



Arnold Schwarzenegger  
Governor

November 16, 2007

Ms. Linda Adams, Secretary  
California Environmental Protection Agency

Ms. Kim Belshe, Secretary  
California Health and Human Services Agency

Mr. A.G. Kawamura, Secretary  
California Department of Food and Agriculture

Dear Secretaries:

In September 2007, the California Department of Food and Agriculture (CDFA) initiated a program to eradicate an infestation of the Light Brown Apple Moth (LBAM) in Monterey County which involved the aerial application of a pheromone, Checkmate. A number of health complaints from people in the treatment area were brought to the attention of the California Environmental Protection Agency (Cal/EPA), CDFA, and the Department of Public Health (DPH). We directed our staffs, in cooperation with DPH, to conduct an evaluation of the complaints and the potential health effects that might be associated with the pheromone.

The attached document represents a scientific consensus of the Department of Pesticide Regulation (DPR) and the Office of Environmental Health Hazard Assessment (OEHHA) on the available health and safety data of the pheromone products associated with the LBAM eradication program. This is one of the first instances of an aerial application of this material over a highly populated area. DPR and OEHHA scientists reviewed the available information and prepared this document with DPH input. It is not intended to be a detailed human-health risk assessment, an epidemiological study of exposed individuals, or an evaluation of occupational exposure. Its purpose is to provide information on the toxicity of microencapsulated pheromones and the potential for exposure, and to provide recommendations.

In summary, the toxicity data on the pheromone active ingredients, as well as on microencapsulated pheromone product formulations, suggest that exposure to a high dose of airborne Checkmate microcapsule particles could cause eye, skin, or respiratory irritation. The application rates were extremely low, and it is likely that exposure occurred at levels below those that would be expected to result in health effects. Measured deposition rates fell below the proposed rate of 20 grams active ingredient per acre.



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Public concern has centered on the previously undisclosed inert ingredients, which have now been disclosed. Water is the bulk of the inert ingredients, as the microencapsulated polyurea particles consist primarily of the pheromone active ingredients. The polyurea shell exists only as a component of the particles, and makes up only a small percentage of the particle weight. While the toxicological information on the Checkmate product indicates that exposure to high levels of the applied material would be consistent with many of the reported symptoms, the application rate was extremely low, and it is likely that exposure occurred at levels below those that would be expected to result in health effects.

Based on their review, staff have included recommendations to address the health complaints received from this program. A series of actions to ensure proper collection, review, and coordination of health complaints is also recommended. Air sampling should be considered to investigate the contribution of the aerielly released microcapsule particles to the overall ambient air particulate load. A well-designed, formalized study and tracking program that looks at a number of factors including, but not limited to, both long- and short-term health outcomes, exposed and unexposed persons, the potential effects of stress, and outreach methods on illness complaints would be needed to begin to properly address the question of causality.

Many of these recommendations have been implemented or are under development. The remainder will involve the coordination among the three agencies.

If you have further questions, please do not hesitate to contact us.

Sincerely,

*original signed by*

Mary-Ann Warmerdam, Director  
Department of Pesticide Regulation  
(916) 445-4000

*original signed by*

Joan Denton, Director  
Office of Environmental  
Health Hazard Assessment  
(916) 322-6325

Attachment

cc: Mr. Allan Hirsch, OEHHA Chief Deputy Director (w/Attachment)  
Mr. Chris Reardon, DPR Legislative Director (w/Attachment)