Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-, (1R)-

Other names: (+)-Camphene
(1R)-2,2-dimethyl-3-methylenebicyclo[2.2.1]heptane
Camphene, (1R,4S)-(+)-
d-Camphene

Inchi: InChI=1S/C10H16/c1-7-8-4-5-9(6-8)10(7,2)3/h8-9H,1,4-6H2,2-3H3/t8-,9?/m1/s1

InchiKey: CRPUJAZIXJMDBK-VEDVMXKPSA-N

Formula: C10H16

SMILES: C=C1C2CCC(C2)C1(C)C

Mol. weight [g/mol]: 136.23

CAS: 5794-03-6

Physical Properties

Property code	Value	Unit	Source
chl	-6148.40	kJ/mol	NIST Webbook
gf	182.60	kJ/mol	Joback Method
hf	-31.15	kJ/mol	Joback Method
hfus	9.44	kJ/mol	Joback Method
hvap	36.55	kJ/mol	Joback Method
log10ws	-2.93		Crippen Method
logp	2.999		Crippen Method
mcvol	125.740	ml/mol	McGowan Method
pc	2884.30	kPa	Joback Method
rinpol	935.20		NIST Webbook
rinpol	954.00		NIST Webbook
rinpol	935.20		NIST Webbook
rinpol	940.00		NIST Webbook
rinpol	948.00		NIST Webbook
rinpol	954.00		NIST Webbook
ripol	1074.00		NIST Webbook
ripol	1074.00		NIST Webbook
tb	432.70	K	NIST Webbook
tc	648.22	K	Joback Method
tf	268.16	K	Joback Method
vc	0.482	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	272.71	J/mol×K	440.68	Joback Method
cpg	291.03	J/mol×K	475.27	Joback Method
cpg	308.01	J/mol×K	509.86	Joback Method
cpg	323.77	J/mol×K	544.45	Joback Method
cpg	338.45	J/mol×K	579.04	Joback Method
cpg	352.17	J/mol×K	613.63	Joback Method
cpg	365.06	J/mol×K	648.22	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.37110e+01
Coeff. B	-3.37588e+03
Coeff. C	-6.14270e+01
Temperature range (K), min.	312.92
Temperature range (K), max.	463.34

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C5794036&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

Joback Method: https://en.wikipedia.org/wiki/Joback_method

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume