Cyclopentane, decyl-

Other names:	1-CYCLOPENTYLDECANE DECYLCYCLOPENTANE Decane, 1-cyclopentyl- n-Decylcyclopentane
Inchi:	InChI=1S/C15H30/c1-2-3-4-5-6-7-8-9-12-15-13-10-11-14-15/h15H,2-14H2,1H3
InchiKey:	WOUVLFFZQCUYOL-UHFFFAOYSA-N
Formula:	C15H30
SMILES:	CCCCCCCCCCC1CCCC1
Mol. weight [g/mol]:	210.40
CAS:	1795-21-7

Physical Properties

Property code	Value	Unit	Source
af	0.6040		KDB
chl	-9822.10 ± 1.90	kJ/mol	NIST Webbook
chl	-9824.10 ± 2.70	kJ/mol	NIST Webbook
chs	-9825.70	kJ/mol	NIST Webbook
gf	111.90	kJ/mol	KDB
hf	-292.20	kJ/mol	KDB
hfl	-368.20 ± 2.10	kJ/mol	NIST Webbook
hfus	28.54	kJ/mol	Joback Method
hvap	75.70	kJ/mol	NIST Webbook
log10ws	-5.75		Crippen Method
logp	5.707		Crippen Method
mcvol	211.350	ml/mol	McGowan Method
pc	1630.00	kPa	KDB
rinpol	1550.00		NIST Webbook
rinpol	1536.30		NIST Webbook
sg	688.06	J/mol×K	NIST Webbook
sl	538.52	J/mol×K	NIST Webbook
tb	552.30 ± 0.30	K	NIST Webbook
tb	552.20	K	NIST Webbook
tb	552.50	K	KDB
tb	551.40 ± 0.40	K	NIST Webbook
tc	730.60	K	KDB
tf	251.10	K	KDB
tt	251.02 ± 0.01	K	NIST Webbook

vc	0.817	m3/kmol	KDB
zc	0.2190920		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	662.54	J/mol×K	737.70	Joback Method
cpg	645.89	J/mol×K	707.73	Joback Method
cpg	549.05	J/mol×K	557.88	Joback Method
cpg	570.35	J/mol×K	587.85	Joback Method
cpg	590.65	J/mol×K	617.82	Joback Method
cpg	609.98	J/mol×K	647.79	Joback Method
cpg	628.39	J/mol×K	677.76	Joback Method
cpl	426.52	J/mol×K	298.15	NIST Webbook
dvisc	0.0003037	Pa×s	509.85	Joback Method
dvisc	0.0002304	Pa×s	557.88	Joback Method
dvisc	0.0052655	Pa×s	269.71	Joback Method
dvisc	0.0021076	Pa×s	317.74	Joback Method
dvisc	0.0010729	Pa×s	365.77	Joback Method
dvisc	0.0006389	Pa×s	413.79	Joback Method
dvisc	0.0004237	Pa×s	461.82	Joback Method
hfust	33.14	kJ/mol	251.00	NIST Webbook
hfust	33.14	kJ/mol	251.00	NIST Webbook
hfust	33.12	kJ/mol	251.02	NIST Webbook
hvapt	71.10	kJ/mol	384.50	NIST Webbook
hvapt	59.70	kJ/mol	503.00	NIST Webbook
hvapt	48.99	kJ/mol	552.50	KDB
rhol	811.00	kg/m3	293.00	KDB
sfust	132.00	J/mol×K	251.02	NIST Webbook
srf	0.03	N/m	298.20	KDB

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	1.46330e+02
Coeff. B	-1.44632e+04

Coeff. C	-1.86364e+01
Coeff. D	7.02517e-06
Temperature range (K), min.	413.00
Temperature range (K), max.	730.64

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol596.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1795217&Units=SI
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=596
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

af:	Acentric Factor
chl:	Standard liquid enthalpy of combustion
chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rhol:	Liquid Density
rinpol:	Non-polar retention indices
sfust:	Entropy of fusion at a given temperature

sg:	Molar entropy at standard conditions
sl:	Liquid phase molar entropy at standard conditions
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility