Cyclopentadecane

Other names: decylcyclopentane
Inchi: InChI=1S/C15H30/c1-2-4-6-8-10-12-14-15-13-11-9-7-5-3-1/h1-15H2
InchiKey: SRONXYPFSAKOGH-UHFFFAOYSA-N
Formula: C15H30
SMILES: C1CCCCCCCCCCCCCC1
Mol. weight [g/mol]: 210.40
CAS: 295-48-7

Physical Properties

Property code	Value	Unit	Source
chs	-9814.00 ± 1.60	kJ/mol	NIST Webbook
gf	-1.32	kJ/mol	Joback Method
hf	-333.71	kJ/mol	Joback Method
hfus	6.47	kJ/mol	Joback Method
hvap	51.27	kJ/mol	Joback Method
log10ws	-6.00		Crippen Method
logp	5.851		Crippen Method
mcvol	211.350	ml/mol	McGowan Method
pc	2075.54	kPa	Joback Method
ripol	1522.00		NIST Webbook
ripol	1522.00		NIST Webbook
ripol	1550.00		NIST Webbook
ripol	1550.00		NIST Webbook
tb	605.25	K	Joback Method
tc	856.99	K	Joback Method
tf	336.60 ± 0.30	K	NIST Webbook
vc	0.738	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	635.52	J/mol×K	689.16	Joback Method
cpg	733.82	J/mol×K	856.99	Joback Method
cpg	712.74	J/mol×K	815.03	Joback Method

cpg	689.31	J/mol×K	773.08	Joback Method
cpg	663.56	J/mol×K	731.12	Joback Method
cpg	572.66	J/mol×K	605.25	Joback Method
cpg	605.21	J/mol×K	647.21	Joback Method
dvisc	0.0118935	Pa×s	299.83	Joback Method
dvisc	0.0012332	Pa×s	360.92	Joback Method
dvisc	0.0002464	Pa×s	422.00	Joback Method
dvisc	0.0000740	Pa×s	483.08	Joback Method
dvisc	0.0000291	Pa×s	544.17	Joback Method
dvisc	0.3658004	Pa×s	238.75	Joback Method
dvisc	0.0000138	Pa×s	605.25	Joback Method
hfust	8.50	kJ/mol	336.60	NIST Webbook
hfust	8.50	kJ/mol	210.10	NIST Webbook
hfust	8.50	kJ/mol	336.60	NIST Webbook
sfust	25.25	J/mol×K	336.60	NIST Webbook
sfust	40.46	J/mol×K	210.10	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.38625e+01
Coeff. B	-4.34116e+03
Coeff. C	-8.84900e+01
Temperature range (K), min.	408.28
Temperature range (K), max.	596.17

Sources

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=C295487&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

Legend

chs:	Standard solid enthalpy of combustion
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
hfust:	Enthalpy of fusion at a given temperature
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
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume