

2-[2-[2-[2-[2-[2-(2,2,3,3,3-Pentafluoropropanoyl)]

Other names: 2,2,3,3,3-pentafluoropropanoate
23,23,27,24,24-Pentafluoro-22-oxo-3,6,9,12,15,18,21-heptaooxatetracos-1-yl
Heptaethylene glycol, bis(pentafluoropropionate)

Inchi: InChI=1S/C20H28F10O10/c21-17(22,19(25,26)27)15(31)39-13-11-37-9-7-35-5-3-33-1-2
InchiKey: REVMUJRTMIKWHG-UHFFFAOYSA-N
Formula: C20H28F10O10
SMILES: O=C(OCCOCCOCCOCCOCCOCCOCCOC(=O)C(F)(F)C(F)(F)C(F)(F)C(F)(F)F
Mol. weight [g/mol]: 618.41

Physical Properties

Property code	Value	Unit	Source
gf	-2917.06	kJ/mol	Joback Method
hf	-3735.15	kJ/mol	Joback Method
hfus	61.40	kJ/mol	Joback Method
hvap	79.53	kJ/mol	Joback Method
log10ws	-2.40		Crippen Method
logp	2.568		Crippen Method
mcvol	360.460	ml/mol	McGowan Method
pc	806.16	kPa	Joback Method
rinpol	2175.70		NIST Webbook
rinpol	2175.70		NIST Webbook
tb	923.88	K	Joback Method
tc	1155.10	K	Joback Method
tf	608.44	K	Joback Method
vc	1.448	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1225.21	J/molxK	923.88	Joback Method
cpg	1240.62	J/molxK	962.42	Joback Method
cpg	1254.07	J/molxK	1000.95	Joback Method
cpg	1265.60	J/molxK	1039.49	Joback Method
cpg	1275.24	J/molxK	1078.03	Joback Method
cpg	1283.04	J/molxK	1116.56	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=U351995&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
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

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