

Cis-bicyclo[4.2.0]octane

Other names:	Bicyclo[4.2.0]octane
Inchi:	InChI=1S/C8H14/c1-2-4-8-6-5-7(8)3-1/h7-8H,1-6H2/t7-,8+
InchiKey:	RPZUBXWEQBPUJR-OCAPTIKFSN
Formula:	C8H14
SMILES:	C1CCC2CCC2C1
Mol. weight [g/mol]:	110.20
CAS:	28282-35-1

Physical Properties

Property code	Value	Unit	Source
gf	113.78	kJ/mol	Joback Method
hf	-75.17	kJ/mol	Joback Method
hfus	8.55	kJ/mol	Joback Method
hvap	42.70 ± 1.20	kJ/mol	NIST Webbook
log10ws	-2.48		Crippen Method
logp	2.587		Crippen Method
mcvol	101.860	ml/mol	McGowan Method
pc	3560.02	kPa	Joback Method
rinpol	880.00		NIST Webbook
rinpol	880.00		NIST Webbook
tb	404.46	K	Joback Method
tc	614.38	K	Joback Method
tf	208.76	K	Joback Method
vc	0.382	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	198.70	J/mol×K	404.46	Joback Method
cpg	217.06	J/mol×K	439.45	Joback Method
cpg	234.29	J/mol×K	474.43	Joback Method
cpg	250.43	J/mol×K	509.42	Joback Method
cpg	265.55	J/mol×K	544.41	Joback Method
cpg	279.71	J/mol×K	579.39	Joback Method

cpg	292.95	J/mol×K	614.38	Joback Method
cpl	258.60	J/mol×K	345.00	NIST Webbook
dvisc	0.0013767	Pa×s	208.76	Joback Method
dvisc	0.0010230	Pa×s	241.38	Joback Method
dvisc	0.0008158	Pa×s	273.99	Joback Method
dvisc	0.0006827	Pa×s	306.61	Joback Method
dvisc	0.0005912	Pa×s	339.23	Joback Method
dvisc	0.0005251	Pa×s	371.84	Joback Method
dvisc	0.0004754	Pa×s	404.46	Joback Method
hvapt	40.70	kJ/mol	322.50	NIST Webbook
hvapt	39.50 ± 0.40	kJ/mol	347.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.43834e+01
Coeff. B	-3.66003e+03
Coeff. C	-3.98930e+01
Temperature range (K), min.	298.00
Temperature range (K), max.	443.34

Sources

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=C28282351&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/ci990307I

Legend

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
hfus:	Enthalpy of fusion at standard conditions
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
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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