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Project Summary

Inhalation Teratology Studies of Captan and Folpet in Mice

K. Diane Courtney, James E. Andrews, James T. Stevens, and Jackie D. Farmer

Timed pregnant CD-1 mice were exposed to captan or folpet by the intragastric, subcutaneous, or inhalation route. A dose of 100 mg/kg/day of captan or folpet was administered subcutaneously or intragastrically from day 6 through 15 of gestation. The dose levels for the inhalation route were averaged from daily exposure levels determined by monitoring the chambers. The inhalation route provided daily average concentrations approximating 491 mg/m³ for captan, and 624 mg/m³ for folpet, four hr/day from the sixth to the thirteenth day of gestation. The particle size was less than 5μm. Approximately 10% maternal mortality was observed with both captan and folpet by the inhalation route, but no mortality was seen by the other two routes. The only fetal toxicity noted was a reduction in fetal body weight in the group administered captan subcutaneously. Neither captan nor folpet was teratogenic in CD-1 mice exposed by the subcutaneous, oral or inhalation routes.

This Project Summary was developed by EPA's Health Effects Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

Captan and folpet are fungicides with structures generally similar to thalidomide, which raises questions about their teratogenic potential. Many studies in the literature indicate that the compounds are not teratogenic, whereas some have found them to be teratogenic. Thus, these fungicides were tested for their teratogenic potential in mice by using oral, subcutaneous, and inhalation exposure routes.

Procedure

Pregnant mice with known gestational days were treated with captan and folpet daily from gestational days 6 through 15 at a dose level of 100 mg/kg either by gavage or subcutaneous injection and killed on day 17 An additional group of mice was exposed to captan or folpet from gestational days 6 through 13 and killed on day 17.

Results and Discussion

Neither captan nor folpet was teratogenic by oral, subcutaneous or inhalation exposure routes. The exposure levels of captan and folpet were maternally lethal but did not affect the fetus.

Conclusion

Captan and folpet at doses of 100 mg/kg administered orally or subcutaneously during organogenesis was not teratogenic in the CD-1 mouse. Inhalation exposure of CD-1 mice to captan or folpet at maternally lethal doses did not produce fetal malformations.

The EPA authors ***K. D. Courtney, J. E. Andrews, J. T. Stevens,*** *and* ***J. D. Farmer*** *are with the Health Effects Research Laboratory, Research Triangle Park, NC 27711.*

Diane Courtney *is the EPA Project Officer (see below).*

The complete report, entitled "Inhalation Teratology Studies of Captan and Folpet in Mice," (Order No. PB 84-128 099; Cost: $7.00, subject to change) will be available only from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Telephone: 703-487-4650

The EPA Project Officer can be contacted at:

Health Effects Research Laboratory
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

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