

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
$\Delta_f G^\circ$	-4.69	kJ/mol	Joback Method
$\Delta_f H^\circ_{\text{gas}}$	17.80	kJ/mol	Joback Method
$\Delta_{\text{fus}} H^\circ$	4.36	kJ/mol	Joback Method
$\Delta_{\text{vap}} H^\circ$	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
$\log P_{\text{oct/wat}}$	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	$\text{m}^3/\text{kg}\cdot\text{mol}$	Joback Method

Temperature Dependent Properties

Property	Value	Unit	Temperature (K)	Source
$C_{\text{p,gas}}$	36.70	$\text{J}/\text{mol}\cdot\text{K}$	329.97	Joback Method
η	0.0004925	Paxs	329.97	Joback Method

Sources

Joback Method: https://en.wikipedia.org/wiki/Joback_method

NIST Webbook: <http://webbook.nist.gov/cgi/inchi/InChI=1S/C11/c1-2>

Crippen Method: <http://pubs.acs.org/doi/abs/10.1021/ci9903071>

Legend

$C_{\text{p,gas}}$: Ideal gas heat capacity ($\text{J}/\text{mol}\cdot\text{K}$).

η : Dynamic viscosity (Paxs).

EA: Electron affinity (eV).

$\Delta_{\text{f}}G^{\circ}$: Standard Gibbs free energy of formation (kJ/mol).

$\Delta_{\text{f}}H^{\circ}_{\text{gas}}$: Enthalpy of formation at standard conditions (kJ/mol).

$\Delta_{\text{fus}}H^{\circ}$: Enthalpy of fusion at standard conditions (kJ/mol).

$\Delta_{\text{vap}}H^{\circ}$: Enthalpy of vaporization at standard conditions (kJ/mol).

IE: Ionization energy (eV).

logP_{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 ($\text{m}^3/\text{kg}\cdot\text{mol}$).

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