

Basic Facts About Repellents



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- ▶ There are five active ingredients registered by the Environmental Protection Agency for use in repellent products: DEET, picaridin, oil of lemon eucalyptus, IR3535 and catnip oil. All of these are effective against mosquitoes at equivalent concentrations. The EPA registration on each product label appears near the bar code. (See illustration above.) Registration occurs only after the EPA determines that the active ingredient in the repellent product meets standards for effectiveness and is unlikely to affect human health or the environment when the product is used according to label directions.
- ▶ Generally, the higher the concentration of active ingredient in the product, the longer the protection time. So, more is not 'better', it's 'longer'. A 10% DEET-based product helps to protect from mosquito bites for about 90 minutes. A 30% product may work for up to eight hours, depending on a variety of factors, including how heavily the user is perspiring. Keep in mind, however, that protection times may be shorter for repelling ticks than for mosquitoes.
- ▶ The American Academy of Pediatrics issued guidance in 2003 on the use of DEET-based repellents, noting that children as young as two months of age can use repellents with up to a 30% concentration. This should help to reassure parents that their youngsters can use these products with confidence. The minimum age recommendations are the same for picaridin and IR3535. Children must be at least three years old to use oil of lemon eucalyptus products.
- ▶ Repellents are for use on exposed skin and, in the case of ticks, on clothing. They are not intended for use on screens or other environmental surfaces. They should not be sprayed on the insects or ticks (won't kill them!), and should be reapplied only when the bugs start biting again.
- ▶ Applying repellents by spraying the air AROUND your body will not work. Products should be applied directly to the skin, then smoothed on to get even coverage just as you would apply a sunscreen or body lotion. (A mosquito can find a spot the size of a dime that is not protected and will bite there.) Many people spray repellent on their hands and then smooth

it on exposed skin on arms, legs, neck, etc. This is the recommended method for applying to very young children.

- ▶ Children should not apply repellent to themselves or others until they are able to read, understand and follow label directions. Repellent can be reapplied if needed.
- ▶ Clip-on repellent products work **ONLY** when the air is still and the wearer is not moving. The active ingredient is an insecticide. Citronella candles and similar devices, according to the leading experts, do not work.
- ▶ When using repellent at the same time you need to apply a sunscreen, apply the sunscreen first. Allow it to fully absorb into the skin, then apply repellent. Reapply sunscreen often. Reapply repellent only when bugs start biting again.
- ▶ The most commonly-reported adverse event associated with DEET-based repellents is stinging when the product gets into the eyes. Most formulations contain alcohol and DEET itself can be an eye-irritant. If this happens, rinse eyes with fresh water and the problem is resolved quickly.
- ▶ Repellents are not needed *under* clothing unless mosquitoes are able to bite through the fabrics. For protection from ticks, spray repellent lightly on shoes, socks and pant legs...and of course on all exposed skin.

More information

For more information on repellents and the various vector-borne diseases that you may encounter, call 888-NO-BITES or visit the website for the DEET Education Program, www.deetonline.org. Look here, too, for proper application information.

The Centers for Disease Control and Prevention, www.cdc.gov/ticks or www.cdc.gov/westnile has information on ticks and mosquitoes and the diseases they convey to humans. See also <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Zika.aspx>

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