



Information

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Check out the Pesticide Education and Assessment Program web site at <http://pesticide.umd.edu>

USING INSECT REPELLENTS SAFELY

Pesticide Information Leaflet No. 10

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Background

Historically, insect repellents have been used against mosquitoes, blackflies, and other annoying insect pests. Increasing concern about Lyme disease, transmitted by the deer tick, has resulted in a corresponding increase in the use of repellents.

Ethyl hexanediol

In late July 1991, Union Carbide Corporation, the sole manufacturer of the insect repellent ethyl hexanediol, submitted preliminary results to EPA indicating possible adverse developmental effects in laboratory animals. Shortly thereafter the company requested, and EPA agreed, to cancel registrations of all products containing the compound. EPA subsequently issued a notice advising retailers to remove all ethyl hexanediol products from their shelves and advising women of childbearing

age to discontinue use of the products. At that time only a few products containing ethyl hexanediol were being marketed. Consumers should check the active ingredient list on the label of the pesticide container for the ingredient 2-ethyl-1, 3-hexanediol. Ethyl hexanediol is the active ingredient in the products:

- 6-12 Insect Repellent Stick
- 6-12 Insect Repellent Liquid
- Off! Insect Repellent IV
- 6100 Formula 2 Fly and Mosquito Repellent Gel
- Johnson Wax 6017 Formula 10 Insect Repellent
- BF-100 Blackfly Repellent

Products containing ethyl hexanediol may be disposed of by taking them to household hazardous waste collection programs or by wrapping containers in several layers of newspaper, tying them securely, and placing them in the household trash.

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Deet

One of the most common active ingredients in insect repellents is the chemical *N,N-diethyl-m-toluamide*, known generically as deet. This repellent has been widely used for more than thirty years. Recently, however, the U. S. Environmental Protection Agency (EPA) has received a small number of reports of adverse reactions to deet, especially in young children after repeated applications of repellents. Reactions such as headache, mood changes (crying, irritability), confusion, nausea, and, in severe cases, muscle spasms, convulsions or unconsciousness have been reported. While deet has not been confirmed as the cause of these incidents, EPA is concerned that a small segment of the population may be sensitive to deet, especially when it is misused or over-applied.

It is not recommended that consumers stop using deet repellents, since the benefits of tick and mosquito repellency may far outweigh any risk from deet exposure in those areas where Lyme disease is endemic or if West Nile Virus is of concern. As with any pesticide, however, care should be taken to avoid unnecessary exposure through overuse or misuse. The following precautions are recommended when using deet or any other insect repellents.

General precautions for safe use of repellents

Read the label before buying the product and again before using any pesticide. Choose a repellent that specifically mentions the type of pest you want to repel. Product labels that do not list ticks may not protect against ticks.

Follow all use directions and precautions. Use only the amount specified on the label, and only as often as the label directs.

Do not apply insect repellents to infants.

Do not apply insect repellents to sensitive, absorptive areas of the body. Never apply repellents over eyes, the mouth, scratches, cuts, or irritated skin.

Do not apply repellents to the hands of young children. Tell older children to avoid wiping their treated hands across their eyes and mouths.

Apply insect repellents only to exposed skin and/or clothing as the label directs. Application beneath clothing is not necessary and should be avoided.

Use only the amount needed to cover once. Saturation of skin or clothing should be avoided.

Apply repellents only as frequently as the label directs. If the label has no specific directions on frequency of application, apply only once a day or once after each washing.

After returning indoors, wash treated skin with soap and water. This is particularly important when repellents are used on consecutive days.

Always keep pesticide containers out of reach of children. Store them where children cannot reach them, and do not allow young children to apply repellents to themselves.

Use similar precautions when treating pets. Check the label to make sure the product is recommended for your pet. Follow all label directions, being sure not to apply more than the recommended amount. Do not treat newborns.

If you suspect a reaction to an insect repellent, wash treated skin with soap and water, then call your physician or local Poison Control Center. Telephone numbers for these Centers are listed on the inside front cover of your telephone book. The Maryland Poison Center toll-free telephone number is 1-800-492-2414. If you go to the doctor, take the repellent with you.