4-Dodecene

Inchi: InChI=1S/C12H24/c1-3-5-7-9-11-12-10-8-6-4-2/h7,9H,3-6,8,10-12H2,1-2H3
InchiKey: PHCKFVVLVZFFLU-UHFFFAOYSA-N
Formula: C12H24
SMILES: CCCC=CCCCCCCC
Mol. weight [g/mol]: 168.32
CAS: 2030-84-4

Physical Properties

Property code	Value	Unit	Source
gf	130.38	kJ/mol	Joback Method
hf	-173.79	kJ/mol	Joback Method
hfus	27.04	kJ/mol	Joback Method
hvap	42.26	kJ/mol	Joback Method
log10ws	-4.70		Crippen Method
logp	4.703		Crippen Method
mcvol	175.640	ml/mol	McGowan Method
pc	1861.11	kPa	Joback Method
rinpol	1187.00		NIST Webbook
rinpol	1187.00		NIST Webbook
tb	478.12	K	Joback Method
tc	646.19	K	Joback Method
tf	219.92	K	Joback Method
vc	0.688	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	390.87	J/mol×K	478.12	Joback Method
cpg	407.46	J/mol×K	506.13	Joback Method
cpg	423.37	J/mol×K	534.14	Joback Method
cpg	438.60	J/mol×K	562.15	Joback Method
cpg	453.18	J/mol×K	590.16	Joback Method
cpg	467.15	J/mol×K	618.17	Joback Method
cpg	480.52	J/mol×K	646.19	Joback Method

dvisc	0.0058071	Pa×s	219.92	Joback Method
dvisc	0.0020237	Pa×s	262.95	Joback Method
dvisc	0.0009486	Pa×s	305.99	Joback Method
dvisc	0.0005360	Pa×s	349.02	Joback Method
dvisc	0.0003433	Pa×s	392.05	Joback Method
dvisc	0.0002402	Pa×s	435.09	Joback Method
dvisc	0.0001792	Pa×s	478.12	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.66635e+01
Coeff. B	-4.84663e+03
Coeff. C	-7.80790e+01
Temperature range (K), min.	374.04
Temperature range (K), max.	505.02

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=C2030844&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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume