Sulfur monochloride

Other names:	Disulfur dichloride
	Sulfur chloride (S2Cl2)
	Chlorosulfane
	Sulfur chloride
	Sulfur subchloride
	Thiosulfurous dichloride
	S2Cl2
	Chloride of sulfur
	Siarki chlorek
	Sulfur chloride(di)
	ClSSCl
	disulphur dichloride
Inchi:	InChI=1S/Cl2S2/c1-3-4-2
InchiKey:	PXJJSXABGXMUSU-UHFFFAOYSA-N
Formula:	Cl2S2
SMILES:	ClSSCl
Mol. weight [g/mol]:	135.04
CAS:	10025-67-9

Physical Properties

Property code	Value	Unit	Source
gf	-8.50	kJ/mol	Joback Method
hf	8.93	kJ/mol	Joback Method
hfus	12.41	kJ/mol	Joback Method
hvap	38.00	kJ/mol	Joback Method
ie	9.40	eV	NIST Webbook
ie	11.30 ± 0.20	eV	NIST Webbook
ie	9.66 ± 0.03	eV	NIST Webbook
log10ws	-2.87		Crippen Method
logp	2.675		Crippen Method
mcvol	68.040	ml/mol	McGowan Method
pc	6318.86	kPa	Joback Method
tb	411.82	K	Joback Method
tc	658.67	K	Joback Method
tf	464.00 ± 3.00	K	NIST Webbook
tf	192.25 ± 0.10	K	NIST Webbook
tf	192.10 ± 0.20	K	NIST Webbook

vc	0.241	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	84.47	J/mol×K	617.53	Joback Method
cpg	77.79	J/mol×K	411.82	Joback Method
cpg	79.18	J/mol×K	452.96	Joback Method
cpg	80.56	J/mol×K	494.10	Joback Method
cpg	81.92	J/mol×K	535.25	Joback Method
cpg	83.23	J/mol×K	576.39	Joback Method
cpg	85.62	J/mol×K	658.67	Joback Method
hvapt	41.10	kJ/mol	372.50	NIST Webbook

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C10025679&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
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
hvapt: Enthalpy of vaporization at a given temperature
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