OIL OF CITRONELLA

GENERAL FACT SHEET

What is oil of citronella?

Oil of citronella is a naturally occurring insect and animal repellent distilled from two grass varieties. It is yellow to brown and has a grassy/floral smell. Oil of citronella is a mixture of many components. The exact composition varies by grass variety. However, the main components are citronellol, citronellal, and geraniol. Oil of citronella is also commonly found in foods and beverages as a flavoring agent. It is Generally Recognized as Safe (GRAS) as a food additive by the Food and Drug Administration.

Oil of citronella was first registered in the United States in 1948. It is currently on the U.S. Environmental Protection Agency's (U.S. EPA) list of minimum risk pesticides.

What are some products that contain oil of citronella?

Currently oil of citronella can be found in over a dozen registered pesticide products. Some of these products are applied to animal or human skin, ornamental plants, or other outdoor areas. Oil of citronella can be formulated into sprays, lotions, candles, pellets, and pouches. It can also be found in some sunscreen products, wristbands, and flea collars.

Always follow label instructions and take steps to minimize exposure. If any exposures occur, be sure to follow the First Aid instructions on the product label carefully. For additional treatment advice, contact the Poison Control Center at 1-800-222-1222. If you wish to discuss a pesticide problem, please call 1-800-858-7378.

How does oil of citronella work?

Oil of citronella repels target pests rather than killing them. It works by masking scents that are attractive to insects. Thus, insects find it difficult to locate their target to feed. Oil of citronella may also work by masking odors attractive to animals. However, no studies could be located.

How might I be exposed to oil of citronella?

People can be exposed to chemicals if they eat, breathe, or get them on their skin or in their eyes. People are most commonly exposed to oil of citronella by breathing in vapors or by applying spray-on repellents to their skin. People may also be exposed if they inhale the spray mist or fail to wash their hands before eating or smoking. However, exposure can be limited by following the label instructions.

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What are some signs and symptoms from a brief exposure to oil of citronella?

Oil of citronella can be mildly irritating to the skin and eyes. It may also cause skin allergies for some people with prolonged or frequent exposure. If eaten, people may cough or experience throat irritation.

What happens to oil of citronella when it enters the body?

Citronellol, citronellal and geraniol are the major components of oil of citronella. If eaten, they are broken down and leave the body through the urine.

Is oil of citronella likely to contribute to the development of cancer?

The potential of oil of citronella to cause cancer has not been studied. However, studies have shown that oil of citronella does not alter or damage genes. Geraniol, a major component of oil of citronella, has been observed in several studies to reduce the growth of some cancers. In another study, large doses of some minor components of oil of citronella were fed to rodents five times per week for two years. There was no evidence of increased cancer rates. However, methyleugenol, a minor component of oil of citronella, is "reasonably anticipated to be a human carcinogen" by the U.S. Department of Health and Human Services. It has caused the development of tumors in mice.

Has anyone studied non-cancer effects from long-term exposure to oil of citronella?

Citronellol and geraniol are major components of oil of citronella. In one study, small doses of citronellol were fed to rats daily for 12 weeks. No adverse effects were observed. In another set of studies rats were fed small and moderate doses of geraniol for several months. No adverse effects were observed.

Are children more sensitive to oil of citronella than adults?

In general, children may be especially sensitive to pesticides. If applied to the skin, oil of citronella can cause skin irritation or allergic reactions in some people. Therefore, some oil of citronella products should not be used on children less than six months old unless directed by a doctor. This information is listed on the product label.

Additionally, unintended exposures can be minimized by following common sense tips. Do not allow children to apply the repellent themselves. Young children may put their hands in their mouths. Consider avoiding their hands, in addition to their eyes and mouth, while applying the repellent. Also, more control can be achieved by first applying the repellent to your hands and then using your hands to apply it on the child.

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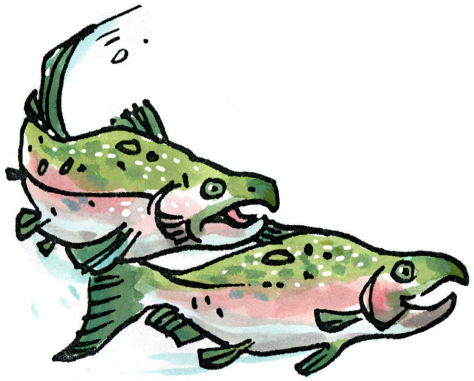
What happens to oil of citronella in the environment?

Citronellol, citronellal, and geraniol are the major components of oil of citronella. If they get into the environment a portion is expected to turn into vapors. In water, they vaporize from the surface at a moderate rate. Once vapors are airborne, they break down in a matter of hours, with half-lives ranging from 38 minutes to 3.2 hours. Citronellol and geraniol are also readily broken down by microbes.

Can oil of citronella affect birds, fish, or other wildlife?

Oil of citronella is practically non-toxic to birds. It is slightly toxic to fish and other aquatic organisms. Oil of citronella repels insects rather than killing them. Therefore, bees and other pollinators are not likely to be harmed. Oil of citronella is unlikely to affect birds, fish or other wildlife in a harmful way because of its low toxicity and use patterns.



Where can I get more information?

For more detailed information about oil of citronella please visit the list of referenced resources or call the National Pesticide Information Center, between 8:00 AM and 12:00 PM Pacific Time (11:00 AM to 3:00 PM Eastern Time), Monday - Friday, at 1-800-858-7378 or visit us on the web at http://npic.orst.edu. NPIC provides objective, science-based answers to questions about pesticides.

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