

## Insect Repellent Use and Safety

Insect repellents help **prevent serious illness from mosquito bites** that may carry viruses such as **West Nile virus** and **tick bites**, which can cause **Lyme disease, Rocky Mountain spotted fever, and other tickborne diseases**. Using insect repellent allows you to continue to play and work outdoors with a reduced risk of disease.

## Repellent Differences

There are many types of repellent with different concentrations of active ingredients. The CDC recommends the use of **products registered** with the **US Environmental Protection Agency (EPA)**. Repellent containing the active ingredients DEET, picaridin, IR3535, Para-menthane-diol (PMD), 2-undecanone, or oil of lemon eucalyptus offer protection from mosquito and tick bites and can be used on skin and clothing. Permethrin is another type of repellent which is only for use on clothing and gear, not the skin. A general rule when using insect repellents is to **always follow the manufacturer's directions**.

## Proper Use

- **Follow the directions** on the product label
- Choose a repellent that will provide **sufficient protection** for the time being spent outdoors
- Use over exposed skin and clothing
- Do not apply repellent to skin under clothing or if the skin is **broken** or **irritated**
- **Do not spray repellent directly to face** – spray on hands first, then apply to face
- **Follow directions** to reapply if sweating or getting wet

## When to Use

Repellent should be applied whenever you are going to be outdoors, **even if you do not see any mosquitoes or ticks**. Many of the mosquitoes that carry West Nile virus are likely to bite between **dusk and dawn**. If you are outdoors during that time, it is especially important to apply repellent. **Ticks are most active between 6 a.m. and 12 p.m. but can be found at all hours of the day**. If you are spending time outside, apply repellent and periodically check yourself for ticks.

People should **use both sunscreen and insect repellent** when they are outdoors to protect their health. Follow the directions on the product labels. In general, **apply sunscreen first, followed by repellent**.

## Risks

Use of these products may cause skin reactions in rare cases. **Always follow the instructions on the product label**. If you suspect a reaction to a product, discontinue use, wash the treated skin, and call your health care provider or local poison control center. The number to reach **Poison Control is 800.222.1222**.

For more information about the insect repellent use and safety visit the **EPA website** at [www.epa.gov/insect-repellents](http://www.epa.gov/insect-repellents) or by visiting the **American Academy of Pediatrics (AAP) website** at AAP.org. If you have further questions about insect bites, contact your health care provider.

## Safety Guidance

The product label will state if there are any **age restrictions** for the use of the repellent. The AAP offers advice for the use of DEET containing repellent on **children**. Repellent with **DEET** can be used for both adults and children, according to directions. **DEET is approved for use on children with no age restriction**. Also, there is no restriction on the percentage of DEET in the product for use on children. **Oil of lemon eucalyptus** products specify on the label that they **should NOT be used on children under 3 years of age**. Never allow children to apply repellent to themselves and be careful not to apply repellent on the child's hands to prevent the indirect ingestion of repellent. **Always store insect repellents safely out of the reach of children.**

**There are not any additional precautions** for the use of EPA registered repellents in **pregnant or nursing women**. Ask your health care provider if you have additional questions or search for more information on your product on the EPA website at [www.epa.gov/insect-repellents](https://www.epa.gov/insect-repellents).

For additional information about insect repellent use and safety, contact North Dakota Health and Human Services' Public Health Division at 800.472.2180.

### Resources:

1. Centers for Disease Control and Prevention. (2022, July 11). Prevent Mosquito Bites. Center for Disease Control and Prevention. Retrieved June 8<sup>th</sup>, 2023, [Preventing Mosquito Bites | Mosquitoes | CDC](https://www.cdc.gov/mosquito/prevention/index.html).
2. United States Environmental Protection Agency. (2022, August 24). Repellents: Protection against Mosquitoes, Ticks and Other Arthropods. Retrieved June 8<sup>th</sup>, 2023, <https://www.epa.gov/insect-repellents>.
3. Schering, S. (2023). How to use insect repellents safely around kids. American Academy of Pediatrics. Retrieved June 8<sup>th</sup>, 2023, <https://publications.aap.org/aapnews/news/24397/How-to-use-insect-repellents-safely-around-kids>.

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