



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Zinc Omadine: Preliminary Reporting of Adverse Developmental Toxicity Findings in Compliance with FIFRA Sec. 6 (a)(2).

EPA ID# 283943
Case No. 283943

DP Barcode D182328
Chem. ID No. 088002

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1-14-92

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THRU: Roger L. Gardner, Section Head
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Roger L. Gardner *3/25/93*
3-25-93

In compliance with FIFRA Sec. 6 (a)(2), Olin Environmental Hygiene and Toxicology Department has reported preliminary adverse findings of developmental toxicity in rats and rabbits dosed with zinc omadine 48% dispersion. The studies have not been audited, and the final reports have yet to be submitted to TB-I. The letter informing the Agency of adverse findings is a "heads-up" notice, and is not supported by data. Thus, the following descriptions can only be considered preliminary, and the significance of these findings cannot be ascertained.

Thirty gravid female rats were dosed by gavage at doses of 0, 0.75, 3.0, and 15 mg/kg/day on gestation days 6 through 15. Significant decreases in body weight gain were reported in the mid and high-dose dams on gestation days 6-16 and 6-20. In the high-dose group, there was an increased number of resorptions and post-implantation losses. Five fetuses from 3 high-dose litters had malformations of the forepaws (i.e. one or more digits missing). Other findings of encephalocele, microphthalmia, short threadlike tail, and anal atresia were incidental findings. The NOAEL was defined as 3.0 mg/kg/day.



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Twenty gravid female rabbits were dosed by gavage at doses of 0, 0.5, 1.5, and 3.0 mg/kg/day on gestation days 6 through 18. In the mid and high-dose groups, there was an increased number of resorptions and post implantation losses, reduced number of viable fetuses per dam, and a decrease in gravid uterine weights. Three fetuses from 2 high-dose litters had multiple cephalic malformations (i.e. domed shaped head/hydrocephaly, cleft palate, and anencephaly) and malformations of the hindlimb. One mid-dose fetus had a bulbous aortic arch, interventricular septal defect, and gallbladder agenesis. Findings at the low-dose were considered to be incidental. Developmental toxicity was observed at the mid and high-dose groups, with malformations being observed only in the high-dose group. The NOAEL was defined as 0.5 mg/kg/day for developmental toxicity and 1.5 mg/kg/day for birth defects.

In both species, developmental toxicity was observed at maternally toxic doses, so the significance of these findings is uncertain. There are no studies in the existing data base with which to compare this preliminary information, since there are 3 invalidated IBT studies, and one limit test in dermally dosed rabbits with no evidence of toxicity.