Antifreeze-Like Ingredient Found in Pet Treats' Latest Recall

It's considered one of the least toxic of its kind, and is used in 'pet safe' antifreezes. Cats are particularly sensitive, so it's banned in cat foods, but it can also poison dogs. Destroys red blood cells and causes many nervous system problems including seizures and coma.

Analysis by Dr. Karen Shaw Becker

STORY AT-A-GLANCE

- Recently, a brand of commercial cat treats was recalled due to the presence of low levels of propylene glycol, a chemical the FDA has banned for use in cat food and treats
- Even a small amount of propylene glycol can cause a condition called Heinz body hemolytic anemia in cats
- Toxic levels for propylene glycol in dogs have not been established, and unfortunately, many processed pet foods and treats contain this chemical
- The only foolproof way to protect your pet from propylene glycol is to prepare fresh, whole, species-appropriate meals for your dog or cat, or purchase a fresh food diet from a company you trust

Editor's Note: This article is a reprint. It was originally published January 11, 2016.

Recently a brand of commercially available cat treats found to contain low levels of propylene glycol was recalled by the manufacturer.[1] (For product specifics, see FDA Recalls, Withdrawals, & Safety Alerts.)

You may have heard of propylene glycol, but many people don't really know what it is. According to the Pet Poison Helpline:

> "*Propylene glycol is one of the least toxic glycols. It is a synthetic liquid substance that absorbs water and is used by the chemical, food, and pharmaceutical industries for a wide variety of reasons.*
>
> *Like ethylene glycol, propylene glycol may be used as an antifreeze and can be found in high concentrations in RV and 'pet safe' antifreezes.*
>
> *Since it has a wider margin of safety as compared to its chemical cousin, ethylene glycol, it is commonly used to absorb extra water and maintain moisture in certain medicines, cosmetics, or dog and human food products and is categorized by the FDA as a GRAS (generally recognized as safe) substance for this use.*
>
> *It is also used as a solvent for food colors, flavors and pharmaceuticals (i.e. injectable diazepam). Cats are particularly sensitive to PG and its use is not allowed in cat foods.*

Historically, some semi-moist cat foods contained up to 5 to 10% PG and cats were harmed by this (Heinz body formation).

If cats or dogs ingest large amounts of propylene glycol, poisoning can occur. This is most commonly seen when pets ingest liquid propylene glycol products."[2]

I've mentioned propylene glycol in several articles here at Mercola Healthy Pets as being one of the ingredients to avoid in your dog's or cat's commercial pet food. The U.S. Food and Drug Administration (FDA) has banned its use in cat food.[3]

Unfortunately, it is still found in many processed dog foods, and is high on the ingredient list in some products, including all formulations of Nestlé Purina's popular Beneful brand.

Why Propylene Glycol Is so Dangerous for Cats

Cats, with their unique physiology, are extremely sensitive to many substances other animals are not. In the case of propylene glycol, just a small amount can cause Heinz body hemolytic anemia, a condition in which red blood cells are destroyed. Symptoms of the condition include:

- Fever
- Discolored urine (reddish-brown)
- Sudden weakness
- Pale mucus membranes
- Loss of appetite
- Skin discoloration

Heinz body hemolytic anemia can also be caused by ingestion of other substances toxic to cats, including onions, garlic, kale, turnips, zinc, acetaminophen, vitamin K, and benzocaine.

The condition can also be the result of an inherited disorder, diabetes, or hyperthyroidism.

Treatment of Heinz body hemolytic anemia involves addressing the underlying cause. If a kitty has very serious anemia, she will need to be hospitalized to receive life-saving care.

What About Propylene Glycol in Dog Food?

When it comes to your dog, according to the FDA, propylene glycol is presumably safe in small doses. However, if you're feeding a processed diet containing propylene glycol day in and day out over an extended period of time, your canine companion is receiving continuous, long-term exposure to the stuff.

According to the Material Safety Data Sheet (MSDS), the effects on humans of propylene glycol include potential damage to the central nervous system, genetic material, and reproduction (including birth defects).[4]

Other potential health effects include skin and eye irritation, respiratory and gastrointestinal tract irritation, and behavior/central nervous system symptoms (depression, convulsions, seizures, stupor, muscle contractions, coma).

Propylene glycol may also interfere with brain activity, metabolism, white blood cells, respiration, cardiovascular function, the endocrine system, the kidneys, and the liver.

We know that for dogs, propylene glycol can be toxic at certain levels — we just don't know with specificity what those levels are. As far as I'm concerned, it's not worth the risk to feed any amount to your pet, and I'm annoyed this substance has not been banned in all pet foods.

What to Look for in a Dry Pet Food

For optimal health (and to avoid additives like propylene glycol found in processed pet food), I always recommend that dogs and cats eat a fresh, balanced, species-appropriate, diet (including treats).

However, I realize there are many pet guardians still feeding dry or soft-moist kibble formulas. If you're one of them, here's what I recommend you look for in a dry pet food:

Meat. Cats and dogs are carnivores — they thrive on a diet based on meat. They have no need for carbohydrates. Grains (carbs) are added to pet food because they're cheaper than meat, and they hold the kibbled bits together. They aren't added for the sake of proper nutrition for your meat-eating pet.

The source and quality of protein in the formula is crucially important for your pet's health. Look for whole food sources at the very top of the ingredient list like beef, turkey, lamb, or chicken — one-word descriptions, and even those can be deceptive!

Be aware that ingredients are listed by weight prior to processing, and fresh meat weighs more, by volume, than dry grains or starches. After processing (during which the moisture is removed), the amount of meat will probably be much further down the label.

Meat and fat ingredients should be identified by species (turkey, lamb, beef, fish, etc.). Avoid any formula that uses unidentified sources, described non-specifically as "meat," "animal," or "poultry."

The next ingredient behind whole meat sources should be vegetables (avoid corn or beet pulp).

If you are feeding a food that contains grains, potatoes or legumes, opt for organic, whole food sources. Avoid formulas that fragment, or **split ingredients** ("peas, pea starch, pea flour"), and remember that foods containing corn, wheat or rice could be contaminated with mycotoxins that are hazardous to all living beings in a variety of ways. Arsenic levels in rice should also be a concern.

Leave all pet food containing corn or soy in any form on the shelf. These ingredients have been genetically modified, and feeding GMOs to pets causes GI problems (at best) and systemic immune crises at worst.

Additionally, corn is a high glycemic, cheap filler ingredient, and a known allergen. Soy is estrogenic and wreaks havoc on your pet's endocrine system. Both contain lectins, which are sticky proteins that contribute to gut permeability issues (dysbiosis).

Manufacturing techniques (canning and extrusion) are damaging to nutrients and fatty acids. Synthetic vitamins must be added back in to processed pet foods to meet minimum nutritional standards.

I'm a fan of getting the majority of nutrients from whole foods, but this isn't possible if you feed a processed diet exclusively. The quality of nutrients range from whole food nutrients to cheap, poor quality synthetics usually imported from China. The list of vitamins and minerals added is found on the second half of the label. I recommend looking for the shortest list possible, and avoid all foods that use cheap options (avoid "oxides" and "sulfates" on the label!).

Better quality brands will use the more expensive and bioavailable amino acid chelates, polysaccharides and proteinates.

Essential fatty acids (EFAs) are sensitive to heat, time and oxygen. I recommend buying foods that do not contain fish oil or added EFAs, opting instead to add these delicate oils (krill, anchovy or sardine oil) at the time of feeding. This will help you avoid rancidity issues plaguing the dry food industry.

Avoid synthetic nutrients, especially fake vitamin K (menadione) and sodium selenite (synthetic selenium).

Avoid pet foods containing artificial colors, flavors, sweeteners and preservatives, especially those known to be carcinogens. In dog food, these usually go by the names BHT, BHA, ethoxyquin and propyl gallate. Natural preservatives are vitamins C and E (although most E is derived from GMO'd soy) or rosemary (which should not be fed to animals with seizures).

Most fish meal (for fish based pet foods) is preserved with ethoxyquin at the time of production, so when pet food companies purchase the raw material they do not have to list ethoxyquin because they didn't add it. If you feed pet food containing any type of fish call the manufacturer and make sure they guarantee their raw materials are ethoxyquin-free, most aren't.

Sources and References

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[1] FDA.gov

[2] Pet Poison Helpline

[3] AccessData.FDA.gov

[4] ScienceLab.com