Acephate is an organophosphate insecticide used on a variety of crops, including lettuce, celery, peppers, cotton, and beans. It is also used to control ants, wasps, cockroaches, earwigs and other insects in and around residences, institutions, and other buildings. Exposure may occur to agricultural workers, pesticide applicators and consumers using the insecticide, and the general public as a result of residential application and ingestion of residues present in food and water.

Acephate passed the animal data screen, underwent a 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**

- 105-week feeding studies in mice
    - *Increase in hepatocellular adenoma and carcinoma (combined) in females (by pairwise comparison and trend)*
    - *No treatment-related tumor findings in males*

- 28-month feeding studies in rats
    - *Increase in adrenal medullary adenoma and carcinoma (combined) (pheochromocytomas) in males (by pairwise comparison)*
    - *No treatment-related tumor findings in females*

**Other relevant data**

- Genotoxicity
  - Mutagenicity in *Salmonella typhimurium* reverse mutation (*positive and negative*) and *E. coli* (*positive*) assays: Hanna and Dyer (1975); Moriya et al. (1983); CDPR (2008)
  - Mutagenicity in *Saccharomyces cerevisiae* reverse mutation and mitotic recombination assays (*positive*): CDPR (2008)


In vivo tests in mice, including bone marrow chromosome aberrations (positive) and sister chromatid exchange (negative), micronucleus (positive and negative), dominant lethal tests (positive and negative), and somatic cell mutations (negative): Behera and Bhunya (1989); CDPR (2008)

In vivo tests in monkeys, including SCE and chromosome aberrations in peripheral lymphocytes (negative): CDPR (2008)

BALB/c 3T3 cell transformation (positive): Perocco et al. (1996)

Review


References

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1 Excerpts or the complete publication have been provided to members of the Carcinogen Identification Committee, in the order in which they are discussed in this document.