



Fact Sheet on the Use of Chlorpyrifos in Mosquito Control Programs

April 2001

Chlorpyrifos is an organophosphate insecticide that has been registered for use in Canada since 1970. Chlorpyrifos is registered for use in public health programs to control mosquitos at the larval and adult stages. Products that contain chlorpyrifos are approved for agricultural uses and in certain commercial sites.

A re-evaluation of chlorpyrifos was recently carried out by Health Canada's Pest Management Regulatory Agency (PMRA). The re-evaluation resulted in a phase-out of the use of this insecticide in and around homes, and in residential areas such as parks and school yards. The risk assessment of chlorpyrifos determined that its use for the control of mosquitos remains acceptable, provided strict limitations are imposed.

The objective of the PMRA's re-evaluation program is to examine older pesticides using a modern scientific approach to ensure the ongoing protection of human health and the environment.

Considerations for the Public Health Use of Chlorpyrifos

The registered uses of chlorpyrifos for the purpose of controlling the immature larval form of the mosquito (larviciding) include products which can be applied by ground equipment or sprayed aerially. However, these uses will be limited to:

- temporary pools in outlying areas of municipalities; and,
- situations where the principles of integrated pest management are incorporated into the mosquito control program, e.g., larval population surveys should be carried out before treatment.

Limiting the larviciding use of chlorpyrifos to temporary pools, as opposed to permanent bodies of

water such as lakes, dugouts or fish ponds, will lessen the possibility that non-target aquatic organisms, which are very sensitive to chlorpyrifos, will be affected. Limiting the larviciding use of chlorpyrifos to outlying areas will also lessen the potential for bystander exposure.

The registered use of chlorpyrifos for the purpose of controlling the adult mosquitos (adulticiding) is limited to application by ground equipment, i.e., it cannot be sprayed aerially. Adulticiding with chlorpyrifos should only be carried out to address a public health emergency such as an occurrence of West Nile Virus. In such a case, it can only be used after consultation with federal, provincial and territorial regulatory authorities.

It is important to note that all mosquito control programs are carried out under the authority of provincial and territorial governments.

Are There Health Concerns Related to the Use of Chlorpyrifos for Mosquito Control?

The recent risk assessment of chlorpyrifos determined that its use against mosquitos at the larval and adult life stages will not result in adverse health effects if label directions are carefully followed.

The PMRA's risk assessments incorporate the high standards and rigorous risk assessment approaches used by the United States Environmental Protection Agency in accordance with the *Food Quality Protection Act* (FQPA). The FQPA requires special consideration of risks to sensitive sub-populations such as infants and children.

Does Spraying Chlorpyrifos Have an Effect on the Environment?

The PMRA's risk assessment of the use of chlorpyrifos against mosquitos at the larval and adult life stages determined that it would not result in irreversible adverse environmental effects when used in accordance to label directions.

Although it has been determined that chlorpyrifos is highly toxic to fish and crustaceans, carefully following label instructions, ie., using only in temporary pools where there are no populations of fish will minimize adverse effects.

Role of the PMRA

Health Canada's PMRA is responsible for assessing the human health and environmental safety of all pest control products prior to their approval for use in Canada. Manufacturers must provide the Agency with a full analysis of the product formulation, as well as extensive health and environmental data, so that a risk assessment can be carried out by PMRA scientists. Only products that are scientifically reviewed and found to be effective and safe for use with minimal risk to human health and the environment are registered by the PMRA.

Contact Information for PMRA

Information on pesticide regulation can be obtained from the PMRA's website at www.hc-sc.gc.ca/pmra-arla/ or by contacting the Pest Management Information Service.

Other Sources of Information

For information about the West Nile Virus, please see Health Canada's Population and Public Health Branch site for West Nile Virus information at <http://nile.healthcanada.net>.

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