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Caring People Caring for Animals

What Is In Pet Food?

What's All That Stuff in the Ingredient List?

At first glance, an ingredient statement on a pet food product can be pretty overwhelming. Here are a few basic things to remember. First, an ingredient list is required to display all ingredients in decreasing amounts (by weight) used in the product, so the biggest contributors are first and the smallest are last. Next, think of ingredients as major ingredients and minor ingredients. The major ingredients will be the first few listed at the beginning of the ingredient list; and most of them will bear names a person would recognize as animal or plant products. The minor ingredients are mostly ingredients supplying minerals, vitamins, and other nutrients and will have a few names that you would recognize; but there will be a lot of "chemical sounding" names. Other minor ingredients include preservatives, conditioning agents, emulsifiers, stabilizers, and colors or flavoring agents. When it comes to minor ingredients it becomes a bit harder to figure out ingredient names; but, since regulations require the use of correct, standardized common ingredient names, at least a person can make a comparison from product to product.

Common Ingredients and What Can Be In Them

The first four ingredients below are all raw products. These ingredients are cooked in the process of manufacturing pet food to destroy any harmful bacteria, just as food is cooked for human food.

- **"Meat"** is primarily the muscle tissue of the animal, but may include the fat, gristle and other tissues normally accompanying the muscle, similar to what you might see in a portion of raw meat sold for human consumption. This may include the less appealing cuts of meat, including the heart muscle and the muscle that separates the heart and lungs from the rest of the internal organs, but it is still muscle tissue. However, it does not include bone. Meat for pet food often is "mechanically separated," a process where the muscle is stripped from the bone by machines, resulting in a finely ground product with a paste-like consistency (similar to what might be used in hot dogs).

In addition to using the term "meat," the pet food manufacturer may also identify the species from which the meat is derived, such as "beef" or "pork." However, to use the generic term "meat" on the label, it can only be from cattle, pigs, sheep or goats. If it comes from any other mammal, the species must be identified (for example, "buffalo" or "venison"), so you can rest easy that if any other species was used, it would have to be declared. Also, if the muscle is from non-mammalian species, such as poultry or fish, it cannot be declared as "meat" but must use the appropriate identifying terms.

- **"Meat By-Products"** are most of the parts of the animal other than the muscle tissue, including the internal organs and bones. It includes some of the parts people eat (such as livers, kidneys and tripe), but also parts that are not typically consumed by humans in the US. Some by-products, like udders and lungs are not deemed "edible" by USDA for human consumption, but they can be perfectly safe and nutritious for animals not inclined to be swayed by the unappealing nature of these parts of animals. As with "meat," unless the by-products are derived from cattle,

pigs, sheep or goats, the species must be identified.

- **"Poultry"** is the parts of the bird as you would find if you purchased a whole chicken or turkey at the grocery store. Frankly, it often consists of the less profitable parts of the bird, such as backs and necks. Unlike "meat," it may include the bone, which when ground can serve as a good source of calcium. If the bone has been removed (typically by mechanical separation,) however, it can be declared as "deboned poultry." If a particular species of bird is used, it may be declared by the more common name, such as "chicken" or "turkey."
- **"Poultry By-Products"** Similar to "meat by-products," it is most of the parts of the bird that would not be part of a raw, dressed whole carcass. That may include the giblets (heart, gizzard and liver) but also other internal organs, heads and feet.

The following materials area all rendered products that have been subject to cooking to destroy any harmful bacteria before they are shipped to a pet food manufacturing plant. Rendering is a process where the materials are subject to heat and pressure, removing most of the water and fat and leaving primarily protein and minerals. You will notice that the term "meal" is used in all cases; because, in addition to cooking, the products are ground to form uniform sized particles.

- **"Meat Meal"** is the rendered product from mammal tissues, exclusive of any added blood, hair, hoof, horn, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices. It shall not contain extraneous materials not provided for by this definition. {the definition goes on to include the required mineral specifications and required nutrient guarantees}..... If the product bears a name descriptive of its kind, composition or origin it must correspond thereto."

The rendering process is designed to destroy disease-causing bacteria, leaving an ingredient high in protein that while unappetizing to people, appeals to the carnivore's palate. Unlike "meat" and "meat by-products," this ingredient may be from mammals other than cattle, pigs, sheep or goats without further description. However, a manufacturer may designate a species if appropriate (such as "beef meal" if only from cattle).

- **"Meat and Bone Meal"** Similar to "meat meal," but can include added bone in addition to what is normally found in whole carcasses.
- **"Animal By-Product Meal"** is the rendered product from mammal tissues, exclusive of any added hair, hoof, horn, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices. It shall not contain extraneous materials not provided for by this definition. This ingredient definition is intended to cover those individual rendered animal tissues that cannot meet the criteria as set forth elsewhere in this section. This ingredient is not intended to be used to label a mixture of animal tissue products." May consist of whole carcasses, but often includes by-products in excess of what would normally be found in "meat meal" and "meat and bone meal."
- **"Poultry By-Product Meal"** consists of the ground, rendered clean parts of the carcasses of slaughtered poultry such as necks, feet, undeveloped eggs and intestines, exclusive of feathers except in such amounts as might occur unavoidably in good processing practices.....{the definition goes on to include the required mineral specifications and required nutrient guarantees}..... If the product bears a name descriptive of its kind, it must correspond thereto."

Essentially the same as "poultry by-products," but in rendered form so most of the water and fat has been removed to make a concentrated protein/mineral ingredient.

- **"Poultry Meal"** Basically the same as "poultry," but in rendered form, so most of the water and fat has been removed to make a concentrated protein/mineral ingredient.

Some Other Ingredients

Animal and vegetable fats or oils are commonly used to supply additional energy and flavor to a pet food.

Plant ingredients like corn, barley, peas, and potatoes also supply energy and help hold kibbles together.

There are a number of sources of dietary fiber used in pet food, including dried beet pulp, dried chicory root, fructooligosaccharide, powdered cellulose, and inulin.

What are some of the ingredients used to supply vitamins and minerals in a pet food?

There are many inorganic compounds used to supply minerals and most of them can be identified by what they supply with names beginning with elements such as calcium, cobalt, copper, ferric or ferrous (meaning Iron), magnesium, manganese, potassium, sodium, or zinc. Others may have the mineral as part of the second half of the name, such as "___iodate" (for iodine) or "___selenite" (for selenium). Some may include two useful minerals, such as "dicalcium phosphate" (supplying both calcium and phosphorus).

There are several classes of synthetic mineral ingredients that are called metal amino acid complexes, metal amino acid chelates and polysaccharide complexes. You may see specific designations, for example, "Iron Amino Acid Complex", "Magnesium amino acid chelate" or "Zinc polysaccharide complex". The theory behind these synthesized ingredients is improved bioavailability compared to strictly inorganic mineral compounds.

Some examples of ingredients used to provide vitamin activity include such materials as Cholecalciferol (supplies vitamin D from animal sources), Ergocalciferol (supplies vitamin D from plant sources), Vitamin B12 supplement, Riboflavin supplement (a source of vitamin B2), Vitamin A supplement, Vitamin D3 supplement, alpha-Tocopherol acetate (supplies vitamin E), Thiamine mononitrate (source of vitamin B1) and pyridoxine hydrochloride (source of vitamin B6). That is far from all of the ingredients used to supply vitamin activity, but enough to give you an idea.

What About Some of the Other Ingredients Used in pet Foods with "Chemical Sounding Names?"

Some additives which supply amino acids: DL-Methionine, L-Lysine, L-Threonine, DL-Tryptophan, Taurine (particularly important to cats), DL-Arginine, L-Tyrosine.

Some Ingredients Which Function as Chemical Preservatives: Ascorbic acid, Benzoic acid, Butylated hydroxyl anisol (BHA), Butylated hydroxyltoluene (BHT), Calcium ascorbate, Citric acid, Ethoxyquin, Potassium sorbate, Sodium bisulfate, Mixed Tocopherols. Some of these preservatives have limits to the amount that can be used or what types of products the preservative can be added to. The fact that a preservative has been added must be shown, such as preserved with BHT or mixed tocopherols (preservative).

Other ingredients you may find on an ingredient list that are often used as conditioning agents, thickeners, emulsifiers, sequestrants, flavors and seasonings might include:

Carrageenan, propylene glycol (in dog food only, propylene glycol is unsafe for cats and is prohibited from use in cat food), sodium hexametaphosphate (dental – tartar reduction in dogs and cats), agar-agar, and guar gum.

There are a large number of spices and extracts that are used for flavorings. Some examples include ginger, chamomile, fennel, rosemary, and a number of extracts of commonly known plants.