

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=CCCCC
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
mvol	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	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	300.30	J/molxK	432.36	Joback Method
cpg	315.26	J/molxK	460.73	Joback Method
cpg	329.59	J/molxK	489.10	Joback Method
cpg	343.32	J/molxK	517.47	Joback Method
cpg	356.46	J/molxK	545.84	Joback Method
cpg	369.04	J/molxK	574.21	Joback Method
cpg	381.07	J/molxK	602.58	Joback Method
dvisc	0.0057907	Paxs	197.38	Joback Method

dvisc	0.0020667	Paxs	236.54	Joback Method
dvisc	0.0009884	Paxs	275.71	Joback Method
dvisc	0.0005679	Paxs	314.87	Joback Method
dvisc	0.0003689	Paxs	354.03	Joback Method
dvisc	0.0002611	Paxs	393.20	Joback Method
dvisc	0.0001968	Paxs	432.36	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
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

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=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/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
rinpola:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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