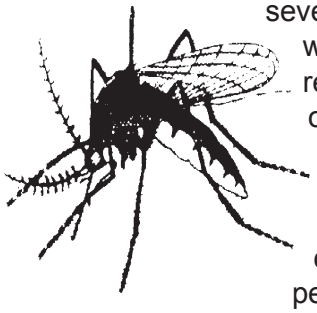
MDA PESTICIDE INFORMATION SHEET

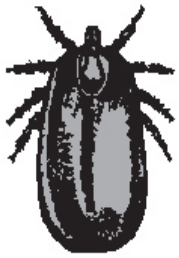
Maryland Department of Agriculture, Pesticide Regulation Section
50 Harry S. Truman Parkway, Annapolis, Maryland 21401
Telephone: (410)841-5710 FAX: (410)841-2765 Internet: www.mda.state.md.us

No. 2

USING INSECT REPELLENTS SAFELY

Insect repellents are pesticides that are designed to repel, or prevent the attraction, of biting insects. Repellents are commonly used in association with outdoor activities in such areas as parks and forests. Insect repellents are often used in controlling a variety of biting insects such as mosquitoes and flies along with ticks which may carry Lyme disease. Their effectiveness diminishes over time and varies with the severity of the insect population, each individual's body chemistry and behavior. As with the use of any drug or chemical, you need to exercise care when using insect repellents. They can cause side effects if improperly used, used in large amounts or in some situations involving chemically sensitive individuals. The use of insect repellents primarily results in exposure from skin contact. However, unintentional exposure can also occur by breathing or ingesting the product. As with the use of any pesticide, the use of repellents involves a combination of knowledge, common sense, and the ability to ***follow label directions***. The pesticide label is the best guide to using pesticides safely and effectively. The directions on the label are there primarily to help the user achieve the desired pest control with a minimum of risk. By taking the proper precautions when using insect repellents, you will help protect yourself from insects and ticks as well as help to avoid any possible adverse reactions due to overexposure to the repellent.





Repellents are available in different formulations and concentrations. For the most part, the higher concentrations are intended to be effective for longer periods of time. However, the potential for the occurrence of side effects is increased from use of products containing the higher concentrations. It is recommended that adults use products with concentrations of 30% or less, and products containing no more than 10% be used for children. ***Repellents should not be applied to infants and children under 2 years of age***.

Some of the most common active ingredients found in repellents registered by the U.S. Environmental Protection Agency (EPA) are DEET (N,N-diethyl-m-toluamide), picardin and permethrin. Another active ingredient found in insect repellents, but not required to be registered with EPA is oil of lemon eucalyptus (PMD). The active ingredient is listed on the product label.

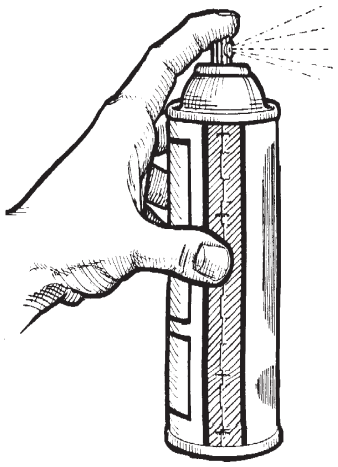


DEET has been used as a repellent for many years but has occasionally been associated with some adverse reactions (particularly at DEET concentrations of 50% and above). Adverse reactions have occured to the skin in the form of rashes, swelling and itching along with eye irritation. Permethrin is often listed as a repellent, but is actually a contact insecticide. Products containing permethrin should ***only*** be applied to clothing and ***never*** applied to the skin.

In order to reduce the amount of repellents used and your exposure to biting insects and ticks, you should: avoid areas with high pest populations, especially at peak biting times; wear light-colored, long-sleeved shirts and long pants with the bottoms tucked into boots or socks (for tick protection).

The following precautions should be followed when using insect repellents:

☞ Repellents should ***only*** be applied to areas such as exposed skin or clothing per the directions found on the product label. Also, ***do not*** use repellents underneath clothing.



☞ ***Avoid*** prolonged or excessive use. Use just enough repellent to cover exposed skin and/or clothing. Frequent reapplication or saturation is ***not*** necessary for effectiveness.

☞ ***Do not*** allow children to apply repellents themselves.

☞ ***Do not*** apply repellents directly to children. Apply to your hands and then put it on the child. ***Don't*** apply to the hands of small children since this may result in accidental eye contact or ingestion.

☞ ***Never*** use repellents over cuts, wounds rashes or irritated skin.

☞ ***Avoid*** breathing in repellents when applying these products, especially spray products, and ***do not*** apply repellents in confined areas.

☞ ***Do not*** apply repellents directly on the face. Apply the product to your hands and then rub on your face taking care to avoid contact with your eye and mouth.

☞ After returning indoors, wash treated skin with soap and water or bathe. This is particularly important when repellents are used repeatedly during the day or if used on consecutive days.

☞ ***Do not*** use human insect repellent products on your pets. Only use products labeled for pet use on your dog, cat, or other domestic pet.

☞ If you suspect that you or your child has had a reaction to an insect repellent, discontinue use, wash the treated skin with soap and water and call the National Poison Center at ***1-800-222-1222***.

In addition, the following precautions should be followed when using any pesticide, including repellents:

❒ Check to see if the product is a EPA registered insect repellent, since these products do not present health or safety concerns if used according to the label directions. An EPA registration number means the product has been evaluated by EPA to ensure that it will not pose unreasonable adverse effects. Repellents that do not have an EPA registration number have not been evaluated by EPA, and EPA cannot advise consumers about the effectivness of these products.

❒ ***Before using the product, read the ENTIRE label***. Don't trust your memory. Read the label again even if you have used the product before.

❒ Follow the use directions on the product label carefully. Use only the amount listed and frequency specified on the label, and only for the purpose and conditions listed.

❒ ***Always keep the container out of the reach of children***.

Additional pesticide product information can be obtained from the **National Pesticide Information Center (NPIC)** at **npic.orst.edu or 1-800-858-7378.** NPIC is a toll-free information service funded by EPA and operated by the Oregon State University seven days a week from 9:30 a.m. - 7:30 p.m. Eastern Standard Time, excluding holidays. The EPA also has a website that provides further information on the use of repellents, including information on how long registered repellents will work at www.epa.gov/pesticides/health/mosquitoes/insectrp.htm.

This was taken in part from the U.S. EPA's publication "Using Insect Repellents Safely" and the New York State Health Department's "Deet Tips For Proper Protection" and Health Advisory - "Tick and Insect Repellents" information sheets.