

1,1-Dicyclohexylpentane

Other names:	Cyclohexane, 1,1'-pentylidenebis-
Inchi:	InChI=1S/C17H32/c1-2-3-14-17(15-10-6-4-7-11-15)16-12-8-5-9-13-16/h15-17H,2-14H2,1
InchiKey:	VSDFUDGIBYCRIM-UHFFFAOYSA-N
Formula:	C17H32
SMILES:	CCCCC(C1CCCCC1)C1CCCCC1
Mol. weight [g/mol]:	236.44
CAS:	54833-30-6

Physical Properties

Property code	Value	Unit	Source
chl	-10930.00	kJ/mol	NIST Webbook
gf	138.72	kJ/mol	Joback Method
hf	-290.85	kJ/mol	Joback Method
hfus	19.93	kJ/mol	Joback Method
hvap	53.91	kJ/mol	Joback Method
log10ws	-6.00		Crippen Method
logp	5.953		Crippen Method
mcvol	228.670	ml/mol	McGowan Method
pc	1690.72	kPa	Joback Method
tb	581.00 ± 3.00	K	NIST Webbook
tc	843.43	K	Joback Method
tf	288.44 ± 0.20	K	NIST Webbook
vc	0.848	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	658.93	J/molxK	627.02	Joback Method
cpg	778.86	J/molxK	807.36	Joback Method
cpg	758.02	J/molxK	771.29	Joback Method
cpg	735.66	J/molxK	735.22	Joback Method
cpg	711.73	J/molxK	699.16	Joback Method
cpg	686.18	J/molxK	663.09	Joback Method
cpg	798.26	J/molxK	843.43	Joback Method

dvisc	0.0001450	Paxs	627.02	Joback Method
dvisc	0.0002068	Paxs	569.37	Joback Method
dvisc	0.0003195	Paxs	511.72	Joback Method
dvisc	0.0005511	Paxs	454.06	Joback Method
dvisc	0.0011140	Paxs	396.41	Joback Method
dvisc	0.0028616	Paxs	338.76	Joback Method
dvisc	0.0108239	Paxs	281.11	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.39336e+01
Coeff. B	-4.45798e+03
Coeff. C	-1.02432e+02
Temperature range (K), min.	429.12
Temperature range (K), max.	619.47

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C54833306&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
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

Legend

chl:	Standard liquid 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
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

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