

Repel Biting Bugs Safely

- Always follow label instructions
- Apply repellents only to exposed skin and/or clothing.
- Do not apply repellents over cuts, wounds, or irritated skin.
- Do not spray repellent directly on your face—spray on your hands and then apply to face.
- Children should not handle repellents. Apply repellent to your hands first, and then apply to the child. Do not apply to children’s hands.
- Apply sunscreen FIRST, then apply insect repellent - avoid combo products.
- Do not spray aerosol or pump products in enclosed areas.
- After using repellents, wash treated clothing before wearing it again.
- If you or your child suffers an adverse reaction following repellent use, discontinue use, wash affected areas, and contact your physician or a local poison control center.

Match the Right Repellent to your Activity



Oil of Lemon Eucalyptus

- Sitting at the park
- Light yard work
- Light walking



PICARIDIN, DEET, IR3535®

- Heavy yard work
- Barbecues
- Late night outdoor activity
- Outdoor afternoon festival



DEET, IR3535®

- Extended Hikes
- Overnight Camping



Some formulations of DEET

- Waterplay

The 3Ds of PROTECTION

1. DRAIN
standing water around your home or apartment

2. DEFEND
using an EPA-approved insect repellent

3. DRESS
in long sleeves and pants and spray repellent on your clothes



Choosing the right repellent



GET THE BITES OUT OF THE

Williamson County and Cities Health District
Integrated Vector Management
355 Texas Avenue, Round Rock, TX 78664
www.wcchd.org

DEET



Developed by the U.S. Army in 1946 to protect soldiers in insect-infested areas. DEET is the most effective and best-studied repellent available.

Colorless to amber-color liquid with a faint odor. DEET-based products are available in aerosol, pump sprays, and wipes.

Repellents containing DEET are available in various concentrations- higher percentages of active ingredients provide longer protection.



Picaridin

Picaridin is a synthetic compound that provides effective protection similar to DEET.

It was made to resemble piperine, a natural compound found in the group of plants that are used to produce black pepper. It is colorless, nearly odorless, and is available in multiple forms.

It has been widely used in Europe and Australia and became available in the U.S. in 2005.



Oil of Lemon Eucalyptus

Oil of Lemon Eucalyptus should not be used in children under 3 years of age.

Oil of Lemon Eucalyptus is a plant-based repellent. The oil comes from the Eucalyptus citidora tree.

Repellents containing the oil provide similar protection to low-level concentrations of DEET.

The repellent has a strong botanical smell. Products are available in aerosol, pump sprays, and lotions.



IR3535®

IR3535®, also called Merck 3535, is registered with the EPA as a biopesticide, but has been used as a synthetic repellent in Europe for 20+ years with no significant harmful effects.

IR3535® was approved for use in the U.S. in 1999, and is currently available in aerosol, pump sprays and wipes.

While EPA recognizes the use of IR3535® as safe for adults and children, be advised that it is an eye irritant.



THE BEST REPELLENT IS THE ONE YOU WILL ACTUALLY USE

Repels Mosquitoes	Yes
Repels Ticks	Yes
Ages for Children	Over two months

Repels Mosquitoes	Yes
Repels Ticks	Maybe
Ages for Children	n/a

Repels Mosquitoes	Yes
Repels Ticks	Maybe
Ages for Children	Over three years

Repels Mosquitoes	Yes
Repels Ticks	Maybe
Ages for Children	Over six months

Hours of Protection	Against Mosquitoes	Against Ticks
Less than 10% formula	1-2 hours*†	1-2 hours* some products
15-20% formula	2-6 hours*†	X
20-25% formula	5-8 hours*†	X
25-95% formula	6-10 hours* most products	2-4 hours* most products
95% or more formula	8-10 hours* most products	5-10 hours* most products

Hours of Protection	Against Mosquitoes	Against Ticks
Less than 10% formula	1-2 hours†	X
15% formula	2-4 hours*	X

Hours of Protection	Against Mosquitoes	Against Ticks
20% or more formula	2-6 hours†	6 hours* for some products

Hours of Protection	Against Mosquitoes	Against Ticks
Less than 10% formula	2-4 hours*	2-4 hours*
15-20% formula	4-6 hours*	X
20% or more formula	6-8 hours*	2-4 hours* for some products

* These protection times have been approved for product labels. These times are based on the technical information provided to the EPA by the companies on the effectiveness of the product against mosquitoes and/or ticks. Time frames were consolidated for all brands with the same percentage formulas

X An "X" indicates that the majority of repellent product in this category has not been registered for protection from ticks

† Information provided by the Centers for Disease Control and Prevention



FIIGHT THE BITE

*Tips for choosing the
right repellent*



choosing the right