

QUESTIONS & ANSWERS ABOUT MALATHION

What products would be used for adulticiding? How would it be used?

- If adulticiding is required to reduce the risk of WNV, the product that would be used is malathion.
- Malathion is dispersed into the air from an Ultra Low Volume (ULV) Sprayer attached to the back of a truck.
- Only a small amount of malathion is used at any particular time, approximately 60.8 grams/hectare.

What is malathion?

- Malathion is a man-made organophosphate insecticide that is commonly used to control mosquitoes and a variety of other insects that attack fruits, vegetables, landscaping plants, and shrubs.
- It can also be found in other pesticide products used indoors and on pets to control ticks and fleas.

Is malathion safe to use?

- Both Health Canada's Pest Management Regulatory Association (PMRA) and the U.S. Environmental Protection Agency have licensed malathion for use as a mosquito adulticide in urban settings.
- If malathion is used to control adult mosquitoes, the product will be applied in accordance with guidelines set by the Province of Manitoba.
- The human body has the ability to break down malathion very quickly while insects do not.
- In the small amounts used (approximately 60.8 grams/hectare), the risk to people and pets is low. However, some people may be more sensitive to such pesticides and may want to reduce their chance of exposure.
- Persons directly exposed to these pesticides may experience short-term eye or throat irritation or rash.
- There could be an odour associated with malathion, but it will pass in a few hours.
- Repeated skin contact with malathion has been associated with skin rash in some individuals exposed to malathion in corn syrup bait.

If I have asthma or another respiratory condition, should I be concerned?

- Exposure to malathion can exacerbate the condition of anyone with asthma and respiratory conditions.
- Extra precautions should be taken to avoid exposure.

Are my children safe?

- Yes, children are safe but they may be more susceptible to effects from malathion due to their smaller size.
- There have been a number of studies that have shown some correlation between various health effects from malathion in children. However, these studies normally involve high exposure levels or long-term exposure.

I am pregnant. Am I safe?

- As with chemical exposures in general, pregnant women should take care to avoid exposures when practical.
- Studies conducted in California following a spraying program with corn syrup bait containing malathion to control Mediterranean fruit flies showed no connection between malathion spraying and extra risk of miscarriage or birth defects.
- Although adverse developmental effects occurred in offspring of laboratory animals when they were given high amounts of malathion during pregnancy, these amounts far exceeded the amounts that individuals are likely to contact from the spraying of malathion to reduce the risk of WNV.
- If you have specific health-related concerns, please contact your physician.

How do I find out when and where malathion will be applied?

- If the decision is made to adulticide, the adulticiding will only occur on an as needed basis to reduce the risk of WNV, and only in areas with high WNV activity.
- Adulticiding is the last stage of a comprehensive plan that includes public education, reducing breeding sites, and larviciding.
- The Health Department will use a number of methods to ensure you know where and when adulticide treatment will take place. These will include but are not limited to:
 - Advertisements in local newspapers
 - Posting information on our website
 - Direct distribution of flyers in affected areas
 - Media releases

Can I choose not to have malathion applied in my neighbourhood?

- No. The Health Department will only consider using adulticide in affected areas if the risk of WNV appears to be increasing despite ongoing efforts, and if it is felt that adulticiding will be effective.
- You will be notified at least 48 hours in advance of the adulticide being applied in your area.

What are the symptoms of overexposure to malathion?

- Both Health Canada's Pest Management Regulatory Association (PMRA) and the U.S. Environmental Protection Agency have licensed malathion for use as a mosquito adulticide in urban settings.
- The likelihood of experiencing adverse health effects from exposure to any pesticide, including malathion, depends primarily on the amount of pesticide that a person contacts and the amount of time the person is in contact with that pesticide.
- Short-term exposures to high levels of malathion can affect the nervous system causing a variety of symptoms, including headaches, nausea, dizziness, weakness, cramps, diarrhea, excessive sweating, blurred vision and increased heart rate.
- Repeated skin contact with malathion has been associated with skin rash (allergic reaction) in some individuals exposed to malathion in corn syrup bait.

Anyone experiencing persistent or significant adverse reactions to pesticides should see their doctor.

Does malathion cause cancer?

- Malathion is unlikely to cause cancer in humans as a result of its use to reduce the risk of WNV by controlling mosquitoes.
- Experimental studies reported increased numbers of liver tumors and a very small increase in the number of tumors in the nose or mouth in laboratory animals fed diets containing very high levels of malathion for their lifetimes.
- The amount of malathion ingested by animals in these studies, however, far exceeds the amount humans might be exposed to as a result of the use of malathion to control mosquitoes.

Does malathion pose risks to the environment?

- Malathion is highly toxic to all insects, including beneficial insects such as honeybees.
- Malathion degrades rapidly in the environment, especially in moist soil, and it has very low toxicity to birds and mammals.

Should I be concerned about coming into contact with pesticides on surfaces after spraying (e.g. outdoor furniture, soil, grass, bushes)?

- Some pesticide residues may be present on outdoor surfaces after spraying. Limited studies on other chemicals suggest the amount of pesticide transferred to skin:
 - Decreases with more time after spraying (and very little transfers 24 hours after spraying);
 - Is less on dry skin compared to wet skin; and
 - Is less from porous surfaces compared to non-porous ones
- Pesticides are degraded from surfaces more rapidly when exposed to sunlight and water.
- Although not necessary under most circumstances, if spraying has just occurred and surface contact is high (e.g. playing field sports), then exposure can be minimized by wearing long pants and sleeves and washing exposed skin.
- Normally, most people would not be expected to experience any symptoms from contact with outdoor surfaces after spraying.
- However, if you want to take extra steps with babies, place your infant on a blanket instead of grass if spraying has just occurred. Additionally, some small toys, such as those that babies may place in their mouths, could be taken inside before spraying.

Can pets go outside during the spraying?

- If possible, keep your pet inside during the spraying and for about 30 minutes afterwards to help minimize exposure.

What can I do to reduce exposure to malathion?

As with any pesticide, steps can be taken to help reduce possible exposures to malathion before, during or after spraying.

Before spraying occurs:

- Central air conditioning units may remain on. Window air conditioning units may also remain on, but set the vents to “closed” or choose the “re-circulate” option. If you have an older window air conditioning unit that does not have these options, the air conditioner should be turned off to reduce the possibility of exposure to malathion.
- Remove children’s toys, outdoor equipment and clothes from outdoors.

- Pick home grown fruits and vegetables you expect to eat soon before spraying takes place. Rinse home grown fruits and vegetables (in fact, all produce) thoroughly with water before cooking or eating.
- Cover outdoor tables and play equipment before spraying or wash them off with detergent and water after they have been sprayed.
- Bring pet food and water dishes inside, and cover ornamental fishponds to avoid direct exposure.

During spraying:

- Stay indoors and keep your windows closed for at least 30 minutes after the spraying takes place. This is especially important for children and pregnant women, and for those with asthma or other respiratory conditions.
- Keep pets indoors.
- If you come in direct contact with malathion spray, protect your eyes.
- If you get malathion spray in your eyes, immediately rinse them with water.
- Wash exposed skin.
- Wash clothes that come in direct contact with spray separately from other laundry.

After spraying:

- Minimize your contact with surfaces and wash skin that has come in contact with surfaces.
- Take extra precautions with infants and small children when outdoors by placing children on a blanket instead of the grass.
- If children's toys or other items remained outside at the time malathion was applied, wash all items with soap and water before using them again.
- If you have a vegetable garden, wash vegetables with water before eating them.

Consult your health care provider if you think you are experiencing health effects from spraying.