Decyl disulfide

Other names:	Disulfide, didecyl
	Dinonyl disulfide
Inchi:	InChI=1S/C20H42S2/c1-3-5-7-9-11-13-15-17-19-21-22-20-18-16-14-12-10-8-6-4-2/h3-20
InchiKey:	IDJPKRIELSFBPE-UHFFFAOYSA-N
Formula:	C20H42S2
SMILES:	CCCCCCCCCCSSCCCCCCCCCC
Mol. weight [g/mol]:	346.68
CAS:	10496-18-1

Physical Properties

Property code	Value	Unit	Source
gf	183.76	kJ/mol	Joback Method
hf	-372.39	kJ/mol	Joback Method
hfus	55.82	kJ/mol	Joback Method
hvap	73.75	kJ/mol	Joback Method
log10ws	-8.95		Crippen Method
logp	8.649		Crippen Method
mcvol	325.360	ml/mol	McGowan Method
pc	1037.90	kPa	Joback Method
tb	794.56	K	Joback Method
tc	982.57	K	Joback Method
tf	383.96	K	Joback Method
vc	1.264	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1081.75	J/mol×K	951.24	Joback Method
cpg	992.69	J/mol×K	794.56	Joback Method
cpg	1012.63	J/mol×K	825.90	Joback Method
cpg	1031.48	J/mol×K	857.23	Joback Method
cpg	1049.26	J/mol×K	888.57	Joback Method
cpg	1066.00	J/mol×K	919.90	Joback Method
cpg	1096.52	J/mol×K	982.57	Joback Method

hvapt	83.40	kJ/mol	610.00	NIST Webbook

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C10496181&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
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

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