Bifenthrin

Other names: Talstar
Biphenthrin
Bifentrin
Bifenthrine
Biphenate
Biphentrin
Brigade
Capture
Cyclopropanecarboxylic acid, 3-((1Z)-2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-, (2-methyl[1,1'-biphenyl]-3-yl)methyl ester, (1R,3R)-rel-
Cyclopropanecarboxylic acid, 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-, (2-methyl[1,1'-biphenyl]-3-yl)methyl ester, [1«alpha»,3«alpha»(Z)]-
DeterMite
Discipline
Empower
Fanfare
FMC 54800
TalstarOne
Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propen-1-yl]-2,2-dimethyl-, (2-methyl[1,1'-biphenyl]-3-yl)methyl ester, (1R,3R)-rel-
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Inchi: InChI=1S/C23H22ClF3O2/c1-14-16(10-7-11-17(14)15-8-5-4-6-9-15)13-29-21(28)20-18(2

InchiKey: OMFRMAHOUUJSGP-UNOMPAQXSA-N

Formula: C23H22ClF3O2

SMILES: Cc1c(COC(=O)C2C(C=C(Cl)C(F)(F)F)C2(C)C)cccc1-c1ccccc1

Mol. weight [g/mol]: 422.87

CAS: 92880-79-0

Physical Properties

Property code	Value	Unit	Source
gf	-367.59	kJ/mol	Joback Method
hf	-770.76	kJ/mol	Joback Method
hfus	44.31	kJ/mol	Joback Method
hvap	80.64	kJ/mol	Joback Method
log10ws	-8.39		Crippen Method
logp	6.662		Crippen Method
mcvol	297.240	ml/mol	McGowan Method
pc	1336.86	kPa	Joback Method
rinpol	2468.00		NIST Webbook
rinpol	2472.00		NIST Webbook

rinpol	2471.00		NIST Webbook
rinpol	2463.00		NIST Webbook
rinpol	2463.00		NIST Webbook
rinpol	2468.00		NIST Webbook
tb	898.94	K	Joback Method
tc	1127.61	K	Joback Method
tf	547.44	K	Joback Method
vc	1.157	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	923.22	J/mol×K	898.94	Joback Method
cpg	941.27	J/mol×K	937.05	Joback Method
cpg	959.14	J/mol×K	975.16	Joback Method
cpg	977.05	J/mol×K	1013.28	Joback Method
cpg	995.24	J/mol×K	1051.39	Joback Method
cpg	1013.93	J/mol×K	1089.50	Joback Method
cpg	1033.36	J/mol×K	1127.61	Joback Method

Sources

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
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C82657043&Units=SI

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