Data Evaluation Report
Ecological Effects Branch

1. **Chemical:** Methazole

2. **Test Material:** Methazole technical, 99.9% purity Lot No. 56802290 received from Sandoz Crop Protection Corporation on 4/11/88.

3. **Study Type:** Eight day Dietary Toxicity Test with bobwhite quail.

4. **Study Identification:**

   Study Authors: Grimes, Jenny and Mark Jaber
   Laboratory: Wildlife International, Easton, MD
   Study Dates: May 26 - June 3, 1988
   Study Identification: Project no. 131-134
   Sponsor: Sandoz Crop Protection Corporation
   Des Plaines, Illinois
   EPA Identification: MRID No. 407818-01

5. **Reviewed by:** Brian Montague, Fisheries Biologist
   Ecological Effects Branch
   Environmental Fate & Effects Division

6. **Approved by:** Ray Matheny, Supervisory Biologist 5/31/90
   Ecological Effects Branch
   Environmental Fate and Effects Division(H7507C)

7. **Conclusions:** Test results indicate the LC_{50} level of Methazole for quail to be above 5,620 ppm. A no effect level was not established as body weight reduction was seen in the lowest concentration tested, 562 mg/kg.

8. **Recommendations:** N.A.

9. **Submission Purpose:** Submitted to satisfy reregistration guideline requirements.

10. **Test Methods and Protocol:** Methods used in this study are based on EPA and ASTM guidelines for Conducting Sub-acute Dietary Toxicity Tests with Avian Species.

Test Animals: Test birds were obtained from laboratory production stocks and were ten days old at test initiation. All birds were pen-reared and phenotypically indistinguishable from wild birds. During acclimation the birds were provided with feed (Wildlife Internl./mix) and drinking water add libitum. Vitamin supplements were provided in the water.

Test Diet Preparation: Corn oil was used as the vehicle in test diet preparation at a rate of 2% of the total diet. The mix was prepared on 5/16/88 and held frozen until test initiation. The nominal concentrations of technical ingredient were 562 ppm, 1000 ppm, 1780 ppm, 3160 ppm, and 5620 ppm. Samples were taken after mixing and on day 0 to test for homogeneity. The verification analysis was carried out by Hazelton Laboratories in Madison, Wisconsin.

Test Methods and Materials: Birds were housed in temperature controlled pens with brooding compartments maintained at 38°C $\pm$ 2°C. Average humidity in the test rooms was 62%. Photoperiod was maintained at 16D/8N at an intensity of approximately 12 foot candles.

The pens measured 72 x 90 cm and were 23 cm high. Construction was of galvanized steel wire and sheet metal. Ten birds were randomly assigned to each pen and the pens were numbered for each group. Birds were observed twice per day during the definitive test, and group body weight measurements were made on days 0, 5, and 8. Average group food consumption was estimated daily based on remaining food, though wastage was not accounted for, and thus, is included in the feed consumption figures.

Diet analysis showed recovery to be 79% to 88% of the nominal concentration estimates when performed by Hazelton Laboratories on 7/21/88.

11. **Test Results and Observations:** No mortality was reported in the controls, 562 ppm, 1000 ppm ,or 1780 ppm concentration levels. Mortality of 20% and 10% were experienced at the 3160 ppm and 5620 ppm test levels, respectively. The first signs of toxicity were noted on day 2, but recovery was

evident by day 7. Toxic signs included lethargy, depression, wing droop, ruffled appearance, and weakness in the lower limbs. There was 12% to 40% reduction in body weight from that of the control groups by day 5 and this corresponded with a feed consumption reduction during the 5 day administration of the chemical. By day 8 body weight and food consumption had begun to equalize with controls.

12. **Study Authors' Conclusions:** "The mortality pattern in this study is not conducive to calculating the LC_{50} value. Therefore, an estimation of the LC_{50} value was made by a visual inspection of mortality data...the dietary LC_{50} value of methazole technical in the bobwhite quail was determined to be greater than 5620 ppm active ingredient (a.i.), the highest concentration tested. The no-observed effect concentration was less than 562 ppm based on a reduction in body weight gain at the 562 ppm concentration."

13. **Reviewer's Discussion:** The protocol and conductance of the study generally adhered to acceptable testing guidelines. Results indicate that methazole displays low toxicity to bobwhite quail on a dietary basis. An accurate LC_{50} value was undeterminable from the results, as was a NOEL. For this reason the chemical may cause temporary weight loss at concentrations below 562 ppm but 50% mortality levels are expected to be well above 5000 ppm thus classifying methazole as nearly non-toxic to bobwhite quail on a dietary basis.

The LC_{50} for bobwhite quail is indicated to be above 5620 ppm based on results of this study.

Adequacy of Study:

Classification: Core

Rationale: The study has demonstrated the LC_{50} level to be above 5000 ppm and thus fulfills EPA testing requirements. Due to the fact that a no effect level has not been established, chronic testing may be required before an accurate risk assessment can be performed.

Recommendations: N.A.