



Gilan – doe @ yahoo. com

*Selennstrum ) (Daphnia mgna*  
*(Rutilus frissi cutum) (carpicurtumna*



%.  
(Chiras , Owen ,1995)

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(Dilcladisma armigera) (Milapavarta lugens)  
.... (Sciropophaga) (sesamia) (Chilo)

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.(Miller, 1991)

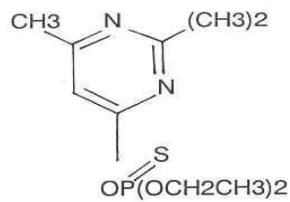
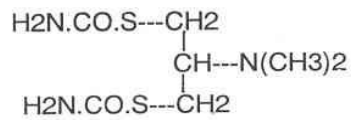
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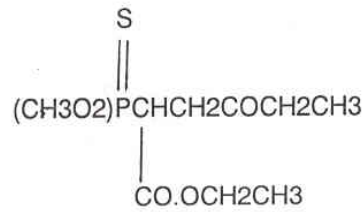
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فرمول گسترده

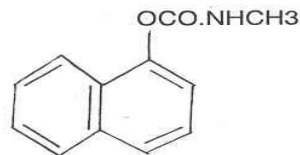
Cartap  
Padan :  
:  
C<sub>7</sub>H<sub>16</sub>CLN<sub>3</sub>O<sub>2</sub>S<sub>2</sub> :

Diazinon  
Basodin :  
:  
C<sub>12</sub>H<sub>21</sub>N<sub>2</sub>O<sub>3</sub>PS :



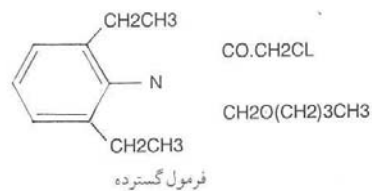
فرمول گسترده

Malation  
:  
:  
C<sub>10</sub>H<sub>19</sub>O<sub>6</sub>PS<sub>2</sub> :



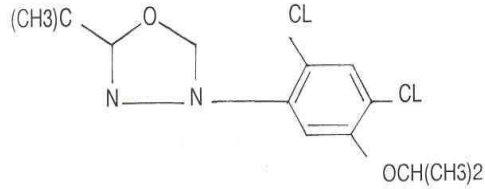
فرمول گسترده

Sevin :  
:  
C<sub>12</sub>H<sub>11</sub>NO<sub>2</sub> :

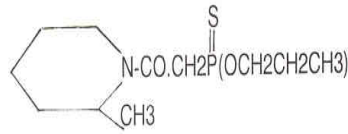


فرمول گسترده

Butachlor



فرمول گسترده



فرمول گسترده

Machete :  
C17H26CLNO2 :

Oxadiazinon :  
C15H18CL2N2O :

Ronestar :

Piperophos :  
Rilofe :  
C14H28NO3PS2 :

PH



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		( )



/ P.P.M

LC50 .

/ P.P.M

/ P.P.M

P.P.M

/

/ P.P.M

/

/ mg/l

LC50

Zebra fish

/ / mg/l

%

RNA , DNA



( ) /

### Daphnia magna

Daphnia magna

Chlorella vulgaris  
mg/l

EC50

/ mg/l / mg/l / mg/l / mg/l  
cc cc

3.4EC50 EC50) 1/2 EC50



(1.4EC50

**Daphnia magna**

: ( )

	/					/	- /	- /
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**Daphnia magna**

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**Daphnia magna**

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**Daphnia magna**

: ( )

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**Selenastrum capricornutum**

( )



EC10 EC50 EC90 : ( )

	EC10		EC50		EC90	
	mg/l /	/ mg/l	/ mg/l	/ mg/l	mg/l /	mg/l /
	mg/l /	/ mg/l	/ mg/l	/ mg/l	mg/l /	mg/l /
	mg/l /	mg/l /	/ mg/l	mg/l /	/ mg/l	mg/l /
	mg/l /	mg/l /	/ mg/l	mg/l /	mg/l /	mg/l /

: ( )

A	> mg/l	
B	- mg/l	
C	- mg/l	
D	/ - mg/l	
E	< / mg/l	

: ( )

A	> mg/l	
B	- mg/l	
C	- mg/l	
D	- mg/l	
E	< mg/l	

Daphnia magna



**Selenastrum capricornutum** : ( )

	EC10 (NOEC) µg/l	EC50 µg/l	EC90 µg/l	
	/	/	/	mg/l
	/	/	/	mg/l
	/	/	/	mg/l
	/	/	/	mg/l
		/	/	mg/l

**Daphnia magna** : ( )

	EC10 µg/l	EC50 µg/l	EC90 µg/l	
	/	/	/	mg/l
	/	/	/	mg/l
	/	/	/	mg/l
	/	/	/	mg/l
	/		/	mg/l

**Rutilus frisicutus**



**Rutilus frisi cutum**

: ( )

	LC	24 h mg/l	48 h mg/l	72 h mg/l	96 h mg/l
diazinon	LC10	/	/	/	/
	LC50	/	/	/	/
	LC90	/	/	/	/
Malathion	LC10	/	/	/	/
	LC50	/	/	/	/
	LC90	/	/	/	/
Machete	LC10	/	/	/	/
	LC50	/	/	/	/
	LC90	/	/	/	/
Saturn	LC10	/	/	/	/
	LC50	/	/	/	/
	LC90	/	/	/	/

EC10





( ) IPM

Daphnia magna

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% % ( )