Sulfur pentafluoride

Inchi: InChI=1S/F5S/c1-6(2,3,4)5
InchiKey: HAQZDUWRNKKMQY-UHFFFAOYSA-N
Formula: F5S
SMILES: F[SH](F)(F)(F)F
Mol. weight [g/mol]: 127.06
CAS: 10546-01-7

Physical Properties

Property code	Value	Unit	Source
ea	2.80 ± 0.20	eV	NIST Webbook
ea	3.66 ± 0.04	eV	NIST Webbook
ea	2.71 ± 0.20	eV	NIST Webbook
ea	3.70 ± 0.20	eV	NIST Webbook
ea	3.17 ± 0.15	eV	NIST Webbook
ea	3.80 ± 0.03	eV	NIST Webbook
ea	3.85 ± 0.02	eV	NIST Webbook
ea	3.85 ± 0.02	eV	NIST Webbook
ea	2.80 ± 0.10	eV	NIST Webbook
ea	2.90 ± 0.10	eV	NIST Webbook
gf	-1205.06	kJ/mol	Joback Method
hf	-1208.64	kJ/mol	Joback Method
hfpi	11.00 ± 18.00	kJ/mol	NIST Webbook
hfus	8.47	kJ/mol	Joback Method
hvap	18.83	kJ/mol	Joback Method
ie	9.83 ± 0.23	eV	NIST Webbook
ie	9.60 ± 0.05	eV	NIST Webbook
ie	9.60 ± 0.05	eV	NIST Webbook
ie	9.60 ± 0.05	eV	NIST Webbook
ie	10.50 ± 0.10	eV	NIST Webbook
ie	9.65	eV	NIST Webbook
ie	9.60 ± 0.05	eV	NIST Webbook
ie	9.60 ± 0.70	eV	NIST Webbook
log10ws	-2.34		Crippen Method
logp	2.482		Crippen Method
mcvol	44.660	ml/mol	McGowan Method
pc	4135.61	kPa	Joback Method
tb	261.41	K	Joback Method

tc	410.30	K	Joback Method
vc	0.215	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	89.44	J/mol×K	261.41	Joback Method
cpg	89.32	J/mol×K	286.23	Joback Method
cpg	89.69	J/mol×K	311.04	Joback Method
cpg	90.50	J/mol×K	335.86	Joback Method
cpg	91.73	J/mol×K	360.67	Joback Method
cpg	93.33	J/mol×K	385.49	Joback Method
cpg	95.26	J/mol×K	410.30	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C10546017&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
ea: Electron affinity
gf: Standard Gibbs free energy of formation
hf: Enthalpy of formation at standard conditions
hfpi: Enthalpy of formation of positive ion 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
vc:	Critical Volume