Pentane, 1,2-dichloro-

Other names: 1,2-Dichloropentane
Inchi: InChI=1S/C5H10Cl2/c1-2-3-5(7)4-6/h5H,2-4H2,1H3
InchiKey: PPLBPDUKNRCHGG-UHFFFAOYSA-N
Formula: C5H10Cl2
SMILES: CCCC(Cl)CCl
Mol. weight [g/mol]: 141.04
CAS: 1674-33-5

Physical Properties

Property code	Value	Unit	Source
gf	-35.08	kJ/mol	Joback Method
hf	-183.29	kJ/mol	Joback Method
hfus	13.58	kJ/mol	Joback Method
hvap	43.80 ± 0.70	kJ/mol	NIST Webbook
hvap	43.90	kJ/mol	NIST Webbook
hvap	44.40	kJ/mol	NIST Webbook
log10ws	-2.33		Crippen Method
logp	2.633		Crippen Method
mcvol	105.790	ml/mol	McGowan Method
pc	3213.68	kPa	Joback Method
rinpol	909.00		NIST Webbook
rinpol	909.00		NIST Webbook
rinpol	909.00		NIST Webbook
ripol	1218.00		NIST Webbook
tb	421.80 ± 1.50	K	NIST Webbook
tb	420.00 ± 1.50	K	NIST Webbook
tb	419.30 ± 1.00	K	NIST Webbook
tb	421.40	K	NIST Webbook
tb	421.65 ± 2.00	K	NIST Webbook
tc	573.69	K	Joback Method
tf	190.95	K	Joback Method
vc	0.407	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	175.71	J/mol×K	388.22	Joback Method
cpg	184.82	J/mol×K	419.13	Joback Method
cpg	193.52	J/mol×K	450.04	Joback Method
cpg	201.84	J/mol×K	480.96	Joback Method
cpg	209.78	J/mol×K	511.87	Joback Method
cpg	217.36	J/mol×K	542.78	Joback Method
cpg	224.58	J/mol×K	573.69	Joback Method
dvisc	0.0029682	Pa×s	223.83	Joback Method
dvisc	0.0072543	Pa×s	190.95	Joback Method
dvisc	0.0015268	Pa×s	256.71	Joback Method
dvisc	0.0009134	Pa×s	289.59	Joback Method
dvisc	0.0006068	Pa×s	322.46	Joback Method
dvisc	0.0004348	Pa×s	355.34	Joback Method
dvisc	0.0003296	Pa×s	388.22	Joback Method
hvapt	36.45	kJ/mol	421.40	NIST Webbook
hvapt	41.90	kJ/mol	375.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.42174e+01
Coeff. B	-3.49541e+03
Coeff. C	-5.72590e+01
Temperature range (K), min.	308.19
Temperature range (K), max.	449.74

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1674335&Units=SI

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

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
hvapt:	Enthalpy of vaporization at a given temperature
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
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume