

Insect repellents and DEET

What is insect repellent?

Insect repellent is a spray or liquid used to keep biting insects like mosquitoes and ticks away from your skin and clothing. Repellents work by discouraging insects from landing on and biting your skin. Insect repellent should be used when you are outdoors to protect against insect bites. Insect bites are often itchy or irritating, and can also cause serious illnesses, such as West Nile virus.

What is West Nile virus?

West Nile Virus (WNV) is a type of virus usually spread by mosquitoes. Mosquitoes can become carriers of the virus after biting infected birds with the virus. People, horses, and other animals can become infected if they are bitten by a mosquito carrying the virus.

For more information on WNV, visit [HealthLinkBC File #88 West Nile virus](#).

What is DEET?

DEET is the common name for N, N-diethyl-m-toluamide. DEET is the active ingredient in the most effective and widely used insect repellents. Different repellents have different amounts of DEET. Products with higher concentrations of DEET are not more effective, but last longer.

The most effective insect repellents for mosquito bites contain DEET. DEET repels mosquitoes for a longer time than it does ticks. To get protection against ticks, look for a product specifically designed for use against them.

For more information on tick bites, visit [HealthLinkBC File #01 Tick bites and disease](#).

Is DEET safe?

Yes, products containing DEET are very safe when used according to the directions on the label. All active ingredients in insect repellents are reviewed

by Health Canada's Pest Management Regulatory Agency before they can be sold in Canada. There is no evidence that DEET poses a risk to pregnant or breastfeeding mothers, or their children. However, pregnant, or breastfeeding women may wish to consider non-chemical methods as a first line of defense.

What are the age restrictions when using repellents with DEET?

Guidelines for using repellents with DEET

- **Infants less than 6 months of age.** Do not use any repellents that contain DEET. Infants should be protected with mosquito netting tucked over baby carriers.
- **Children 6 months to 2 years of age.** When children 6 months to 2 years of age live or travel in an area at high risk of complications from mosquito-borne illnesses, one application per day of insect repellent containing DEET may be considered. Talk with your healthcare provider about using DEET in this age group if you are in or going to an area with active WNV. Use an insect repellent with 10% or less DEET. The repellent should be applied sparingly and not be applied to the face and hands. Do not use a DEET product on a daily basis for more than a month.
- **Children 2 to 12 years of age.** Use an insect repellent with 10% or less DEET. Do not apply more than three times per day. Do not apply to the face and hands. Do not use a DEET product on a daily basis for more than a month.
- **Adults and children older than 12 years.** Use an insect repellent containing 30% or less DEET.

How long will repellents with DEET provide protection?

If you plan to be outdoors for a short period of time, always choose a product with a lower concentration of DEET. For example:

Concentration of DEET	Protection time
30%	6 hours
15%	5 hours
10%	3 hours
5%	2 hours

Protection times may be reduced if you are sweating, getting wet, or if the repellent is rubbed off your skin.

How can I properly use insect repellents?

Tips for proper use of insect repellents:

- Only use repellents that have a Health Canada Pest Control Product (PCP) registration number on their label and that indicate that they are for use on humans. Never use a product labelled as an insecticide on your body
- Choose a repellent that provides protection for the amount of time that you will be outdoors
- Always read the entire label carefully before use. Follow all instructions on the label, including proper use for young children
- Adults should apply the repellent to children. Do not allow children to apply it themselves
- Avoid applying repellent to children's hands to reduce the chance of getting the repellent in their eyes and mouths
- Apply the repellent only on exposed skin or on top of clothing. Do not use it under clothing
- Do not use aerosol or pump sprays directly on the face. Spray your hands and then rub the product over the face. Try to avoid getting it around your mouth or in your eyes. If you do get repellent in your eyes, flush well with water
- Do not use the repellent on open wounds, cuts, or if your skin is irritated or sunburned
- Avoid breathing in spray mists and never apply sprays inside a tent. Use only in open, well-ventilated areas
- Do not use sprays or aerosol products near food
- Products that combine sunscreen and repellent are not recommended. When using sunscreen, apply the repellent 15 to 30 minutes after the sunscreen

- Wash treated skin with soap and water when you return indoors or when protection is no longer needed. Washing the repellent from the skin surface is important when a repellent is likely to be applied for several days in a row. If clothing is treated, it should be washed before being worn again
- If you suspect a reaction to the insect repellent, stop using it and wash the treated skin. Call the poison control center: in Greater Vancouver, call 604-682-5050; in B.C., call 1-800-567-8911

Are there insect repellents that do not contain DEET?

There are effective insect repellents registered in Canada that contain active ingredients other than DEET. Instructions for proper use are listed on each product label.

Non-DEET products include repellents with p-menthane-3, 8-diol (PMD), also known as lemon eucalyptus oil. This product provides up to 2 hours of protection against mosquitos and up to 5 hours against blackflies. These products should not be used on children younger than 3 years old should not be applied more than twice a day.

Other non-DEET products that contain soybean oil or picaridin are also effective mosquito repellants. However, these are not widely available in Canada.

For more information

For more information visit the following websites:

- Government of Canada: Personal Insect Repellents www.canada.ca/en/health-canada/services/about-pesticides/insect-repellents.html
- Health Canada: Pesticides and pest management <https://www.canada.ca/en/health-canada/services/consumer-product-safety/pesticides-pest-management.html>



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