

***1. SFIREG urges EPA to clarify for registrants, applicators, the public, and SLAs whether the mosquito adulticide product registration risk assessments included nontarget risks from drift exposures.***

**EPA Response:** In general, EPA requires a spray drift exposure assessment for active ingredients used to control adult mosquitos when used in wide-area applications via aerial methods or vehicle-mounted spray equipment. Mosquito control products applied via other means such as handheld misters, blowers or sprayers, automatic misting systems and smoke repellants are not specifically assessed for spray drift exposure during registration or registration review. However, for these types of residential applications, residential post-application assessments are performed to evaluate risks to people from contact with residues following application. As a result, EPA considers the residential post-application assessments to be protective of any potential incidental oral, dermal or inhalation exposure from any potential spray drift in residential settings, including drift to non-target areas.

Most active ingredients used to control adult mosquitoes are also registered as agricultural insecticides to control crop pests. When these active ingredients are applied agriculturally via methods that are expected to produce appreciable spray drift (i.e., liquid aerial application, ground boom, airblast), they undergo a spray drift exposure analysis to assess risks to bystanders and to non-target taxa resulting from movement off-field. When those same active ingredients are used for residential mosquito control, agricultural drift models are generally not appropriate analytical tools. Agricultural drift models assume that pesticides are applied to an unobstructed flat field with a single wind direction, conditions which are unlike that of most suburban and urban settings.

However, publicly sponsored wide-area public health applications using truck or aircraft-borne ultra-low volume (ULV) applications of mosquito adulticides are assessed for residential risk to bystanders in a manner similar to that of agricultural drift assessments. In order to evaluate the drift potential and associated risks to residential bystanders, an approach based on off-field agricultural drift modeling coupled with techniques used to evaluate residential uses of pesticides is utilized. Essentially, a residential turf assessment based on exposure to residues expected to be deposited on turf at various drift distances is done to assess risk to residential bystanders from spray drift. It is assumed that residential bystanders are exposed indirectly through contact with impacted areas, such as residential lawns, when compliant applications are conducted. During registration review, the assessments for these pesticides will either have found bystander risks resulting from drift to be below the Agency's levels of concern or have resulted in mitigation on labels necessary to reduce risk to bystanders and non-target

organisms in order to meet the FIFRA standard. For ecological risk, drift from aerial residential wide-area mosquito control applications using ULV droplets is assessed similarly to aerial agricultural applications with the understanding that ULV adulticide application rates are usually a very small fraction of the rate of coarser droplet applications used to control other insects in agriculture.

When insecticides are used to control adult mosquitos in other residential scenarios, including treatments in and around yards, school grounds and parks via handheld application equipment or automatic misting systems, existing spray drift models are not applicable and a spray drift assessment is not performed as a means of assessing residential exposure. Rather, assessments may employ either chemical-specific exposure data, if available, or use scenario-specific data for occupational and/or residential handler risks during applications and for post-application exposure which includes inhalation from suspended aerosols, dermal, and incidental oral exposure from foliar residues on turf. Active ingredients in consumer products available to residential handlers, including those that may be used with power mist blowers, are assessed for post application risk from turf residues and for exposure to the handler at the application site. Generally when these residential handler and post-application risk estimates, which consider the maximum expected residue exposure at the site where the pesticide is applied, are not of concern for children and adults, then EPA considers them to be protective of any potential risks resulting from off-site drift that may occur during residential applications. This rationale is applicable to both privately contracted or homeowner-performed applications to individual properties using foggers, misters, sprayers, power misters or other handheld equipment.

EPA's ecological risk assessments consider spray drift from handheld residential products qualitatively. For handheld and backpack equipment, spray drift cannot be quantified and is assumed to be negligible. For outdoor residential uses, risks to non-target organisms are assessed using on-site exposure models for applicable turf, ornamental, landscaping, and structural pest control uses.

***2. If risk assessments were performed to account for drift exposures, SFIREG urges EPA to clarify specifically whether the drift exposure models included evaluation of drift resulting from application with the power mist blowers currently being used by most of the commercial applicators making adulticide applications to residential properties.***

**EPA Response:** Although EPA uses drift exposure models to evaluate off-site drift potential and risk resulting from applications using aerial, groundboom and airblast methods, drift assessments of mist blower applications for residential use are not conducted, as there is

currently no accepted spray drift assessment model for that type of equipment used in a residential setting. Outside of publicly-sponsored wide-area mosquito control applications performed with aircraft or vehicle mounted spray equipment, spray drift assessments are not conducted for any residential applications. EPA performs quantitative residential and occupational application and post-application assessments encompassing inhalation, dermal, and incidental oral pathways to ensure that residential exposure to pesticides and residues do not pose unreasonable risks during and following applications of residential adult mosquito control products.

As mentioned previously, active ingredients used in consumer products available to residential handlers, including those that may be used with power mist blowers, are assessed for post application risk from turf residues and for exposure to the handler at the application site. The approach used for risk assessment assumes that applications will not result in direct exposures to individuals, since such contact would constitute a misuse, and many labels for residential adult mosquito control products include a general use restriction such as “Do not apply this product in a way that will contact any person or pet either directly or through drift.”

Residential handler and post-application risks are mitigated via labeling restrictions when identified. If these residential handler and post-application risk estimates, which consider the maximum expected residue exposure at the site where the pesticide is applied, are not of concern for children and adults, then EPA considers them to be protective of any potential risks resulting from off-site drift that may occur during residential applications.

***3. If the referenced risk assessments and/or drift evaluations for this application methodology have not been adequately addressed to date through the EPA registration process, SFIREG urges EPA to identify a plan for addressing these issues in future registration actions.***

**EPA Response:** EPA considers the current occupational and residential exposure evaluation methodologies to be protective of all applicable exposure scenarios for occupational and residential users on sites where pesticides are applied as well as sites where post-application residues may be present, including potential exposure to drift following mist blower applications. Based on EPA’s current risk assessment framework, if post application risks to residential handlers are not of concern, then spray drift risks are also not of concern.

***4. If EPA believes the referenced risk assessments and/or drift evaluations for this application methodology and these products have been adequately addressed to date, SFIREG urges EPA to develop a statement to address the issues raised in this issue paper and to provide***

***reassurances or guidance about the safe and legal use of these products and application methodologies.***

**EPA Response:** EPA invites SFIREG to review and provide feedback to the responses contained in this document, and if additional discussions or statements are needed, to raise any broader issues of concern regarding the safety and proper use of mosquito control products formally through committee for consideration and for prioritization by EPA. EPA has published public information regarding residential mosquito control at <https://www.epa.gov/mosquitocontrol>. SFIREG is urged to continue conversations with EPA after reviewing the responses to the issues raised in this document for the Agency to determine if further outreach is necessary.

***5. If EPA is concerned about associated risks to pollinators from non-public health control directed applications to private property, SFIREG urges EPA to consider label restrictions to address the application methodologies and timing that may contribute most to pollinator exposures.***

**EPA Response:** EPA limits exposure of pollinators to pesticides through a combination of both label advisory statements and compulsory restrictions. In general, EPA has required label restrictions limiting pollinator exposure for products used on agricultural row crops particularly on those that are considered pollinator-attractive and require managed pollination services. For example, EPA's pyrethroid and pyrethrins registration review document "*Revised Ecological Risk Mitigation and Response to Comments on the Ecological Risk Mitigation Proposal For 23 Chemicals*" clarifies that pollinator protection statements on labels focus on pyrethroids products with liquid foliar agricultural applications. EPA considers labeling to protect pollinators on a case-by-case basis, depending on the registered use sites (and potential attractiveness to pollinators) and the risk assessment conclusions. Generally, residential sites are considered less attractive to pollinators than blooming crops on agricultural fields where large numbers of colonies may be placed in close proximity to treated areas. In addition, residential applications are more targeted and applied using handheld or backpack equipment with lower drift potential than agricultural broadcast methods such as aerial or ground boom spray. Some products designed for residential homeowner use may include an environmental hazard statement such as "*This product is highly toxic to bees exposed to direct treatment or residues on blooming plants. Do not apply this product or allow it to drift to blooming plants if bees are visiting the treatment area.*" With respect to residential uses of products, EPA makes conservative assumptions regarding potential exposure and resulting risk estimates, which are weighed against the benefits of the use to determine what label measures are necessary to mitigate any risks of concern. EPA can reconsider the need for additional labeling for residential uses if new information indicates our current approach is not adequate. EPA has encouraged

local stakeholder engagement in the development of pollinator protection plans (P3) that are intended to complement label language to reduce exposure of pollinators to pesticides. The absence of label language should not be construed though as a lack of concern for any taxa as EPA employs a diverse set of methodologies in its mandate to protect and enhance human health and the environment.