5-Decene

Other names: dec-5-ene
Inchi: InChI=1S/C10H20/c1-3-5-7-9-10-8-6-4-2/h9-10H,3-8H2,1-2H3
InchiKey: UURSXESKOOOTOV-UHFFFAOYSA-N
Formula: C10H20
SMILES: CCCCC=CCCCC
Mol. weight [g/mol]: 140.27
CAS: 19689-19-1

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
tb	443.10 ± 2.00	K	NIST Webbook
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	1.64945e+01
Coeff. B	-4.43791e+03
Coeff. C	-6.62920e+01
Temperature range (K), min.	340.12
Temperature range (K), max.	463.13

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=C19689191&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

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