Monosulfur monofluoride

Inchi: InChI=1S/FS/c1-2
InchiKey: YNAAFGQNGMFIHH-UHFFFAOYSA-N
Formula: FS
SMILES: F[S]
Mol. weight [g/mol]: 51.06
CAS: 16068-96-5

Physical Properties

Property code	Value	Unit	Source
ea	2.29 ± 0.01	eV	NIST Webbook
ea	2.00 ± 0.50	eV	NIST Webbook
ea	4.10 ± 0.50	eV	NIST Webbook
gf	-160.19	kJ/mol	Joback Method
hf	-141.76	kJ/mol	Joback Method
hfus	4.65	kJ/mol	Joback Method
hvap	21.45	kJ/mol	Joback Method
ie	10.20 ± 0.30	eV	NIST Webbook
ie	10.09 ± 0.10	eV	NIST Webbook
ie	14.00	eV	NIST Webbook
ie	10.16 ± 0.17	eV	NIST Webbook
ie	10.10 ± 0.20	eV	NIST Webbook
ie	10.00	eV	NIST Webbook
ie	10.00 ± 0.30	eV	NIST Webbook
ie	10.09	eV	NIST Webbook
log10ws	-0.99		Crippen Method
logp	1.068		Crippen Method
mcvol	26.830	ml/mol	McGowan Method
pc	6921.35	kPa	Joback Method
tb	266.75	K	Joback Method
tc	440.42	K	Joback Method
tf	141.12	K	Joback Method
vc	0.099	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	28.40	J/mol×K	266.75	Joback Method
cpg	29.59	J/mol×K	295.70	Joback Method
cpg	30.62	J/mol×K	324.64	Joback Method
cpg	31.51	J/mol×K	353.59	Joback Method
cpg	32.27	J/mol×K	382.53	Joback Method
cpg	32.90	J/mol×K	411.48	Joback Method
cpg	33.42	J/mol×K	440.42	Joback Method

Sources

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method: https://en.wikipedia.org/wiki/Joback_method
McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C16068965&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg: Ideal gas heat capacity
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