Pyraflufen-Ethyl

Ethyl 2-chloro-5-(4-chloro-5-difluoromethoxy-1-methylpyrazol-3-yl)-4-fluorophenoxyacetate

Pyraflufen-ethyl is an herbicide used to control broadleaf weeds for several crops (cotton, potatoes, corn, soybeans, and wheat). It also has several non-dietary uses, including use at airports, roadsides, railroads, nurseries, golf courses, and on ornamental turf. In 2009, 462 pounds of pyraflufen-ethyl were used on cotton fields in California; 728 pounds were used on all crops combined. Occupational exposure may occur as a result of application and use of the herbicide. Exposure to the general population may occur as a result of residential or recreational exposure to areas treated with the herbicide or consumption of residues in foods.

Pyraflufen-ethyl passed the animal data screen, underwent preliminary toxicological evaluation, and is being brought to the Carcinogen Identification Committee for consultation. This is a compilation of the relevant studies identified during the preliminary toxicological evaluation.

Epidemiological data

No cancer epidemiology studies were identified.

Animal carcinogenicity data

- Long-term studies in rats
  - 104-week diet studies in male and female CR:CD rats: U.S. EPA (2002)
    - *No treatment-related tumor findings in males or females*

- Long-term studies in mice
  - 78-week diet studies in CD-1 mice: U.S. EPA (2002, pp. 11-16)
    - *Increase in hepatocellular adenomas and combined hepatocellular adenomas, carcinomas and hepatoblastomas (by pairwise comparison and trend) in males*
    - *Increase in hepatocellular adenomas and combined hepatocellular adenomas and carcinomas (by pairwise comparison and trend) in females*

Other relevant data

- Genotoxicity
  - As reviewed in U.S. EPA (2002, pp. 22-23)
    - *Salmonella typhimurium* mutation assays (*negative*)
    - *E. coli* mutation assays (*negative*)
    - Mouse lymphoma cell mutation assays (*negative*)

- *In vitro* chromosomal aberrations in human lymphocytes (*negative*)
- *In vivo/in vitro* unscheduled DNA synthesis (UDS) in rat hepatocytes (*negative*)
- *In vivo* micronucleus assay in mouse bone marrow (*negative*)

Reviews

- U.S. EPA (2002)

References

U.S. Environmental Protection Agency (EPA, 2002). Cancer Assessment Document. *Evaluation of the carcinogenic potential of pyraflufen-ethyl*, PC Code 030090. Memorandum. *Pyraflufen-Ethyl – Report of the Cancer Assessment Review Committee* Health Effects Division, Office of Pesticide Programs.