iodine monochloride

InChI: InChI=1S/ClI/c1-2
InChI Key: QZRGKCOWNLSUDK-UHFFFAOYSA-N
Formula: ClI
SMILES: ClI
Molecular Weight: 162.36
CAS: 7790-99-0

Physical Properties

Property	Value	Unit	Source
EA	1.78	eV	NIST Webbook
EA	2.41 ± 0.10	eV	NIST Webbook
EA	1.48 ± 0.05	eV	NIST Webbook
EA	3.04	eV	NIST Webbook
$\Delta_f G°$	-4.69	kJ/mol	Joback Method
$\Delta_f H°_{gas}$	17.80	kJ/mol	Joback Method
$\Delta_{fus} H°$	4.36	kJ/mol	Joback Method
$\Delta_{vap} H°$	29.35	kJ/mol	Joback Method
IE	10.08 ± 0.01	eV	NIST Webbook
IE	10.08	eV	NIST Webbook
IE	10.09 ± 0.01	eV	NIST Webbook
IE	9.95	eV	NIST Webbook
IE	10.07 ± 0.01	eV	NIST Webbook
IE	10.10	eV	NIST Webbook
IE	10.10 ± 0.02	eV	NIST Webbook
$logP_{oct/wat}$	1.575		Crippen Method
P_c	6132.23	kPa	Joback Method

Property	Value	Unit	Source
T_{boil}	329.97	K	Joback Method
T_c	549.59	K	Joback Method
T_{fus}	177.74	K	Joback Method
V_c	0.172	m^3/kg-mol	Joback Method

Temperature Dependent Properties

Property	Value	Unit	Temperature (K)	Source
$C_{p,gas}$	36.70	J/mol×K	329.97	Joback Method
η	0.0004925	Pa×s	329.97	Joback Method

Sources

Joback Method: https://en.wikipedia.org/wiki/Joback_method
NIST Webbook: http://webbook.nist.gov/cgi/inchi/InChI=1S/ClI/c1-2
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

$C_{p,gas}$: Ideal gas heat capacity (J/mol×K).
η: Dynamic viscosity (Pa×s).
EA: Electron affinity (eV).
Δ_f**G°**: Standard Gibbs free energy of formation (kJ/mol).
Δ_f**H°$_{gas}$**: Enthalpy of formation at standard conditions (kJ/mol).
Δ_{fus}**H°**: Enthalpy of fusion at standard conditions (kJ/mol).
Δ_{vap}**H°**: Enthalpy of vaporization at standard conditions (kJ/mol).
IE: Ionization energy (eV).
***log*P$_{oct/wat}$**: Octanol/Water partition coefficient .
P$_c$: Critical Pressure (kPa).
T$_{boil}$: Normal Boiling Point Temperature (K).
T$_c$: Critical Temperature (K).
T$_{fus}$: Normal melting (fusion) point (K).
V$_c$: Critical Volume (m^3/kg-mol).

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