

# *chemicalWATCH* Factsheet

## HEXAFLUMURON

Hexaflumuron is an insect growth regulator that interferes with insects' chitin synthesis. It was registered in 1994 — the first active ingredient to be registered as a “reduced risk pesticide” through the U.S. Environmental Protection Agency's (EPA's) reduced risk program, which waives tests for new pesticides that are thought to pose fewer hazards than existing pesticides. It is registered for use on termites, and is the active ingredient in the Sentricon™ bait system. It functions by inhibiting the synthesis of chitin, the material that makes up the exoskeleton of insects (Cox, 1997).

### Toxicity

Hexaflumuron has a low toxicity to rats when ingested, with a LD<sub>50</sub>

>5000mg/kg for male and female rats. Based in its low LD<sub>50</sub> in laboratory animals, it is assumed to be of low toxicity to humans. It is a mild skin and eye irritant, and is not expected to cause carcinogenic, mutagenic, or teratogenic effects (NPTN, Hexaflumuron, 2000). In chronic feeding studies, hexaflumuron increased the incidence and severity of liver cell abnormality. Because it was registered as a reduced-risk pesticide, many of the standard tests are lacking for hexaflumuron, including subchronic toxicity testing, delayed neurotoxicity testing, and tests for developmental or reproductive effects (Cox, 1997).

### Environmental Fate

Studies have found the half-life of hexaflumuron to range from 40-160

days. It has low mobility in soil, binding strongly to soil particles, and is not highly soluble in water. If used according to the manufacturer's specifications, it is not likely to contaminate surface or groundwater (NPTN, Hexaflumuron, 2000).

### Ecological Effects

It is highly toxic to aquatic animals and should not be used in areas where it could be washed out of the bait station into water at or near the ground surface (MSDS, Recruit II). Hexaflumuron may cause long-term effects in the aquatic environment, and will lead to bioaccumulation of the chemical in fish. It has a very low toxicity to birds (ILO, ISCS: 1266, 1995).

## Chlorpyrifos *chemicalWATCH* Factsheet Bibliography

Cox, C. 1997. “Subterranean Termites, Part 2.” *Journal of Pesticide Reform* 17(2):21.

International Labour Organization (ILO). 1995. International Chemical Safety Card (ICSC): 1266. October. International Occupational Safety and Health Information Centre. Geneva, Switzerland.

Material Safety Data Sheet (MSDS): Recruit II Termite Bait. Dow AgroSciences. Indianapolis, IN.

National Pesticide Telecommunication Network. 2000. *Hexaflumuron Technical Fact Sheet*. July 18. Oregon State University. Corvallis, OR.

## *Beyond Pesticides*

701 E Street, S.E., Suite 200 • Washington DC 20003  
202-543-5450 (v) • 202-543-4791 (f)  
info@beyondpesticides.org • www.beyondpesticides.org