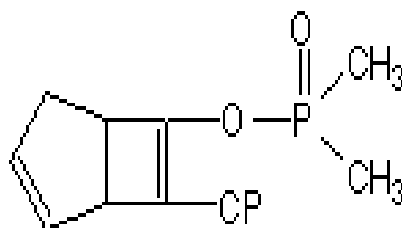


# Heptenophos



**Chemical name:** Heptenophos

**Other names:** 7-chlorobicyclo[3.2.0]hepta-2,6-dien-6-yl dimethyl phosphate  
4-(O,O-Dimethylphosphoryl)-5-chlorobicyclo(3,2,0)hepta-1,4-diene  
Heptenofos, Heptenofosz

**Compound:** C<sub>9</sub>H<sub>12</sub>ClO<sub>4</sub>P

**CAS Number:** 23560-59-0

**Pesticide type:** insecticide, acaricide

## Characteristics

Heptenophos was first introduced in 1975. It is a new compound belonging to the organophosphate group of chemicals. It has a systemic mode of action with stomach, contact and respiratory action, is an inhibitor of acetylcholinesterase. It is a liquid with light brown colour.

## Use

Mostly used to control sucking insects and certain Diptera. Trade name include HOE2982, Hostaquick, Ragadan.

## Possible hazards and regulation

PAN Bad Actor Chemical

It has not been included as active substance in Annex I to Directive 91/414/EEC.

WHO Ib highly hazardous

## Toxicity

The compound is very highly toxic to most mammals and other animals.

### Toxicity to humans

Symptoms of poisoning with this compound may include any of the following: excessive salivation, sweating, tearing, muscle twitching, weakness, tremor, headache, dizziness, nausea, vomiting, diarrhea, respiratory depression, fluids in lungs, in severe cases seizures, incontinence, loss of consciousness.

ADI 0,003 mg/kg/day

### Acute toxicity limits

Acute oral LD<sub>50</sub> in rat is 96 mg/kg which suggests a high toxicity via the oral route.

Dermal LD<sub>50</sub> is greater than 2000 mg/kg in rats, while inhalation LC<sub>50</sub> was set at 0,95 mg/l in rats.

### Chronic toxicity:

Short term dietary NOEL is 15 ppm based on a 2 year study in rats.

Reproductive effects: not listed

### **Ecological effects**

Heptenophos is highly toxic to birds – acute LD50 17 mg/kg. It is also very highly toxic to fish with acute 96 hour LC50 0,056 mg/l. Aquatic invertebrates are also very sensitive to its toxic effects – acute 48 hour EC50 for Daphnia magna is 0,0022 mg/l. It has low toxicity to algae with acute 72 hour EC50 35 mg/l and moderate toxicity to earthworms with acute 14 day LC50 98 mg/l.

**Carcinogenity** not listed on any list of carcinogens

**Mutagenity**: no data available

**Bioaccumulation**: low potential for bioaccumulation

**Mobility**: moderately mobile

### **Persistence and degradability in environment**

Typical DT50 in soil for heptenophos is 1,4 days (may range from 0,07 to 1,8 days), which suggests the compound is not persistent. Aqueous hydrolysis DT50 mean value is 13 days. It has generally a low potential to leach.

### **Limits**

MRLs for all crops established at 0,05 mg/kg.

**Hazard Symbol** : T toxic  
N dangerous for the environment

### **Risk Phrases** :

R25 Toxic if swallowed

R50 Very toxic to aquatic organisms

R53 May cause long-term adverse effects in the aquatic environment

### **Safety Phrases** :

S1/2 Keep locked up and out of the reach of children

S23 Do not breathe gas/fumes/vapour/spray (*appropriate wording to be specified by the manufacturer*)

S28 After contact with skin, wash immediately with plenty of ... (*to be specified by the manufacturer*)

S37 Wear suitable gloves

S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

S60 This material and its container must be disposed of as hazardous waste

S61 Avoid release to the environment. Refer to special instructions/safety data sheet

### **Links**

<http://sitem.herts.ac.uk/aeru/footprint/en/Reports/379.htm>

<http://www.mpo.cz/cz/prumysl-a-stavebnictvi/dance/vypis723.html>

[http://www.pesticideinfo.org/Detail\\_Chemical.jsp?Rec\\_Id=PC37684](http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC37684)

<http://www.croplife.co.za/docs/MRL%27s.pdf>



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