1,4-Octadiene, trans

Other names: 1,trans-4-octadiene
1,4-Octadiene, E
(E)-1,4-Octadiene
Inchi: InChI=1S/C8H14/c1-3-5-7-8-6-4-2/h3,7-8H,1,4-6H2,2H3/b8-7+
InchiKey: HYBLFDUGSBOMPI-BQYQJAHWSA-N
Formula: C8H14
SMILES: C=CCC=CCCC
Mol. weight [g/mol]: 110.20
CAS: 53793-31-0

Physical Properties

Property code	Value	Unit	Source
gf	184.54	kJ/mol	Joback Method
hf	34.20	kJ/mol	Joback Method
hfus	15.40	kJ/mol	Joback Method
hvap	32.69	kJ/mol	Joback Method
ie	8.96	eV	NIST Webbook
log10ws	-2.88		Crippen Method
logp	2.919		Crippen Method
mcvol	114.980	ml/mol	McGowan Method
pc	2793.56	kPa	Joback Method
rinpol	769.00		NIST Webbook
rinpol	768.70		NIST Webbook
rinpol	771.70		NIST Webbook
rinpol	769.00		NIST Webbook
rinpol	769.00		NIST Webbook
tb	383.28	K	Joback Method
tc	558.73	K	Joback Method
tf	173.08	K	Joback Method
vc	0.445	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	203.47	J/mol×K	383.28	Joback Method
cpg	215.81	J/mol×K	412.52	Joback Method
cpg	227.59	J/mol×K	441.76	Joback Method
cpg	238.82	J/mol×K	471.01	Joback Method
cpg	249.52	J/mol×K	500.25	Joback Method
cpg	259.71	J/mol×K	529.49	Joback Method
cpg	269.43	J/mol×K	558.73	Joback Method
dvisc	0.0043022	Pa×s	173.08	Joback Method
dvisc	0.0016670	Pa×s	208.11	Joback Method
dvisc	0.0008489	Pa×s	243.15	Joback Method
dvisc	0.0005124	Pa×s	278.18	Joback Method
dvisc	0.0003462	Pa×s	313.21	Joback Method
dvisc	0.0002531	Pa×s	348.25	Joback Method
dvisc	0.0001960	Pa×s	383.28	Joback Method

Sources

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
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C53793310&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
ie: Ionization energy
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