

Cyclooctane, tetradecyl-

Inchi:	InChI=1S/C22H44/c1-2-3-4-5-6-7-8-9-10-11-13-16-19-22-20-17-14-12-15-18-21-22/h22H
InchiKey:	SPBDXAPDOVTEDQ-UHFFFAOYSA-N
Formula:	C22H44
SMILES:	CCCCCCCCCCCCCCC1CCCCCCC1
Mol. weight [g/mol]:	308.58
CAS:	149003-36-1

Physical Properties

Property code	Value	Unit	Source
gf	134.61	kJ/mol	Joback Method
hf	-455.41	kJ/mol	Joback Method
hfus	40.37	kJ/mol	Joback Method
hvap	65.34	kJ/mol	Joback Method
log10ws	-8.68		Crippen Method
logp	8.438		Crippen Method
mvol	309.980	ml/mol	McGowan Method
pc	1057.57	kPa	Joback Method
rinpol	2340.00		NIST Webbook
tb	730.85	K	Joback Method
tc	916.93	K	Joback Method
tf	338.04	K	Joback Method
vc	1.185	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	970.50	J/molxK	730.85	Joback Method
cpg	995.26	J/molxK	761.86	Joback Method
cpg	1018.67	J/molxK	792.88	Joback Method
cpg	1040.75	J/molxK	823.89	Joback Method
cpg	1061.56	J/molxK	854.90	Joback Method
cpg	1081.13	J/molxK	885.91	Joback Method
cpg	1099.48	J/molxK	916.93	Joback Method
dvisc	0.0043631	Paxs	338.04	Joback Method

dvisc	0.0010676	Paxs	403.51	Joback Method
dvisc	0.0003870	Paxs	468.98	Joback Method
dvisc	0.0001799	Paxs	534.44	Joback Method
dvisc	0.0000988	Paxs	599.91	Joback Method
dvisc	0.0000611	Paxs	665.38	Joback Method
dvisc	0.0000412	Paxs	730.85	Joback Method

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=C149003361&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

cp_g:	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:	Log ₁₀ of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
m_{cvol}:	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

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