(+)-Camphor-10-sulfonyl chloride

Other names:	Bicyclo[2.2.1]heptane-1-methanesulfonyl chloride, 7,7-dimethyl-2-oxo-, (1S)-
	D-(+)-10-Camphorsulfonyl chloride
	D-10-Camphorsulfonyl chloride
	D-Camphor-10-sulfonyl chloride
	Dextro-10-camphorsulfonyl chloride
	d-2-oxobornane-10-sulphonyl chloride
Inchi:	InChI=1S/C10H15ClO3S/c1-9(2)7-3-4-10(9,8(12)5-7)6-15(11,13)14/h7H,3-6H2,1-2H3
InchiKey:	BGABKEVTHIJBIW-UHFFFAOYSA-N
Formula:	C10H15ClO3S
SMILES:	CC1(C)C2CCC1(CS(=O)(=O)Cl)C(=O)C2
Mol. weight [g/mol]:	250.74
CAS:	21286-54-4

Physical Properties

Property code	Value	Unit	Source
gf	-479.03	kJ/mol	Joback Method
hf	-706.94	kJ/mol	Joback Method
hfus	19.39	kJ/mol	Joback Method
hvap	62.51	kJ/mol	Joback Method
log10ws	-2.33		Crippen Method
logp	1.950		Crippen Method
mcvol	171.940	ml/mol	McGowan Method
pc	3530.46	kPa	Joback Method
tb	594.79	K	Joback Method
tc	822.06	K	Joback Method
tf	415.08	K	Joback Method
vc	0.678	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	437.37	J/mol×K	594.79	Joback Method
cpg	453.81	J/mol×K	632.67	Joback Method
cpg	469.25	J/mol×K	670.55	Joback Method

cpg	483.91	J/mol×K	708.42	Joback Method
cpg	498.01	J/mol×K	746.30	Joback Method
cpg	511.76	J/mol×K	784.18	Joback Method
cpg	525.40	J/mol×K	822.06	Joback Method

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Thermodynamic properties of ethanol solution of chiral camphors and its derivatives:	https://www.doi.org/10.1016/j.jct.2009.05.005
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=C21286544&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume