1H,1H,5H-Octafluoropentyl methacrylate

Other names: 2,2,3,3,4,4,5,5-octafluoropentyl methacrylate
2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5-octafluoropentyl ester
Inchi: InChI=1S/C9H8F8O2/c1-4(2)5(18)19-3-7(12,13)9(16,17)8(14,15)6(10)11/h6H,1,3H2,2H3
InchiKey: ZNJXRXXJPIFFAO-UHFFFAOYSA-N
Formula: C9H8F8O2
SMILES: C=C(C)C(=O)OCC(F)(F)C(F)(F)C(F)(F)C(F)F
Mol. weight [g/mol]: 300.15
CAS: 355-93-1

Physical Properties

Property code	Value	Unit	Source
gf	-1682.13	kJ/mol	Joback Method
hf	-1958.66	kJ/mol	Joback Method
hfus	18.14	kJ/mol	Joback Method
hvap	33.38	kJ/mol	Joback Method
log10ws	-3.56		Crippen Method
logp	3.277		Crippen Method
mcvol	154.970	ml/mol	McGowan Method
pc	1916.94	kPa	Joback Method
tb	462.20	K	Joback Method
tc	611.30	K	Joback Method
tf	244.61	K	Joback Method
vc	0.650	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	379.54	J/mol×K	462.20	Joback Method
cpg	391.37	J/mol×K	487.05	Joback Method
cpg	402.50	J/mol×K	511.90	Joback Method
cpg	412.98	J/mol×K	536.75	Joback Method
cpg	422.83	J/mol×K	561.60	Joback Method
cpg	432.08	J/mol×K	586.45	Joback Method
cpg	440.76	J/mol×K	611.30	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	353.00	K	3.10	NIST Webbook

Sources

High-Pressure Phase Behavior of Binary Mixtures of Octafluoropentyl Acrylate and Octafluoropentyl Methacrylate in Supercritical Carbon Dioxide:	https://www.doi.org/10.1021/je200592k
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=C355931&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

Cheméo (https://www.chemeo.com) is the biggest free database of chemical and physical data for the process industry.