Cycloeicosane

Inchi: InChI=1S/C20H40/c1-2-4-6-8-10-12-14-16-18-20-19-17-15-13-11-9-7-5-3-1/h1-20H2
InchiKey: ZBLGFUHEYYJSSE-UHFFFAOYSA-N
Formula: C20H40
SMILES: C1CCCCCCCCCCCCCCCCCCCC1
Mol. weight [g/mol]: 280.53
CAS: 296-56-0

Physical Properties

Property code	Value	Unit	Source
gf	-19.72	kJ/mol	Joback Method
hf	-467.71	kJ/mol	Joback Method
hfus	8.92	kJ/mol	Joback Method
hvap	63.26	kJ/mol	Joback Method
log10ws	-8.09		Crippen Method
logp	7.802		Crippen Method
mcvol	281.800	ml/mol	McGowan Method
pc	1537.87	kPa	Joback Method
tb	741.00	K	Joback Method
tc	1005.43	K	Joback Method
tf	335.00 ± 3.00	K	NIST Webbook
vc	0.978	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	897.51	J/mol×K	741.00	Joback Method
cpg	933.12	J/mol×K	785.07	Joback Method
cpg	965.18	J/mol×K	829.14	Joback Method
cpg	993.62	J/mol×K	873.21	Joback Method
cpg	1018.35	J/mol×K	917.28	Joback Method
cpg	1039.29	J/mol×K	961.36	Joback Method
cpg	1056.36	J/mol×K	1005.43	Joback Method
dvisc	0.2197498	Pa×s	277.50	Joback Method
dvisc	0.0028155	Pa×s	354.75	Joback Method

dvisc	0.0001714	Pa×s	432.00	Joback Method
dvisc	0.0000244	Pa×s	509.25	Joback Method
dvisc	0.0000058	Pa×s	586.50	Joback Method
dvisc	0.0000019	Pa×s	663.75	Joback Method
dvisc	0.0000008	Pa×s	741.00	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.28415e+01
Coeff. B	-4.36751e+03
Coeff. C	-1.00270e+02
Temperature range (K), min.	448.17
Temperature range (K), max.	680.28

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=C296560&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