1,3-Dioxolane, 2-ethyl-

Other names: Propanal, cyclic 1,2-ethanediyl acetal
2-Ethyl-1,3-dioxolane
Inchi: InChI=1S/C5H10O2/c1-2-5-6-3-4-7-5/h5H,2-4H2,1H3
InchiKey: WEBRDDDJKLAXTO-UHFFFAOYSA-N
Formula: C5H10O2
SMILES: CCC1OCCO1
Mol. weight [g/mol]: 102.13
CAS: 2568-96-9

Physical Properties

Property code	Value	Unit	Source
gf	-144.47	kJ/mol	Joback Method
hf	-350.05	kJ/mol	Joback Method
hfus	18.60	kJ/mol	Joback Method
hvap	36.00	kJ/mol	Joback Method
log10ws	-0.59		Crippen Method
logp	0.769		Crippen Method
mcvol	82.190	ml/mol	McGowan Method
pc	4238.55	kPa	Joback Method
rinpol	774.00		NIST Webbook
rinpol	730.00		NIST Webbook
rinpol	730.00		NIST Webbook
rinpol	738.00		NIST Webbook
rinpol	735.00		NIST Webbook
rinpol	787.00		NIST Webbook
tb	379.00 ± 2.00	K	NIST Webbook
tc	581.47	K	Joback Method
tf	210.15	K	Joback Method
vc	0.298	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	156.96	J/mol×K	382.98	Joback Method

cpg	211.03	J/mol×K	548.39	Joback Method
cpg	201.29	J/mol×K	515.31	Joback Method
cpg	191.03	J/mol×K	482.23	Joback Method
cpg	180.23	J/mol×K	449.14	Joback Method
cpg	168.88	J/mol×K	416.06	Joback Method
cpg	220.26	J/mol×K	581.47	Joback Method
dvisc	0.0004296	Pa×s	382.98	Joback Method
dvisc	0.0005479	Pa×s	354.17	Joback Method
dvisc	0.0007296	Pa×s	325.37	Joback Method
dvisc	0.0010272	Pa×s	296.56	Joback Method
dvisc	0.0015566	Pa×s	267.76	Joback Method
dvisc	0.0026075	Pa×s	238.95	Joback Method
dvisc	0.0050314	Pa×s	210.15	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2568969&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
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point

vc: Critical Volume