Cyclooctane, ethyl-

Other names: Ethylcyclooctane
Inchi: InChI=1S/C10H20/c1-2-10-8-6-4-3-5-7-9-10/h10H,2-9H2,1H3
InchiKey: FBGUQAGGWLRXTP-UHFFFAOYSA-N
Formula: C10H20
SMILES: CCC1CCCCCCC1
Mol. weight [g/mol]: 140.27
CAS: 13152-02-8

Physical Properties

Property code	Value	Unit	Source
gf	33.57	kJ/mol	Joback Method
hf	-207.73	kJ/mol	Joback Method
hfus	9.29	kJ/mol	Joback Method
hvap	38.63	kJ/mol	Joback Method
log10ws	-3.66		Crippen Method
logp	3.757		Crippen Method
mcvol	140.900	ml/mol	McGowan Method
pc	2704.22	kPa	Joback Method
rinpol	1092.00		NIST Webbook
rinpol	1092.00		NIST Webbook
rinpol	1092.00		NIST Webbook
rinpol	1092.00		NIST Webbook
tb	464.55 ± 2.00	K	NIST Webbook
tc	669.15	K	Joback Method
tf	202.80	K	Joback Method
vc	0.512	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	299.74	J/mol×K	456.29	Joback Method
cpg	321.51	J/mol×K	491.77	Joback Method
cpg	342.21	J/mol×K	527.24	Joback Method
cpg	361.86	J/mol×K	562.72	Joback Method

cpg	380.48	J/mol×K	598.20	Joback Method
cpg	398.08	J/mol×K	633.67	Joback Method
cpg	414.67	J/mol×K	669.15	Joback Method
dvisc	0.0267652	Pa×s	202.80	Joback Method
dvisc	0.0057792	Pa×s	245.05	Joback Method
dvisc	0.0019586	Pa×s	287.30	Joback Method
dvisc	0.0008760	Pa×s	329.54	Joback Method
dvisc	0.0004704	Pa×s	371.79	Joback Method
dvisc	0.0002868	Pa×s	414.04	Joback Method
dvisc	0.0001916	Pa×s	456.29	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C13152028&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

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

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