Iodine oxide

Inchi: InChI=1S/IO/c1-2
InchiKey: AFSVSXMRDKPOEW-UHFFFAOYSA-N
Formula: IO
SMILES: O=[IH2]
Mol. weight [g/mol]: 142.90
CAS: 14696-98-1

Physical Properties

Property code	Value	Unit	Source
gf	-191.21	kJ/mol	Joback Method
hf	-158.26	kJ/mol	Joback Method
hfus	5.47	kJ/mol	Joback Method
hvap	30.73	kJ/mol	Joback Method
log10ws	-5.14		Crippen Method
logp	0.232		Crippen Method
mcvol	44.700	ml/mol	McGowan Method
pc	7049.79	kPa	Joback Method
tb	281.34	K	Joback Method
tc	465.86	K	Joback Method
tf	166.27	K	Joback Method
vc	0.150	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	30.24	J/mol×K	281.34	Joback Method
cpg	35.08	J/mol×K	435.11	Joback Method
cpg	34.56	J/mol×K	404.35	Joback Method
cpg	33.84	J/mol×K	373.60	Joback Method
cpg	32.89	J/mol×K	342.85	Joback Method
cpg	31.70	J/mol×K	312.09	Joback Method
cpg	35.42	J/mol×K	465.86	Joback Method
dvisc	0.0013107	Pa×s	281.34	Joback Method
dvisc	0.0016507	Pa×s	262.16	Joback Method

dvisc	0.0021560	Pa×s	242.98	Joback Method
dvisc	0.0029478	Pa×s	223.81	Joback Method
dvisc	0.0042738	Pa×s	204.63	Joback Method
dvisc	0.0066911	Pa×s	185.45	Joback Method
dvisc	0.0116167	Pa×s	166.27	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=C14696981&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
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