Icosane-5,7-dione

Inchi: InChI=1S/C20H38O2/c1-3-5-7-8-9-10-11-12-13-14-15-17-20(22)18-19(21)16-6-4-2/h3-18
InchiKey: CJHBQGYRPYRMEB-UHFFFAOYSA-N
Formula: C20H38O2
SMILES: CCCCCCCCCCCCCC(=O)CC(=O)CCCC
Mol. weight [g/mol]: 310.51

Physical Properties

Property code	Value	Unit	Source
gf	-140.32	kJ/mol	Joback Method
hf	-681.29	kJ/mol	Joback Method
hfus	50.75	kJ/mol	Joback Method
hvap	73.61	kJ/mol	Joback Method
log10ws	-6.75		Crippen Method
logp	6.406		Crippen Method
mcvol	295.800	ml/mol	McGowan Method
pc	1102.28	kPa	Joback Method
rinpol	2277.60		NIST Webbook
rinpol	2277.60		NIST Webbook
tb	764.74	K	Joback Method
tc	942.91	K	Joback Method
tf	415.02	K	Joback Method
vc	1.167	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	905.39	J/mol×K	764.74	Joback Method
cpg	989.55	J/mol×K	913.21	Joback Method
cpg	974.45	J/mol×K	883.52	Joback Method
cpg	958.52	J/mol×K	853.82	Joback Method
cpg	941.72	J/mol×K	824.13	Joback Method
cpg	924.02	J/mol×K	794.43	Joback Method
cpg	1003.84	J/mol×K	942.91	Joback Method
dvisc	0.0000939	Pa×s	764.74	Joback Method

dvisc	0.0001254	Pa×s	706.45	Joback Method
dvisc	0.0001766	Pa×s	648.17	Joback Method
dvisc	0.0002659	Pa×s	589.88	Joback Method
dvisc	0.0004381	Pa×s	531.59	Joback Method
dvisc	0.0008163	Pa×s	473.31	Joback Method
dvisc	0.0018113	Pa×s	415.02	Joback Method

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=U413683&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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume