



CDC's Third National Report on Human Exposure to Environmental Chemicals

Spotlight on Pyrethroids

Pyrethroids are a group of synthetic insecticides that are similar to a natural pesticide called pyrethrum, which comes from chrysanthemum flowers. Pyrethroids are widely used to control insects on crops and garden plants and on pets and people.

How People Are Exposed to Pyrethroids

People may be exposed to pyrethroids by

- Eating foods contaminated by these chemicals.
- Using products that contain pyrethroids, such as household insecticides, pet sprays, specifically formulated shampoos used to treat lice, and mosquito repellents that can be applied to clothing.

How Pyrethroids Affect People's Health

Compared with other older insecticides, pyrethroids are less hazardous to health. Intentional (suicide) and accidental exposure to large amounts of pyrethroids for a short period causes dizziness, headache, nausea, muscle twitching, reduced energy, changes in awareness, convulsions, or loss of consciousness. No evidence has been found that indicates pyrethroids cause cancer in people or in animals.

Levels of Pyrethroids in the U.S. Population

- For the *Third Report*, scientists tested urine samples in people aged 6-59 years who took part in CDC's national study known as the National Health and Nutrition Examination Survey.
- The *Third Report* presents first-time exposure information for five commonly used pyrethroid insecticides. 3-phenoxybenzoic acid, a common metabolite of several pyrethroid insecticides, was found in much of the U.S. population and suggests widespread exposure.
- Information about levels of specific pyrethroid insecticides in the U.S. population is available in the *Report* at <http://www.cdc.gov/exposurereport>.

- Currently, very limited scientific information is available on potential human health effects of pyrethroid insecticides at levels presented for the U.S. population in the *Report*.

For More Information

- **Agency for Toxic Substances and Disease Registry**
Public Health Statement for Pyrethrins and Pyrethroids:
<http://www.atsdr.cdc.gov/toxprofiles/pfs155.html>
ToxFAQs for Pyrethrins and Pyrethroids:
<http://www.atsdr.cdc.gov/tfacts155.html>
- **U.S. Environmental Protection Agency**
Synthetic Pyrethroids for Mosquito Control:
<http://www.epa.gov/pesticides/factsheets/pyrethroids4mosquitos.htm#pyrethroids>

NCEH Pub 05-0664
July 2005

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.