



## Guar Gum

Third in our “Pet Food Ingredients to Avoid” series is guar gum, another thickening agent. This gummy substance, unlike xanthan gum that is a product of bacterial fermentation produced in a lab, guar gum is derived from an actual food: the guar bean, or Indian cluster bean. These are the seeds of the *Cyamopsis tetragonoloba* tree that grows primarily in India and Pakistan. These seeds look similar to green beans, and the food additive looks similar to flour.

Guar gum, another polysaccharide, is also a thickener, emulsifier, firming agent, and stabilizer: it functions to thicken fluids, increase viscosity and reduce ice crystal formation. It is found in most processed foods: baked goods, cereals, beverages, dairy products, vegan milk alternatives, oils, gravies, jams, jellies, sauces, soups, juices, oils, syrups, salad dressing, frozen vegetables, etc. Guar gum is commonly used in fat-reduced or fatless spreads, and is a thickening agent frequently used in gluten-free foods. Notably, the gum functions synergistically with xanthan gum by increasing the viscosity of a product. This is why we so often find both ingredients in commercial pet foods.

The physiological effects of guar gum have been extensively studied both in animals and in humans. In contrast to xanthan gum and carrageenan, it generally is actually safe. In humans, guar gum has been shown to lower serum LDL cholesterol and triglyceride levels and increases glucose tolerance. (2) Because the gum has been shown to be effective at reducing fasting blood glucose, improving glycemic control, reducing insulin requirements in insulin-dependent diabetics, and reducing LDL cholesterol, it is being studied for therapeutic use (in humans). (3)

So what’s the problem and why should we avoid this product for our pets?

The studies of guar gum benefits in humans also note its side-effects: potentially severe GI pain and discomfort, diarrhea, and loose stools. Reports include nausea, excessive flatulence, and abdominal cramping. Beans and legumes have a variety of compounds in them that make them difficult to digest for humans, let alone our obligate carnivores that aren’t meant to be ingesting them.

The benefits guar gum may confer to humans just aren’t applicable to cats. While it may beneficially impact glucose levels in diabetic cats (no studies have been conducted), obviously at CatCentric we are of the opinion the need for insulin should be addressed by feeding a species-appropriate diet that is low in carbohydrates. And guar gum’s physiological effects likely have negative repercussions for cats. Guar gum increases gastric emptying time (which may contribute to hairball formation); it stimulates bile secretions (which may contribute to ulcers or pancreatitis); and it slows transit time through the intestines, which negatively affects nutrient availability, specifically impacting protein and fat metabolism.

The effect of guar gum on nutrient availability has been studied in cats. It was added to a standard diet at 0.4% dry matter basis, a higher rate than found in commercial foods and a level that “represents the threshold of guar gum inclusion to avoid production difficulties and textural problems.” (4) Adding guar gum to a standard commercial cat food “had a significant negative effect on apparent protein digestibility in many of the cats and tended to depress apparent fat and energy digestibilities.” (4) Translation? Guar gum inhibits protein AND fat metabolism, and cats need to eat more to compensate for the problem. As the issue was more severe in older cats that naturally have “compromised digestive efficiency,” this is a product to avoid especially in senior or otherwise GI-compromised cats (IBD, IBS, intestinal lymphoma, pancreatitis, etc.). The study also observed that the inclusion of guar gum decreased feces quality, with cats experiencing wet, loose stools and diarrhea.

Although I have not been able to confirm this, Livestrong.com indicates that guar gum may not only contain traces of soy, some forms of guar gum *contain* soy protein: up to 10% of the ingredient. (5) Soy is problematic for many reasons (and will be fifth in this series, *Pet Food Ingredients to Avoid*). But for the purposes of this post, apart from being primarily a GMO crop with the problems that entails, soy is often also an allergen. If your cat is allergic to soy and eats a product containing guar gum with soy proteins, kitty may be nauseous, vomit, have diarrhea, or develop a skin rash. If your cat is reacting to a food and you’re going crazy trying to identify a protein culprit, consider eliminating guar gum from your cat’s diet.

Finally, there are studies indicating that prolonged ingestion of guar gum increases the odds for developing colorectal cancer. One study explained that the soluble fiber does not raise distal butyrate concentration high enough to protect colon from cancer (as butyrate has been demonstrated to slow the growth of cancer cells in vitro). (6, 7, 8)

Bottom line? Guar gum doesn’t belong in cat food. Unfortunately, it’s nearly impossible to avoid. For healthy cats, it may not be a problem per se. But if your cat is experiencing any GI problems and you can’t identify a protein culprit, and you’ve already eliminated grains, legume proteins and starches, carrageenan and xanthan gum, consider a short-term trial of plain, home-cooked food to see if the elimination of guar gum from the diet improves your cat’s symptoms.

## References

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