

Choosing the right insect repellent

National Park Service
U.S. Department of the Interior

Office of Public Health and Wildlife Health Branch



Insect repellents are one of the most effective ways to prevent mosquito- or tick-borne diseases.

The table below lists the CDC recommended and EPA-approved repellents that work against both ticks and mosquitoes. Be sure and read the label of any product you select for instructions on its usage. Look for the EPA label shown to the right for guidance on appropriate use and duration of effectiveness. The label will tell you if the product is effective against ticks and/or mosquitoes, and how long the product should be effective for each species. If a product does not have the label to the right, it has not been tested for efficacy for public health purposes. If a repellent stops becoming effective, you can reapply the product, choose a different product, or leave the area. All repellents should be washed from the skin before sleeping for the night.



Repellent	Source	Concentration	Contraindications
DEET (N, N-diethyl-m-toluamide)*	Synthetic compound	30%*	Do not use on infants under 2 months old. Do not use concentrations over 30% on children.
IR3535 (3-[N-butyl-N-acetyl]-aminopropionic acid)	Synthesized plant oil	20%	
Picaridin (KBR 3023)	Synthetic compound	5-10% for ≤ 2 hours; 20% for 8-14 hours	
Oil of Lemon Eucalyptus [p-menthane 3, 8-diol (PMD)]	Synthesized plant oil	10% for ≤ 2 hours; 30-40% for longer	Do not use on children under 3 years old.
Permethrin	Synthetic compound	0.5%	Not effective on skin ; intended for use on clothing, shoes, bed nets, etc. only.

* DEET concentrations above 30% do not significantly increase the level of protection, but will last longer and may increase the risk of adverse side effects.

For more information: www.cdc.gov/ ; <http://www.epa.gov/insect-repellents>

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