trans-2,3-epoxydecanal

Inchi: InChI=1S/C10H18O2/c1-2-3-4-5-6-7-9-10(8-11)12-9/h8-10H,2-7H2,1H3/t9-,10-/m0/s1
InchiKey: ZAYNCWQGQVRPDV-UWVGGRQHSA-N
Formula: C10H18O2
SMILES: CCCCCCCC1OC1C=O
Mol. weight [g/mol]: 170.25

Physical Properties

Property code	Value	Unit	Source
gf	-99.28	kJ/mol	Joback Method
hf	-414.85	kJ/mol	Joback Method
hfus	31.13	kJ/mol	Joback Method
hvap	48.69	kJ/mol	Joback Method
log10ws	-2.49		Crippen Method
logp	2.313		Crippen Method
mcvol	148.340	ml/mol	McGowan Method
pc	2460.47	kPa	Joback Method
rinpol	1296.00		NIST Webbook
rinpol	1370.00		NIST Webbook
ripol	1756.00		NIST Webbook
ripol	1756.00		NIST Webbook
tb	505.88	K	Joback Method
tc	686.62	K	Joback Method
tf	284.73	K	Joback Method
vc	0.590	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	361.06	J/mol×K	505.88	Joback Method
cpg	428.70	J/mol×K	656.49	Joback Method
cpg	416.49	J/mol×K	626.37	Joback Method
cpg	403.65	J/mol×K	596.25	Joback Method
cpg	390.15	J/mol×K	566.13	Joback Method
cpg	375.96	J/mol×K	536.00	Joback Method

cpg	440.30	J/mol×K	686.62	Joback Method
dvisc	0.0006446	Pa×s	505.88	Joback Method
dvisc	0.0007423	Pa×s	469.02	Joback Method
dvisc	0.0008756	Pa×s	432.16	Joback Method
dvisc	0.0010650	Pa×s	395.31	Joback Method
dvisc	0.0013488	Pa×s	358.45	Joback Method
dvisc	0.0018032	Pa×s	321.59	Joback Method
dvisc	0.0025988	Pa×s	284.73	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=R237060&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
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
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
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume