Cyclohexane, 1,1,3,5-tetramethyl-, trans-

Other names: 1,1,3,5-Tetramethylcyclohexane, (E)-
trans-1,1,3,5-Tetramethylcyclohexane
Inchi: InChI=1S/C10H20/c1-8-5-9(2)7-10(3,4)6-8/h8-9H,5-7H2,1-4H3/t8-,9-/m0/s1
InchiKey: WOJSMJIXPQLESQ-IUCAKERBSA-N
Formula: C10H20
SMILES: CC1CC(C)CC(C)(C)C1
Mol. weight [g/mol]: 140.27
CAS: 50876-31-8

Physical Properties

Property code	Value	Unit	Source
gf	36.86	kJ/mol	Joback Method
hf	-220.85	kJ/mol	Joback Method
hfus	9.33	kJ/mol	Joback Method
hvap	36.51	kJ/mol	Joback Method
log10ws	-3.18		Crippen Method
logp	3.469		Crippen Method
mcvol	140.900	ml/mol	McGowan Method
pc	2515.07	kPa	Joback Method
rinpol	932.00		NIST Webbook
tb	429.49 ± 0.20	K	NIST Webbook
tb	429.60 ± 1.00	K	NIST Webbook
tc	643.42	K	Joback Method
tf	225.26	K	Joback Method
vc	0.524	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	300.31	J/mol×K	438.65	Joback Method
cpg	321.00	J/mol×K	472.78	Joback Method
cpg	340.50	J/mol×K	506.91	Joback Method
cpg	358.88	J/mol×K	541.03	Joback Method
cpg	376.24	J/mol×K	575.16	Joback Method

cpg	392.65	J/mol×K	609.29	Joback Method
cpg	408.21	J/mol×K	643.42	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43826e+01
Coeff. B	-3.60229e+03
Coeff. C	-6.05640e+01
Temperature range (K), min.	316.14
Temperature range (K), max.	457.68

Sources

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C50876318&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

cpg: Ideal gas heat capacity
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
pvap: Vapor pressure

rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume