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Mothball Toxicity in Dogs and Cats

What are mothballs, and how are they used?

Mothballs are solid pesticides that slowly release a gas vapor to kill and repel moths, their larvae, and other insects from stored clothing and fabric. Mothballs are sometimes also used to repel snakes, mice, and other animals, although this use is not recommended and can be harmful to pets, children, and the environment.

Mothballs come in a variety of forms, including balls, cubes, spheres, cakes, scales, powder, and flakes. They may contain the insecticides naphthalene, paradichlorobenzene (PDB), or camphor (rarely). Older mothballs usually contain naphthalene. Most modern mothballs now contain PDB instead because of concern for naphthalene's flammability and toxicity.

Mothballs are designed to be used in a sealed container, so their vapors are contained. When used and stored properly, they are relatively safe to have in a home with pets.



Why are mothballs toxic to dogs and cats?

Mothballs contain a high concentration of insect repellent. Toxicity most commonly occurs when cats or dogs ingest improperly stored mothballs. Cats are more sensitive to their toxic effects, but dogs are more likely to ingest mothballs. Long-term exposure to mothball fumes can also harm pets and people.

"Ingestion of naphthalene mothballs can cause anemia, lethargy, vomiting, and sometimes kidney or liver damage."

"Old-fashioned" naphthalene mothballs are considered the most toxic type of mothball. Ingestion of naphthalene mothballs can cause anemia, lethargy, vomiting, and sometimes damage to the kidneys or liver.

Modern PDB mothballs are less toxic but can still cause illness, especially when ingested. Ingestion of PDB mothballs commonly results in vomiting, nausea, shaking or tremors, and possible kidney or liver damage.

How many mothballs could be toxic to a dog or cat?

As little as just one mothball could poison a dog or cat. The toxic dose depends on the mothball's size and the concentration of the chemical.

What should I do if my pet eats a mothball?

If you think your dog or cat has eaten a mothball, contact your veterinarian or Pet Poison Helpline^{*} (800-213-6680) **right away**. The sooner you seek treatment, the better the chance your pet has of fully recovering.

Do not induce vomiting or give anything orally to your pet unless your veterinarian specifically directs you to do so. When possible, put a mothball like the one(s) your pet has ingested and its packaging into a sealed plastic bag and take them with you to the veterinary clinic.

What are the clinical signs (symptoms) of mothball poisoning?

Mothballs dissolve slowly when ingested by pets, and toxicity can be delayed by several days. Signs of toxicity may include:

- • Vomiting
- • Mothball-scented breath
- • Pale or brown gums
- • Weakness or lethargy
- • Labored breathing
- • Tremors
- • Seizures

In severe cases, the pet may develop damage to the liver or kidneys.

Is there an antidote for mothball toxicity?

No. There is no antidote for mothball toxicity. However, when pets are decontaminated and given supportive treatment quickly, most can survive this type of poisoning.

How is mothball poisoning treated?

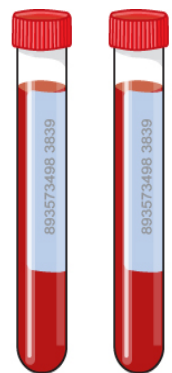
Fast and aggressive treatment by your veterinarian is essential to effectively reverse any toxic effects and prevent the development of severe problems.

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If your pet has just eaten a mothball but has not yet developed any symptoms of poisoning, your veterinarian may induce vomiting to remove the mothball from the stomach and prevent absorption of its chemicals. He or she may also recommend administering activated charcoal, which can help with this type of toxicity.

If clinical signs have developed, your veterinarian will treat your pet based on the symptoms; he or she may:

- Perform blood work to determine whether your pet has anemia or possible damage to the liver and kidneys.



- Administer IV fluids to protect the kidneys.
- Give anti-vomiting medication, anti-seizure medication, and/or medication to protect the liver.
- Take x-rays, which can sometimes show whether any mothballs are present in the stomach or intestines.
- Perform a blood transfusion, which may be necessary in severe cases.
- Continue to monitor follow-up blood work to ensure that your pet's red blood cell count and liver and kidney function remain or return to normal.

What is the prognosis for recovery from mothball poisoning?

The prognosis (expected outcome) is good for pets who are treated promptly and those who have no pre-existing liver or kidney disease.

How can I prevent mothball poisoning?

Always store mothballs out of reach of children and pets. Only store mothballs in closed, airtight containers to prevent accidental ingestion by pets. . Make sure you follow label instructions, and never use mothballs loose in your home, yard, or garden to repel pests. Do not mix types of mothballs or mothballs with other chemicals or insecticides. Many nonchemical methods for storing fabrics are available and are safer alternatives to mothballs if you have pets.

If your pet consumes mothballs, make sure you contact your veterinarian or an emergency clinic immediately, and get your pet prompt decontamination and treatment. As with any poisoning, your pet has the best chance of recovery when treated as quickly as possible.

*Pet Poison Helpline is an animal poison control service available 24 hours, 7 days a week for pet owners and veterinary professionals who require assistance treating a potentially poisoned pet. Pet Poison Helpline is available in North America by calling 800-213-6680. Additional information can be found online at www.petpoisonhelpline.com. Pet Poison Helpline is not directly affiliated with LifeLearn.



This client information sheet is based on material written by: Dr. Charlotte Flint, Staff Veterinarian, Pet Poison Helpline.

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