[2H]hydrogen chloride

Other names: Hydrochloric acid-d
Inchi: InChI=1S/ClH/h1H/i/hD
InchiKey: VEXZGXHMUGYJMC-DYCDLGHISA-N
Formula: ClD
SMILES: Cl
Mol. weight [g/mol]: 37.47
CAS: 7698-05-7

Physical Properties

Property code	Value	Unit	Source
gf	-10.43	kJ/mol	Joback Method
hf	-3.26	kJ/mol	Joback Method
hfus	1.64	kJ/mol	Joback Method
hvap	19.83	kJ/mol	Joback Method
ie	12.76 ± 0.01	eV	NIST Webbook
log10ws	-0.16		Crippen Method
logp	0.422		Crippen Method
mcvol	23.100	ml/mol	McGowan Method
pc	8020.00 ± 8.01	kPa	NIST Webbook
pt	12.53 ± 0.01	kPa	NIST Webbook
pt	12.51 ± 0.01	kPa	NIST Webbook
pt	12.52 ± 0.01	kPa	NIST Webbook
tb	236.13	K	Joback Method
tc	323.50 ± 0.32	K	NIST Webbook
tf	136.05	K	Joback Method
vc	0.075	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	12.24	J/mol×K	236.13	Joback Method
cpg	13.10	J/mol×K	263.03	Joback Method
cpg	13.78	J/mol×K	289.92	Joback Method
cpg	14.30	J/mol×K	316.82	Joback Method

cpg	14.67	J/mol×K	343.72	Joback Method
cpg	14.90	J/mol×K	370.61	Joback Method
cpg	15.02	J/mol×K	397.51	Joback Method
dvisc	0.0000994	Pa×s	136.05	Joback Method
dvisc	0.0000972	Pa×s	152.73	Joback Method
dvisc	0.0000955	Pa×s	169.41	Joback Method
dvisc	0.0000941	Pa×s	186.09	Joback Method
dvisc	0.0000929	Pa×s	202.77	Joback Method
dvisc	0.0000920	Pa×s	219.45	Joback Method
dvisc	0.0000912	Pa×s	236.13	Joback Method

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=C7698057&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
ie: Ionization energy
log10ws: Log10 of Water solubility in mol/l
logp: Octanol/Water partition coefficient
mcvol: McGowan's characteristic volume
pc: Critical Pressure
pt: Triple Point Pressure
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume

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