

Bifenthrin is the active ingredient in the insecticide product Attain TR, currently being used by the Municipality of Anchorage to control aphid, thrip and white fly populations. Bifenthrin is of the pyrethroid chemical class, meaning that it is a nervous system poison and over-stimulates nerve cells, causing tremors and eventual paralysis in insect targets.

Bifenthrin is the active ingredient in three insecticide products listed on the Tier 1: Highest Concern, Priority for Phaseout level of King County's 1999 Integrated Pest Management report on pesticides used by the city of Seattle. This classification is due to the chemical's off-target toxicity and extreme danger to fish and bees. It is banned from use in the Netherlands.

Carcinogenicity

Bifenthrin is a suspected cancer-causing agent, first listed in the United States EPA's "Chemicals Evaluated for Carcinogenic Potential" report in 1992. The EPA terms it a possible human carcinogen, meaning that there is evidence of carcinogenicity but an insufficient number of human studies have been done to determine the level of danger.

In an 87-week study on mice, male urinary bladder tumors and female lung cancer rates rose in correlation with higher dosages of bifenthrin.

Mutagenic Potential

Tests of bifenthrin's potential to affect alterations in genetic code have been too limited to draw conclusions from. Studies of mouse white blood cells were positive for gene mutation, while other tests were negative. No governmental or industry follow-up has been done.

Acute Toxicity

Bifenthrin is moderately toxic to mammals in an acute, immediate way. Ingestion can cause incoordination, salivation, vomiting, diarrhea or tremors, as well as irritability to sound and touch.

Bifenthrin is readily absorbed through the skin, although it rarely causes inflammation (instead, it creates a tingling sensation which generally lasts for twelve hours).

Reproductive and Developmental Toxicity

Bifenthrin is highly toxic to the reproductive system and to developing systems such as those of the fetus. It is listed as a developmental toxin by the U.S. EPA's Toxics Release Inventory, citing "chronic developmental effects" as the cause. Rats treated with bifenthrin were found to have accumulations in tissues with high fat content, such as the skin and fat of both genders and the ovaries of females, within seven days of exposure.

Neurotoxicity

There are currently no authoritative lists of known neurotoxicants, chemicals recognized to damage the structure or functioning of the central and/or peripheral nervous system (such damage spans from muscle weakness and loss of sensation to impaired functioning of the autonomic nervous system). However, the EPA Toxics Release Inventory had classified bifenthrin as a suspected neurotoxicant as early as 1994 because it causes chronic neurological effects.

Birds, Bees and Fish

Bifenthrin is extremely toxic to fish and other aquatic organisms, as well as to bees. It is moderately toxic to most bird species, and is listed by the Toxic Release Inventory as causing adverse environmental effects.