

D. Benefits Assessment

Naled is one of the principal OP insecticides used for adult mosquito control in the United States. It is effective against almost all species of *Aedes*, *Anopheles*, *Coquillettidia*, *Culex*, *Culiseta*, *Mansonia*, and *Psorophora*, which comprise the major nuisance and vector mosquito species in the U.S. and elsewhere in the world. In the U.S., naled is an essential pesticide for suppression of the mosquito born encephalitis viruses. It is also used in the U.S. and internationally for mosquito control in emergencies following hurricanes and floods, and in refugee camps for control of mosquito vectors of malaria and dengue and nuisance mosquitos and flies. A new pest, the Asian tiger mosquito, may be a vector for dengue and other diseases. Also a new disease in the U.S., the West Nile Virus, is vectored by mosquito species. Naled is also sold and used in public health vector control programs in Costa Rica, Guatemala, Taiwan, Thailand, and the United Arab Emirates.

Naled has the advantages of being fast acting, dissipates and degrades very rapidly, and is effective in controlling mosquitoes where resistance to other OPs and synthetic pyrethroids occurs. Mosquitos in some areas have shown resistance to malathion, fenthion, and chlorpyrifos. When such resistance occurs, naled and other chemicals are an effective alternative. The disadvantage of naled is that it is corrosive to application equipment, which limits its use to aerial ultra low volume (ULV) applications with specialized corrosion resistant equipment. Naled can be irritating to humans, either from inhalation of the droplet mist at close range from the output of ground ULV equipment or from eye exposure to ULV droplets. The probability of this irritation occurring is reduced when the application output point is elevated or by mechanical introduction of air by turbine or fan to dilute the ULV output. Thus, aerial application of naled diminishes the irritability caused by this material. Local mosquito control districts tailor ground and aerial spraying to the locality to be sprayed based on documented resistance and the other factor noted above. Considering that mosquito vectored diseases are prevalent and increasing throughout the tropics and subtropics, and that parts of the U.S. are subtropical (i.e. Florida), there is a probability that large outbreaks of these diseases could occur in the absence of adequate mosquito control. Naled has been described by the CDC (Center for Disease Control) as one of the principal pesticides used for adult mosquito control in the U.S. The Agency concludes that the current uses of naled in controlling mosquitos have a significant health benefit.