

## What You Should Know About Mothballs

### *Protecting Your Children and Educating Childcare Providers*

Mothballs are classified as a pesticide and used to control moths, silverfish and other fiber pests in wool and other natural fiber clothing and materials. Mothballs should only be used as specified on the label, and their use is regulated by the U.S. Environmental Protection Agency (EPA).

#### *What chemicals are in mothballs?*

Mothballs are commonly made of naphthalene or paradichlorobenzene, both of which are toxic to humans. These chemicals are solids at room temperature and are made into round balls, flakes or cakes that slowly change to a gas and become fumes in the air.

#### *Are mothballs toxic?*

The chemicals in mothballs are toxic to humans and pets. People are exposed to the chemicals in mothballs by inhaling the fumes. If you smell mothballs, you are being exposed to these chemicals. Children or pets sometimes mistake mothballs for food or candy and eat them, which can cause serious effects.

Some of the chemicals in mothballs can cause reversible health effects that include headaches, nausea, eye and nose irritation and coughing. Exposure to naphthalene can cause more serious effects, including hemolytic anemia. Naphthalene is also a possible carcinogen. Extended exposure to mothballs can also cause liver and kidney damage.

#### *How should mothballs be used?*

As regulated pesticides, mothballs must be used only as directed on the label. The labeled use of mothballs is to kill moths and other fiber insects to protect clothing. To do so properly, place mothballs inside tightly closed containers along with the clothing or materials. The vapors will remain inside the



container and kill the moths. The closed containers prevent the chemicals from getting into the air and spreading through the house. Make sure to wash all the materials treated with mothballs before resuming their use. Do not use mothballs on diapers.

#### *Common misunderstandings:*

Mothballs should not be placed in closets, attics, basements, storage chests or trunks, garment bags or other spaces other than in tightly closed containers as explained above. Gasses from the mothballs escape into the air and can cause respiratory problems. High levels of the chemical fumes can accumulate in closed areas. Improper use of mothballs can lead to long term exposures to people and pets. The fumes are heavier than air and will accumulate along floors, posing a danger to small children and pets.

Another misunderstanding is the use of mothballs in outdoor areas to repel rodents, squirrels, bats, snakes or other wildlife. Mothballs are ineffective for this use and can contaminate soil and water. Using mothballs as animal repellants is not appropriate and can be illegal.

***Mothballs should never be used in schools, daycare centers and other public buildings.***

***Integrated pest management (IPM) is the safe way to control pests.***

If your home or office has a pest problem, you should deal with it using the IPM method. IPM is

an effective, multipronged and safe way to monitor, identify, prevent and control pests. IPM includes the following steps:

- ▶ identify the specific pest in order to target preventive and control actions;
- ▶ monitor to assess pest numbers, damage and locations;
- ▶ implement preventive measures, such as removing food sources, making habitat undesirable (e.g., remove tall grass) and putting up physical barriers; and
- ▶ control pests through selective measures, such as trapping and removing pests or using pesticides specific for the pest in an appropriate and minimal fashion.

If pesticides are used, be sure to follow the label instructions exactly in order to use them safely and correctly.

***Who should be called if someone comes in contact with mothballs or other pesticides?***

If someone comes into contact with mothballs or other pesticides, call the Louisiana Poison Center at (800) 222-1222.

***Where can childcare centers get tips for getting rid of pests?***

- ▶ Visit [www.lsuagcenter.com](http://www.lsuagcenter.com) to find a Louisiana State University Agriculture Center & Research Extension (LSU Ag Center) agent in your area. They can provide tips for getting rid of insects, rodents and other pests.

***Where can we find more information?***

For Information on IPM Contact:

- ▶ The LSU Ag Center: [www.lsuagcenter.com](http://www.lsuagcenter.com)
- ▶ The National Extension Initiative: [www.extension.org](http://www.extension.org)
- ▶ The National Pesticide Information Center: (888) 858-7378 or <http://www.npic.orst.edu>
- ▶ The National Institute for Occupational Safety and Health (NIOSH): <http://www.cdc.gov/niosh/docs/2007-150>

For information on pesticides and your health, contact:

- ▶ The Louisiana Department of Health and Hospitals' Section of Environmental Epidemiology and Toxicology (SEET) at (888) 293-7020 or [www.seet.dhh.la.gov](http://www.seet.dhh.la.gov)