iodine monochloride

Inchi: InChI=1S/ClI/c1-2
InchiKey: QZRGKCOWNLSUDK-UHFFFAOYSA-N
Formula: ClI
SMILES: ClI
Mol. weight [g/mol]: 162.36
CAS: 7790-99-0

Physical Properties

Property code	Value	Unit	Source
ea	1.48 ± 0.05	eV	NIST Webbook
ea	3.04	eV	NIST Webbook
ea	1.78	eV	NIST Webbook
ea	2.41 ± 0.10	eV	NIST Webbook
gf	-4.69	kJ/mol	Joback Method
hf	17.80	kJ/mol	Joback Method
hfus	4.36	kJ/mol	Joback Method
hvap	29.35	kJ/mol	Joback Method
ie	10.10	eV	NIST Webbook
ie	9.95	eV	NIST Webbook
ie	10.10 ± 0.02	eV	NIST Webbook
ie	10.08 ± 0.01	eV	NIST Webbook
ie	10.08	eV	NIST Webbook
ie	10.09 ± 0.01	eV	NIST Webbook
ie	10.07 ± 0.01	eV	NIST Webbook
log10ws	-1.91		Crippen Method
logp	1.575		Crippen Method
mcvol	48.920	ml/mol	McGowan Method
pc	6132.23	kPa	Joback Method
tb	329.97	K	Joback Method
tc	549.59	K	Joback Method
tf	177.74	K	Joback Method
vc	0.172	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	36.70	J/mol×K	329.97	Joback Method
cpg	37.03	J/mol×K	366.57	Joback Method
cpg	37.26	J/mol×K	403.18	Joback Method
cpg	37.40	J/mol×K	439.78	Joback Method
cpg	37.47	J/mol×K	476.38	Joback Method
cpg	37.48	J/mol×K	512.98	Joback Method
cpg	37.43	J/mol×K	549.59	Joback Method
dvisc	0.0043392	Pa×s	177.74	Joback Method
dvisc	0.0024093	Pa×s	203.11	Joback Method
dvisc	0.0015244	Pa×s	228.48	Joback Method
dvisc	0.0010570	Pa×s	253.86	Joback Method
dvisc	0.0007833	Pa×s	279.23	Joback Method
dvisc	0.0006102	Pa×s	304.60	Joback Method
dvisc	0.0004940	Pa×s	329.97	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C7790990&Units=SI
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

Legend

cpg: Ideal gas heat capacity
dvisc: Dynamic viscosity
ea: Electron affinity
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume