dl-Camphoric anhydride

Other names:	3-Oxabicyclo[3.2.1]octane-2,4-dione, 1,8,8-trimethyl-, (.+/-.)- DL-Camphoic anhydride (.+/-.)-Camphoric anhydride
Inchi:	InChI=1S/C10H14O3/c1-5-4-6-8(11)13-9(12)7(5)10(6,2)3/h5-7H,4H2,1-3H3
InchiKey:	DLFUZOOSJJODPF-UHFFFAOYSA-N
Formula:	C10H14O3
SMILES:	CC1CC2C(=O)OC(=O)C1C2(C)C
Mol. weight [g/mol]:	182.22
CAS:	595-30-2

Physical Properties

Property code	Value	Unit	Source
gf	-221.59	kJ/mol	Joback Method
hf	-549.29	kJ/mol	Joback Method
hfus	16.57	kJ/mol	Joback Method
hvap	49.26	kJ/mol	Joback Method
log10ws	-1.47		Crippen Method
logp	1.368		Crippen Method
mcvol	139.050	ml/mol	McGowan Method
pc	2992.59	kPa	Joback Method
tb	603.71	K	Joback Method
tc	847.19	K	Joback Method
tf	495.00 ± 1.00	K	NIST Webbook
tt	493.90 ± 1.50	K	NIST Webbook
vc	0.524	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	389.50	J/mol×K	603.71	Joback Method
cpg	407.72	J/mol×K	644.29	Joback Method
cpg	424.95	J/mol×K	684.87	Joback Method
cpg	441.31	J/mol×K	725.45	Joback Method
cpg	456.89	J/mol×K	766.03	Joback Method

cpg	471.80	J/mol×K	806.61	Joback Method
cpg	486.13	J/mol×K	847.19	Joback Method
hfust	24.00	kJ/mol	375.00	NIST Webbook
hfust	8.70	kJ/mol	495.00	NIST Webbook
sfust	64.00	J/mol×K	375.00	NIST Webbook
sfust	17.58	J/mol×K	495.00	NIST Webbook

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C595302&Units=SI
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

Legend

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
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
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume