(+)-2-Bornanone

Other names:	(+)-bornan-2-one (+)-camphor (1R)-(+)-camphor (1R)-1,7,7-trimethylbicyclo[2,2,1]heptan-2-one (1R)-Camphor (1R,4R)-1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one (R)-(+)-Camphor (R)-Camphor 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one, (1R)- 1,7,7-trimethyl-bicyclo-[2,2,1]heptane-2-one 1,7,7-trimethylbicyclo[2.2.1]-2-heptanone (camphor) 1,7,7-trimethylbicyclo[2.2.1]-2-heptanone, (1R)- Alcanfor Camphor (D) Camphor USP D-(+)-camphor D-2-bornanone D-camphor Japanese camphor bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1R)- camphor, (+)- camphor, (1R,4R)-(+)- d-2-Camphanone
Inchi:	InChI=1S/C10H16O/c1-9(2)7-4-5-10(9,3)8(11)6-7/h7H,4-6H2,1-3H3
InchiKey:	DSSYKIVIOFKYAU-UHFFFAOYSA-N
Formula:	C10H16O
SMILES:	CC12CCC(CC1=O)C2(C)C
Mol. weight [g/mol]:	152.23
CAS:	464-49-3

Physical Properties

Property code	Value	Unit	Source
gf	1.44	kJ/mol	Joback Method
hf	-237.85	kJ/mol	Joback Method

hfus	11.20	kJ/mol	Temperature and composition-dependent properties of the two-component system D- + L-camphor at 'ordinary' pressure
hvap	55.30	kJ/mol	NIST Webbook
log10ws	-2.35		Crippen Method
logp	2.402		Crippen Method
mcvol	131.610	ml/mol	McGowan Method
pc	3082.99	kPa	Joback Method
rinpol	1144.00		NIST Webbook
rinpol	1158.00		NIST Webbook
rinpol	1121.00		NIST Webbook
rinpol	1141.00		NIST Webbook
ripol	1528.00		NIST Webbook
ripol	1509.00		NIST Webbook
ripol	1527.00		NIST Webbook
ripol	1532.00		NIST Webbook
ripol	1527.00		NIST Webbook
ripol	1529.00		NIST Webbook
ripol	1509.00		NIST Webbook
ss	289.76	J/mol×K	NIST Webbook
tb	509.58	K	Joback Method
tc	742.46	K	Joback Method
tf	463.38 ± 0.20	K	NIST Webbook
tf	451.80 ± 0.50	K	NIST Webbook
tf	452.00 ± 1.00	K	NIST Webbook
tt	452.70	K	Dielectric and thermodynamic study of camphor and borneol enantiomers and their binary systems
vc	0.503	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	404.06	J/mol×K	703.65	Joback Method
cpg	324.29	J/mol×K	509.58	Joback Method
cpg	342.61	J/mol×K	548.39	Joback Method
cpg	359.48	J/mol×K	587.21	Joback Method
cpg	375.18	J/mol×K	626.02	Joback Method
cpg	389.96	J/mol×K	664.83	Joback Method

cpg	417.76	J/mol×K	742.46	Joback Method
cps	247.30	J/mol×K	300.13	NIST Webbook
cps	243.00	J/mol×K	259.00	NIST Webbook
hfust	5.30	kJ/mol	452.00	NIST Webbook

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Dependency of thermal conductivity on the temperature and composition of d-camphor in the neopentylglycol d-camphor alloys:	https://www.doi.org/10.1016/j.tca.2011.12.021
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Temperature and composition-dependent properties of the two-component system D-	https://www.doi.org/10.1016/j.tca.2010.07.023
Dielectric and thermodynamic study of camphor and borneol enantiomers and their binary systems:	https://www.doi.org/10.1016/j.tca.2018.04.014
camphor at ordinary pressure:	http://link.springer.com/article/10.1007/BF02311772
McGowan Method:	
Thermodynamic properties of ethanol solution of chiral camphors and its derivatives:	https://www.doi.org/10.1016/j.jct.2009.05.005
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C464493&Units=SI

Legend

cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
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
ripol:	Polar retention indices
ss:	Solid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume