Oxirane, octyl-

Other names:	1,2-Epoxydecane
	Decane, 1,2-epoxy
	Octyl-oxirane
Inchi:	InChI=1S/C10H20O/c1-2-3-4-5-6-7-8-10-9-11-10/h10H,2-9H2,1H3
InchiKey:	AAMHBRRZYSORSH-UHFFFAOYSA-N
Formula:	C10H20O
SMILES:	CCCCCCCCC1CO1
Mol. weight [g/mol]:	156.27
CAS:	2404-44-6

Physical Properties

Property code	Value	Unit	Source
gf	7.95	kJ/mol	Joback Method
hf	-308.93	kJ/mol	Joback Method
hfus	27.77	kJ/mol	Joback Method
hvap	42.28	kJ/mol	Joback Method
log10ws	-3.10		Crippen Method
logp	3.136		Crippen Method
mcvol	146.770	ml/mol	McGowan Method
pc	2363.37	kPa	Joback Method
rinpol	1207.00		NIST Webbook
rinpol	1230.00		NIST Webbook
tb	461.89	K	Joback Method
tc	637.68	K	Joback Method
tf	246.97	K	Joback Method
vc	0.574	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	334.31	J/mol×K	461.89	Joback Method
cpg	350.26	J/mol×K	491.19	Joback Method
cpg	365.47	J/mol×K	520.49	Joback Method
cpg	379.96	J/mol×K	549.78	Joback Method

cpg	393.77	J/mol×K	579.08	Joback Method
cpg	406.92	J/mol×K	608.38	Joback Method
cpg	419.45	J/mol×K	637.68	Joback Method
dvisc	0.0028430	Pa×s	246.97	Joback Method
dvisc	0.0017349	Pa×s	282.79	Joback Method
dvisc	0.0011830	Pa×s	318.61	Joback Method
dvisc	0.0008716	Pa×s	354.43	Joback Method
dvisc	0.0006792	Pa×s	390.25	Joback Method
dvisc	0.0005519	Pa×s	426.07	Joback Method
dvisc	0.0004632	Pa×s	461.89	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	367.20	K	2.00	NIST Webbook

Sources

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=C2404446&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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