

Insect Repellents

Top-Rated Major Brands

Insect repellents available at outdoor specialty shops like Recreational Equipment, Inc. (REI) are by far the best choice, but a top consumer testing agency recently conducted tests of the popular and widely available grocery-store varieties with the following results.



As reported by CR...

For this insect repellent review, brave testers at an outside lab bared their arms in mosquito-filled cages and also let ticks crawl on them. We recorded how long it took for mosquitoes to start biting and for ticks to crawl over treated areas. Our bugs were free of disease, but wild mosquitoes in the U.S. can carry West Nile virus or St. Louis encephalitis. Travelers outside the U.S. might encounter mosquitoes carrying malaria, yellow

fever, or dengue fever. Ticks can spread Lyme disease, human babesiosis, and Rocky Mountain spotted fever. (Stay on top of the news related to West Nile virus at the [Centers for Disease Control and Prevention's West Nile page](#).)

Several tested repellents (see [Ratings](#) below) protected against deer ticks and two common types of mosquitoes for 8 hours or more. Four of those—Off Deep Woods Sportsmen (Score: 30% success), Cutter Backwoods Unscented (23%), Off FamilyCare Smooth & Dry (15%), and 3M Ultrathon Insect Repellent 8 (25%)—contain deet in varying levels.

The active ingredient in Repel Plant Based Lemon Eucalyptus is oil of lemon eucalyptus. (It's not recommended for children under 3.) Almost as effective was *Natrapel 8-Hour with Picaridin*, which protects with picaridin, a chemical newer than deet. Our six top choices worked for at least 7 hours.

While effectiveness of the best insect repellents is similar, they feel and smell somewhat different. *Cutter Backwoods* leaves little scent or sensation; *Off Deep Woods* has a citrusy odor and filmy residue panelists wanted to wash off; *Off FamilyCare* has a fruity odor and dries quickly; *3M Ultrathon* has a strong odor and leaves an oily feeling on the skin at first; *Repel* has a plastic beach-ball and citrusy odor and left little residue; *Natrapel* has a floral odor and is a little greasy.

Ingredient issues. The Environmental Protection Agency judges deet safe when used as directed, but it has caused rare toxic reactions when misused. Don't use it on infants less than 2 months old. The American Academy of Pediatrics advises against using repellents with deet concentrations higher than 30 percent on any children. We think (CR's opinion) that no one needs a repellent with more than 30 percent deet. [36ReadyBlog.com recommends a concentration of 50% or greater, but you will probably need to shop at an outdoor specialty store to find deet in these higher concentrations.]

Also note that national Centers for Disease Control and Prevention recommends that you avoid products that mix sunscreen with deet insect repellent. Unlike repellents, sunscreens are meant to

be applied liberally and often, so using a combination product could result in unnecessarily high exposure to repellents. Another reason not to use a combo: Many mosquitoes tend to bite long after the highest risk of sun damage has passed. The combination product we tested, Avon Skin-So-Soft Bug Guard plus IR3535 Expedition SPF 30, has no deet, but directions say not to exceed three applications per day. It did not rate near the top for either purpose.

Bottom line. Most of the tested products will do the job if you're going to be outside for only a couple of hours, but look for a highly rated product to protect you on longer excursions.

Products Tested / Comparison and Rating

Recommendation	Rank	Product	Cost per ounce	Active ingredient	Overall score	Effectiveness (hours)			
						Aedes mosquitoes	Culex mosquitoes	Ticks	Damage to materials
<input checked="" type="checkbox"/>	1	Off Deep Woods Sportsmen II	\$1.25	deet 30%	98	8+	8+	8+	○
<input checked="" type="checkbox"/>	2	Cutter Backwoods Unscented	1.33	deet 23%	98	8+	8+	8+	○
<input checked="" type="checkbox"/>	3	Off FamilyCare Smooth & Dry	1.63	deet 15%	98	8+	8+	8+	○
<input checked="" type="checkbox"/>	4	3M Ultrathon Insect Repellent 8	1.67	deet 25%	98	8+	8+	8+	○
<input checked="" type="checkbox"/>	5	Repel Plant Based Lemon Eucalyptus	1.94	oil of lemon eucalyptus	97	8+	8+	8+	○
<input checked="" type="checkbox"/>	6	Natrapel 8-Hour with picaridin	2.00	picaridin 20%	87	7	8+	8+	○
	7	Avon Skin-So-Soft Bug Guard plus IR3535 Expedition SPF 30	3.50	IR3535	73	5	8+	8+	◐
	8	Bite Blocker Xtreme (Organic) *	1.34	plant oils	56	3	8+	7	○
	9	Cutter Skinsations Clean Fresh Scent	1.04	deet 7%	55	4	6	7	○
	10	Burt's Bees All Natural Herbal	2.00	plant oils	24	1	5	2	◑

* "Organic" has no meaning in this repellent.

How to apply repellent and protect yourself

When applying any repellent, follow directions. Use your hands to apply it to your face, avoiding your eyes and mouth, and don't apply it to cuts. Use just enough to cover exposed skin. Some directions suggest using it on clothes, but most tested repellents damaged leather and vinyl, and some of them stained synthetic fabrics. Wash repellent off your skin and launder treated clothes.