



What's Inside

BUG REPELLENT

The Problem:

Conventional insect repellents contain a mix of **active** ingredients that are listed on the label, and **inert** ingredients that often aren't...

Both categories can include chemicals linked to harming human health and/or the environment.

This fact sheet focuses on active repellent ingredients.



Key Repellents of Concern & Where to Find Them:



DEET

Found in bug spray. Linked to skin blisters and irritation, seizures, memory loss, headaches, and joint stiffness.

PERMETHRIN

Found in clothing treatments. Linked to seizures, physiological and behavioral changes.

CYFLUTHRIN

Found in yard foggers. Shares structural similarities with DDT, linked to changes in blood glucose, loss of coordination, muscle trembling, and behavior changes.

For more on bug repellent, as well as scientific sources, visit:

<https://www.madesafe.org/education/bug-repellent/>

Zika & Other Mosquito-Borne Illnesses

Knowing your area and if you are at risk for mosquito-borne or tick-borne illness can help you make the right bug repellent choice for you and your family. If you think you are at risk, heed the advice from the CDC, WHO, and your doctor.

Safer Alternatives

There are a number of safer natural and synthetic alternatives, with varying levels of effectiveness. Here are the highlights:

ESSENTIAL OILS:

Clove

Lemongrass

Thyme

Note: Look for these oils in pre-made products to ensure they have been diluted properly. Some botanicals can be irritating, so try a small patch test before use, and avoid any known botanical allergens.

Oil of Lemon Eucalyptus

Oil of lemon eucalyptus can be naturally derived, but is most often synthetically produced. On labels it can be listed as oil of lemon eucalyptus, PMD, or p-methane-3,8-diol.

PMD is a safer alternative to topical bug sprays like DEET and picardin. In studies, PMD has been found to have high efficacy ratings. The CDC endorses the use of PMD as an effective bug repellent.



Tips for Shopping for Safer Bug Repellent:

- Avoid DEET, permethrin, and cyfluthrin.
- When shopping for plant-based alternatives, look for products containing lemongrass, thyme and/or clove. (Avoid these botanicals if you're sensitive to them.)
- Skip foggers and coils.
- Avoid mixing conventional chemical sunscreens and bug sprays together.
- Look for repellents containing oil of lemon eucalyptus, which may also be listed as PMD on labels. This is a safer alternative to many conventional repellent chemicals and is highly effective.

Keep Bugs at Bay

Time of Day:

Mosquitoes are typically worst at dawn & dusk in the U.S.

Use Mosquito Netting:

Netting works well for camping, strollers, & on the porch.

Cover Up:

Cover exposed skin with socks & long pants & sleeves.

Clear the Yard:

Keep the yard clear of places mosquitos like to breed like open, standing water.

Shop for MADE SAFE® certified products.

The MADE SAFE® seal on bug repellent means it's made without harmful repellent chemicals and other ingredients known or suspected to harm human health or ecosystems.

