trans-1,3-Dimethylcyclooctane

Inchi: InChI=1S/C10H20/c1-9-6-4-3-5-7-10(2)8-9/h9-10H,3-8H2,1-2H3/t9-,10-/m1/s1
InchiKey: INRXLPZJJKVZAV-NXEZZACHSA-N
Formula: C10H20
SMILES: CC1CCCCCC(C)C1
Mol. weight [g/mol]: 140.27

Physical Properties

Property code	Value	Unit	Source
gf	25.86	kJ/mol	Joback Method
hf	-228.07	kJ/mol	Joback Method
hfus	10.36	kJ/mol	Joback Method
hvap	38.32	kJ/mol	Joback Method
log10ws	-3.42		Crippen Method
logp	3.613		Crippen Method
mcvol	140.900	ml/mol	McGowan Method
pc	2613.74	kPa	Joback Method
rinpol	1046.00		NIST Webbook
rinpol	1046.00		NIST Webbook
tb	451.62	K	Joback Method
tc	664.17	K	Joback Method
tf	198.56	K	Joback Method
vc	0.511	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	299.48	J/mol×K	451.62	Joback Method
cpg	399.87	J/mol×K	628.74	Joback Method
cpg	381.82	J/mol×K	593.32	Joback Method
cpg	362.77	J/mol×K	557.89	Joback Method
cpg	342.69	J/mol×K	522.47	Joback Method
cpg	321.60	J/mol×K	487.04	Joback Method
cpg	416.93	J/mol×K	664.17	Joback Method
dvisc	0.0001958	Pa×s	451.62	Joback Method

dvisc	0.0002792	Pa×s	409.44	Joback Method
dvisc	0.0004318	Pa×s	367.27	Joback Method
dvisc	0.0007481	Pa×s	325.09	Joback Method
dvisc	0.0015265	Pa×s	282.91	Joback Method
dvisc	0.0039995	Pa×s	240.74	Joback Method
dvisc	0.0157765	Pa×s	198.56	Joback Method

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
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=R133463&Units=SI

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