

Tetrachlorvinphos

Tetrachlorvinphos is an organophosphate insecticide. It is used in pet flea and tick collars and powders. Agricultural uses include dermal application to livestock, as a larvicide in cattle, hog, goat, and horse feed, and in cattle feedlots and poultry houses. It is used for structural pest control, and for general outdoor treatment to control flies. It has also been used on a variety of crops, including cotton, grains, fruits and vegetables. The general population is exposed primarily through its use in pet collars and powders, and other residential uses. Occupational exposures are expected for workers in areas where tetrachlorvinphos is used or applied, such farms, ranches, and poultry houses.

Tetrachlorvinphos 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

- Long-term diet studies in mice
 - Male and female B6C3F₁ mice (80 week treatment period + 12 weeks on control diet): NCI (1978)
 - 103-week studies in male and female B6C3F₁ mice: Parker *et al.* (1985)
- Long-term diet studies in rats
 - Two year study in male and female Porton rats: Walker *et al.* (1972)
 - Male and female Osborne-Mendel rats (80 week treatment period + 31 weeks on control diet): NCI (1978)

Other relevant data

- Genotoxicity
 - *Salmonella* reverse mutation assay: Brooks *et al.* (1982); Ruiz and Marzin (1997)
 - *E. coli* SOS chromotest DNA damage assay: Ruiz and Marzin (1997)
 - *E. coli* reverse mutation assay mitotic gene mutation: Brooks *et al.* (1982)
 - *Saccharomyces cerevisiae* mitotic gene conversion assay, mitotic crossing-over assay and mitotic non-disjunction assay: Vallini *et al.* (1983)
 - mitotic abnormalities in *Vicia faba*: Amer and Mikhael (1983)
 - sister chromatid exchange in mouse spleen cells: Amer and Aly (1992)
 - chromosome aberrations in mouse spleen cells: Amer and Aly (1992)

- unscheduled DNA synthesis in EUE human embryo fibroblasts: Benigni and Dogliotti (1980)
- *In vivo* mouse bone marrow micronuclei assay: Amer and Fahmy (1983)
- *In vivo* mouse liver DNA adduct formation: Zayed *et al.* (1983)
- Urinary levels of 7-methylguanine in mice: Zayed *et al.* (1984)
- Reviews: IARC (1983, p. 202-203); U.S. EPA (1995, pp. 11-12)

Reviews

- IARC (1983)
- U.S. EPA (1995)

References¹

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¹ Copies of these listed references, as either the abstract, the relevant sections of the publication, or the complete publication, have been provided to members of the Carcinogen Identification Committee. These references have been provided in the order in which they are discussed in this document.

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