

Summary

Report for the Application and Ambient Air Monitoring of Aldicarb

This report presents the results of application air monitoring for the insecticide aldicarb in Fresno County and ambient air monitoring in Fresno and Kern Counties. Two application studies were conducted in Fresno County. Due to problems with the first study, which was associated with cotton planting, a second study was conducted which was associated with cotton "at first squaring." Ambient monitoring was initially conducted during a three week period from March 24 to April 11, 1997 in Fresno County. The monitoring was scheduled to coincide with cotton planting and the aldicarb samplers were collocated with samplers being used for an ambient phorate air monitoring study. No detectable levels of aldicarb were observed during the first three weeks of monitoring in Fresno County and so the remaining 3 weeks of monitoring was conducted in June in Kern County.

Tables 7 and 8 present the results of application studies #1 and #2 respectively. Tables 9 and 10 present the results of the ambient monitoring studies conducted in Fresno and Kern Counties respectively. Results below the limit of quantitation but equal to or above the limit of detection (LOD) are reported as detected (Det.). Results below the LOD are reported as <LOD. The method development results showed that the parent compound, aldicarb, was partially oxidized to aldicarb sulfoxide and aldicarb sulfone on the resin (degraded during sampling) during the 24 hour sampling at 4 Lpm. Consequently, the LOD and LOQ for the sample results were reported as the combined values for aldicarb and the degradation products. The *combined* analytical LOD and LOQ for aldicarb (and products) was 0.050 ug/sample and 0.17 ug/sample respectively. The air concentration, expressed in units of ug/m^3 (or pptv), associated with the LOD is dependent on the volume of air sampled which varies from sample to sample. For a 24-hour sampling period at 4 Lpm the air concentration would be $0.0087 \text{ ug}/\text{m}^3$ (1.1 pptv) as associated with the LOD.

Of the twenty application samples collected during the first study (spikes, blanks, collocated and *background* samples excluded) two were found to be detected and the remaining 18 were less than the LOD of 0.050 ug/sample.

For the second application study, all four background samples had results less than the LOD. Of the twenty-four application samples collected (spikes, blanks, collocated and background samples excluded) all were found to be less than the LOD of 0.050 ug/sample.

Of the 60 ambient samples collected in Fresno County and the 55 collected in Kern County (spikes, blanks and collocated samples excluded), all were found to be less than the LOD of 0.050 ug/sample.