



Bug Repellent Fact Sheet

Biting insects and bugs can be more than a nuisance; they can transmit many different diseases, trigger allergies, and cause a host of other medical issues. Black flies, mosquitoes, and ticks are of particular concern in the Upper Peninsula. Depending on the time of year, humidity levels, and temperatures, these insects can swarm certain areas and become a huge problem. To combat these bugs, people often use repellents when enjoying outdoor activities. DEET containing repellents have been the go-to product for several years, but several different kinds of effective repellants exist in the market today, and each has their own advantages and disadvantages.

DEET- This is the most commonly available and longest used repellent this list. DEET repels most biting bugs. It comes in a variety of forms, including sprays, lotions, wipes, and a wide variety of other devices. Products can contain 4-100% DEET, with higher concentrations of DEET providing longer protection. Recently, DEET has become a controversial health topic, but the EPA still lists DEET as a safe repellent when properly used.



Pros

- Can be applied to skin and clothes
- Widely available and affordable
- Useful against mosquitoes, ticks, and black flies

Cons

- Needs to be reapplied constantly
- Has a chemical odor
- May feel greasy in high concentrations
- Slowly destroys plastics and similar materials

Picaridin- This repellent has become recently available in the U.S., but has been internationally used since the 1980s. Picaridin mimics a chemical found naturally in black pepper and works by disrupting a bug's sense of smell. This chemical works well against most bugs, but certain types of mosquitoes may be unaffected by it. Picaridin is much less irritating than DEET and is virtually non-toxic if used properly. Picaridin provides an effective repellent



Pros

- No chemical odor or feel
- Provides comparable protection to DEET
- Less irritating on skin

Cons

- Costs slightly more than DEET
- Slightly harder to find

Lemon Eucalyptus- Oil from the Lemon Eucalyptus plant has been accepted by the CDC as an active ingredient in mosquito repellents. The CDC advises against the use of pure Lemon Eucalyptus extract as an insect repellent, as its effectiveness hasn't been reliably tested by the CDC. It is as effective as low concentrations of DEET for short periods of time. While the oils from the plant are natural, most of what is found in commercial products is made in a lab.



Pros

- Pleasant odor
- Non-irritating

Cons

- Less effective than other repellents
- Lasts only a short time





Permethrin-Permethrin is different from the previous repellents as it is actually an insecticide and not a repellent. Permethrin has a wide variety of uses. It is a main component in lice shampoo, has been used to control insects on certain crops, and can be used to make bug resistant clothing. The chemical can be applied to clothing, mosquito nets, and other cloth materials easily. It binds to fibers in cloth and provides continuous protection against mosquitoes and ticks. Treated items can be washed several times before the chemical loses its effectiveness. Permethrin is very effective at mosquito and tick control, but can be expensive and hard to find. It also cannot be applied directly to the skin as the other repellents can, so wear another repellent on exposed skin to provide the highest level of protection.

Pros

- Kills biting bugs
- Long lasting
- Dries odorless and colorless on clothes
- Non-irritating

Cons

- Expensive
- Hard to find
- Can't be applied directly to skin
- Toxic to certain animals

All repellents and insecticides should be used properly to avoid any unintentional health risks The EPA recommends the following steps to safely use repellents:

- Apply repellents only to exposed skin and/or clothing (as directed on the product label.) Do not use repellents under clothing.
- Never use repellents over cuts, wounds or irritated skin.
- Do not apply to eyes or mouth, and apply sparingly around ears. When using sprays, do not spray directly on face—spray on hands first and then apply to face.
- Do not allow children to handle the product. When using on children, apply to your own hands first and then put it on the child. You may not want to apply to children's hands.
- Use just enough repellent to cover exposed skin and/or clothing. Heavy application and saturation are generally unnecessary for effectiveness. If biting insects do not respond to a thin film of repellent, then apply a bit more.
- After returning indoors, wash treated skin with soap and water or bathe. This is particularly important when repellents are used repeatedly in a day or on consecutive days. Also, wash treated clothing before wearing it again. (This precaution may vary with different repellents—check the product label.)
- If you or your child gets a rash or other bad reaction from an insect repellent, stop using the repellent, wash the repellent off with mild soap and water, and call a local poison control center for further guidance. If you go to a doctor because of the repellent, take the repellent with you to show the doctor.

The Western U.P. Health Department provides public health services to residents in Houghton, Keweenaw, Baraga, Ontonagon, and Gogebic counties. Western U.P Health Department has offices in Hancock, L'Anse, Ontonagon and Bessemer.

