Joback Method
cpg	356.46	J/mol×K	545.84	Joback Method
cpg	343.32	J/mol×K	517.47	Joback Method
cpg	329.59	J/mol×K	489.10	Joback Method
cpg	315.26	J/mol×K	460.73	Joback Method
cpg	381.07	J/mol×K	602.58	Joback Method
dvisc	0.0001968	Pa×s	432.36	Joback Method

dvisc	0.0002611	Pa×s	393.20	Joback Method
dvisc	0.0003689	Pa×s	354.03	Joback Method
dvisc	0.0005679	Pa×s	314.87	Joback Method
dvisc	0.0009884	Pa×s	275.71	Joback Method
dvisc	0.0020667	Pa×s	236.54	Joback Method
dvisc	0.0057907	Pa×s	197.38	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.54171e+01
Coeff. B	-4.05452e+03
Coeff. C	-6.45120e+01
Temperature range (K), min.	332.50
Temperature range (K), max.	465.73

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C19689180&Units=SI
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
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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

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

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