Permethrine

Other names:

(.+/-.)-3-Phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

(.+/-.)-m-Phenoxybenzyl-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane-carboxy

(3-Phenoxyphenyl)methyl 2,2-dimethyl-3-(2,2-dichlorovinyl)cyclopropanecarboxylate

3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid (3-phenoxy-phenyl)methyl ester

3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester

3-Phenoxybenzyl 2,2-dimethyl-3-(2,2-dichlorovinyl)cyclopropanecarboxylate

3-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane-1-carboxylate

Acticin

Adion

Ambush

Ambushfog

Anomethrin N

Coopex

Corsair

Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, (3-phenoxyphenyl)methyl ester

Dragnet

Dragon

Ectiban

Eksmin

Elimite

Expar

FMC-33297

Imperator

Jureong

Kafil

Kaleait

Kavil

Kestrel

LE 79-519

NIA-33297

NRDC-143

Nix

Outflank

PP-557

Perigen

Permanone

Permasect

Permethrin

Permethrin, isomer 1

Permethrin, isomer 2

Permetrina
Permit
Permitrine
Perthrine
Picket
Pounce
Pramex
Pulvex
Pynosect
Qamlin
Quamilin
Repel Permanone
Ridect pour-on
S-3151
SBP-1513
Sharkesuper
Spartan
Stockade
Stomoxin
Stomozan
Talcord
Tornade
m-Phenoxybenzyl (.+/-.)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate
m-Phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

Inchi: InChI=1S/C21H20Cl2O3/c1-21(2)17(12-18(22)23)19(21)20(24)25-13-14-7-6-10-16(11-14

InchiKey: RLLPVAHGXHCWKJ-UHFFFAOYSA-N

Formula: C21H20Cl2O3

SMILES: CC1(C)C(C=C(Cl)Cl)C1C(=O)OCc1cccc(Oc2ccccc2)c1

Mol. weight [g/mol]: 391.29

CAS: 52645-53-1

Physical Properties

Property code	Value	Unit	Source
gf	89.86	kJ/mol	Joback Method
hf	-268.89	kJ/mol	Joback Method
hfus	43.08	kJ/mol	Joback Method
hvap	86.07	kJ/mol	Joback Method
log10ws	-6.29		Estimated Solubility Method
logp	6.113		Crippen Method

mcvol	281.860	ml/mol	McGowan Method
pc	1644.42	kPa	Joback Method
rinpol	2634.00		NIST Webbook
rinpol	2706.00		NIST Webbook
rinpol	2657.00		NIST Webbook
rinpol	2657.00		NIST Webbook
rinpol	2632.00		NIST Webbook
rinpol	2634.00		NIST Webbook
rinpol	2711.00		NIST Webbook
tb	913.47	K	Joback Method
tc	1160.83	K	Joback Method
tf	560.34	K	Joback Method
vc	1.069	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	837.42	J/mol×K	913.47	Joback Method
cpg	855.30	J/mol×K	954.70	Joback Method
cpg	872.99	J/mol×K	995.92	Joback Method
cpg	890.73	J/mol×K	1037.15	Joback Method
cpg	908.75	J/mol×K	1078.38	Joback Method
cpg	927.28	J/mol×K	1119.60	Joback Method
cpg	946.56	J/mol×K	1160.83	Joback Method

Sources

Phase Equilibria of Permethrin and Dicofol with Carbon Dioxide:	https://www.doi.org/10.1021/je0495379
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Estimated Solubility Method:	http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C52645531&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