

1,1-Dichloropentane

Inchi:	InChI=1S/C5H10Cl2/c1-2-3-4-5(6)7/h5H,2-4H2,1H3
InchiKey:	PGEVTVXEERFABN-UHFFFAOYSA-N
Formula:	C5H10Cl2
SMILES:	CCCCC(Cl)Cl
Mol. weight [g/mol]:	141.04
CAS:	820-55-3

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	44.30	kJ/mol	NIST Webbook
log10ws	-2.83		Crippen Method
logp	2.980		Crippen Method
mcvol	105.790	ml/mol	McGowan Method
pc	3213.68	kPa	Joback Method
rinpol	889.00		NIST Webbook
rinpol	889.00		NIST Webbook
rinpol	889.00		NIST Webbook
ripol	1144.00		NIST Webbook
ripol	1144.00		NIST Webbook
tb	388.22	K	Joback Method
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/molxK	388.22	Joback Method
cpg	184.82	J/molxK	419.13	Joback Method
cpg	193.52	J/molxK	450.04	Joback Method
cpg	201.84	J/molxK	480.96	Joback Method

cpg	209.78	J/molxK	511.87	Joback Method
cpg	217.36	J/molxK	542.78	Joback Method
cpg	224.58	J/molxK	573.69	Joback Method
dvisc	0.0072543	Paxs	190.95	Joback Method
dvisc	0.0029682	Paxs	223.83	Joback Method
dvisc	0.0015268	Paxs	256.71	Joback Method
dvisc	0.0009134	Paxs	289.59	Joback Method
dvisc	0.0006068	Paxs	322.46	Joback Method
dvisc	0.0004348	Paxs	355.34	Joback Method
dvisc	0.0003296	Paxs	388.22	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.34268e+01
Coeff. B	-3.17421e+03
Coeff. C	-6.23780e+01
Temperature range (K), min.	303.96
Temperature range (K), max.	453.52

Sources

The Yaws Handbook of Vapor Pressure:
Crippen Method:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>
<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=C820553&Units=SI>

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
pvap:	Vapor pressure
rinpolar:	Non-polar retention indices
ripolar:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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