

Monosulfur monofluoride

Inchi: InChI=1S/FS/c1-2
InchiKey: YNAAFQQNGMFIHH-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	2.00 ± 0.50	eV	NIST Webbook
ea	2.29 ± 0.01	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	14.00	eV	NIST Webbook
ie	10.16 ± 0.17	eV	NIST Webbook
ie	10.09	eV	NIST Webbook
ie	10.20 ± 0.30	eV	NIST Webbook
ie	10.10 ± 0.20	eV	NIST Webbook
ie	10.00 ± 0.30	eV	NIST Webbook
ie	10.09 ± 0.10	eV	NIST Webbook
ie	10.00	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	m ³ /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

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/ci9903071
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
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
mccvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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