

Common Pet Food Ingredients:

Animal Digest: Animal digest is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed animal tissue. The animal tissues used shall be exclusive of hair, horns, teeth, hooves and feathers, except in such trace amounts as might occur unavoidably in good factory practice and shall be suitable for animal feed.

If it bears a name descriptive of its kind or flavor(s), it must correspond thereto. Animal digest is a cooked-down broth made from unspecified parts of unspecified animals. Any kind of animal can be included: goats, pigs, horses, rats, etc. The animals can be obtained from any source, so there is no control over quality or contamination.

Animal Fat: Animal fat is obtained from the tissues of mammals and/or poultry in the commercial process of rendering or extracting. Animal fat is a byproduct of meat meal processing. The origin of the contributing animals is never known, and the resulting oil is very low in linoleic acid -- an essential fatty acid that is important for skin and coat health.

Artificial Flavor/Color: Artificial flavors and colors are humanly-contrived additives, used to enhance a product and to appeal to the human eye. They are often used to conceal damage or inferiority.

Artificial flavors and colors add no nutritional value and raise questions for some about the health and safety of chemical additives to our pets' diets when eaten everyday.

Ascorbic Acid: Ascorbic acid is a white, crystalline, water-soluble vitamin, occurring naturally in citrus fruits, green vegetables, etc. Ascorbic acid is a form of vitamin C, which is an antioxidant good for normal metabolism.

BHA/BHT: BHA/BHT is short for Butylated Hydroxyanisole (BHA) and Butylated Hydroxytoluene (BHT), both of which are chemical preservatives.

BHA and BHT have been banned from human use in many countries. In the US, they are still permitted in pet foods.

Beef: Beef is the clean flesh derived from slaughtered cows and is limited to that part of the striate muscle which is skeletal or that which is found in the tongue, in the diaphragm, in the heart, or in the esophagus; with or without the accompanying and overlying fat and the portions of the skin, sinew, nerve, and blood vessels which normally accompany the flesh.

Although beef sounds appealing, beef can include parts of the cow which are not considered suitable for human consumption. In addition, beef is an allergen for many dogs and a common cause of skin irritations.

Beef and Bone Meal: Beef & bone meal is the rendered product from beef tissues, including bone, 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.

Beef & bone meal is a byproduct made from beef parts which are not suitable for human consumption. It can incorporate the entire cow, including the bone -- although the quality cuts of meat are always removed before beef & bone meal is made.

Beef Broth: Beef broth is obtained by cooking beef, including bones and/or muscle, much the same process as making a stock. There is currently no specific definition by AAFCO for beef broth.

Beef broth adds moisture and increases the protein and palatability level of food. However, beef is an allergen for many dogs and a common cause of skin irritations.

Beef Byproducts: Beef byproducts are the non-rendered, clean parts, other than meat, derived from slaughtered cows. It includes, but is not limited to, lungs, spleen, kidneys, brain, livers, blood, bone, partially defatted low temperature fatty tissue, and stomachs and intestines freed of their contents. It does not include hair, horns, teeth and hooves.

Beef byproducts are not meat. They can include almost any part of the animal *other* than meat, including organs and bone which are not suitable for human consumption.

Beef Fat: Beef fat is obtained from the tissues of cattle in the commercial process of rendering or extracting. Beef, in all of its forms, is an allergen for many dogs and a common cause of skin irritations.

Beef Meal: Beef meal is the rendered product from beef 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.

Beef Tallow: Beef tallow is obtained from the tissue of cattle in the commercial process of rendering.

Beet Pulp: Beet pulp is the residue from sugar beets which has been cleaned, freed from crowns, leaves, and sand, and extracted in the process of manufacturing sugar. Beet pulp is added to some pet foods to act as a fibrous stool hardener

Beta Carotene: Beta carotene is a carotenoid that produces Vitamin A. Although several different carotenoids are capable of providing vitamin A, Beta Carotene is the most plentiful in foods and has the highest biological activity. Animal products do not contain carotenoids but can provide active vitamin A when included in the diet. Milk, liver, egg yolk, and carrots contain high amounts of Beta Carotene. Both dogs and cats readily absorb Beta Carotene, and studies have shown this carotenoid may have a function in cell-mediated and body immune responses in these species.

Bone Phosphate: Bone Phosphate is the residue of bones that have been treated first in a caustic solution then in a hydrochloric acid solution, and thereafter precipitated with lime and dried.

Brewers Dried Yeast: Brewer's dried yeast is the dried, non-fermentive, non-extracted yeast that results as a by-product of the brewing of beer and ale.

Although brewer's yeast is a good source of Vitamin B, it is a potential allergen for some animals.

Brewers Rice: Brewer's rice is the small milled fragments of rice kernels that have been separated from the larger kernels of milled rice.

Brewer's rice is a lower quality rice product that is missing many of the nutrients found in ground rice and ground brown rice. (See the descriptions for those ingredients.)

Canola Oil: Canola oil is the oil obtained from the repeated pressing of rapeseeds. Canola oil, although a single-source oil, is lower in the essential linoleic acids which provide a lustrous coat and soft, supple skin.

Caramel Color: Caramel color is an artificial chemical coloring added to foods to make them appear more brown in color.

Carrageenan: Carrageenan is a red seaweed extract used as a food stabilizer and thickener. The particular type of seaweed that Carrageenan comes from is common in the Atlantic Ocean near Britain, Europe and North America. The seaweed is boiled to extract the carrageenan.

Cellulose Gum: Cellulose gum is a water-soluble derivation of the most abundant polymer in nature, cellulose. The main reason for using cellulose gum in a formulation is to increase its viscosity. It acts as a thickener, binder, stabilizer, protective colloid, suspending agent, and rheology, or flow control agent.

Cellulose gum is a chemically treated polymer used by some pet food manufacturers as a thickener in canned food products.

Cheese: Cheese is defined as the fresh or matured product obtained by draining the whey of the original milk after coagulation of casein, milk's major protein. There is no official definition by AAFCO. Cheese provides many essential nutrients and is an important source of protein, vitamins and minerals. In its concentrated form, it contains many of milk's nutrients.

Chicory Root Extract: Chicory Root Extract is primarily composed of the polysaccharide inulin, which has been extracted from the root by a mechanical process. Chicory Root is a thick-rooted blue-flowered European perennial composite herb widely grown for its roots and as a salad plant. The inulin derived from the Chicory Root is a fructooligosaccharide added to accomplish the same purpose as supplementing probiotics. The prebiotic feeds the "good bacteria" and hinders the growth of bad bacteria in the pet's digestive tract.

Chicken: Chicken is the clean combination of flesh and skin with or without accompanying bone, derived from the parts or whole carcasses of chicken- exclusive of feathers, heads, feet, and entrails. Chicken is an excellent source of protein.

Chicken Broth: Chicken broth is obtained by cooking chicken, including bones and/or muscle, much the same process as making a stock. There is currently no specific definition by AAFCO for chicken broth.

Chicken Byproduct Meal: Chicken byproduct meal consists of the dry, ground, rendered, clean

parts of the carcass of slaughtered chicken, such as necks, feet, undeveloped eggs, and intestines -- exclusive of feathers except in such amounts as might occur unavoidably in good processing practices.

Chicken byproduct meal is an inconsistent ingredient because of the multiple organs used, their constantly changing proportions, and their questionable nutritional value. Chicken byproduct meal is much less expensive and less digestible than chicken meal.

Chicken Byproducts: Chicken byproducts consist of the rendered, clean parts of the carcass of slaughtered chicken, such as heads, feet, viscera, free from fecal content and foreign matter except in such amounts as might occur unavoidably in good processing practices.

Chicken byproducts are an inconsistent ingredient because of the multiple organs used, their constantly changing proportions and their questionable nutritional value. Chicken Byproducts are much less expensive and less digestible than chicken meal.

Chicken Cartilage: A natural source of glucosamine.

Chicken Digest: Chicken digest is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed chicken tissue. Chicken digest is a palatability enhancer made by reducing (cooking down) chicken meat and fat into a concentrated liquid or dry product.

Chicken Fat: Chicken fat is obtained from the tissues of chickens in the commercial process of rendering or extracting. Chicken fat is the highest of all animal sources in linoleic acid (over 23%), an important element for skin and coat health.

Chicken Giblets: Chicken giblets are the internal organs of the chicken usually consisting of the liver, heart, neck and gizzard. Giblets can be inconsistent ingredients with constantly changing proportions and questionable nutritional value.

Chicken Liver Digest: Chicken liver digest is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed chicken liver tissue. Chicken liver digest is used by some manufacturers as a flavor enhancer.

Chicken Liver Meal: Chicken liver meal is the dried product of ground hepatic glands of chickens.

Chicken Meal: Chicken meal is the dry rendered (cooked down) product from a combination of clean flesh and skin with or without accompanying bone, derived from the parts of whole carcasses of chicken -- exclusive of feathers, heads, feet, or entrails.

Chicken meal is considered to be the single best source of protein in commercial pet foods.

Choline Chloride: Choline chloride is a member of the B-complex group of water-soluble vitamins (vitamin B-4).

It is used as an animal feed additive, especially for poultry and swine, to increase growth, reduce mortality rate, increase feed efficiency, increase egg production, and improve meat quality. It is not a substitute for any other feed supplement and has no direct substitutes itself.

Chondroitin Sulfate: Chondroitin sulfate is a long chain carbohydrate derived from connective tissue. Chondroitin sulfate naturally occurs in the cartilage cushioning our joints. Given in additional amounts, with glucosamine, it is believed to attract fluid back into joint cartilage, stimulating the rebuilding of the cartilage matrix and playing a role in the fight against osteoarthritis.

Corn Bran: Corn bran is the outer coating of the corn kernel, with little or none of the starchy part of the germ.

Corn bran is a high fiber fraction of the corn kernel, with little or none of the starchy part of the germ. This is primarily a "filler" ingredient and supplies very little nutrition besides fiber

Corn Cellulose: Corn cellulose is obtained from the cell walls of corn.

Corn Flour: Corn flour is the fine sized hard flinty portions of ground corn containing little or none of the bran or germ.

Whenever flour is part of an ingredient's name, the grain has been processed and some (or all) of the nutritional value has been lost. Frequently these flour ingredients are simply the leftover dust from processing human food ingredients.

Corn Germ Meal: Corn germ meal is ground corn germ which consists of corn germ with other parts of the corn kernel from which part of the oil has been removed and is obtained from either a wet or dry milling manufacturing process of corn meal, corn grits, hominy feed, or other corn products.

Because corn germ meal is a grain fraction, it only supplies a fraction of the nutrients present in the whole grain.

Corn Grits: Corn grits are coarsely ground grains from which the bran and germ have been removed, usually screened to uniform particle size.

Corn Gluten Meal: Corn gluten meal is the dried residue from corn after the removal of the larger part of the starch and germ, and the separation of the bran by the process employed in the wet milling manufacture of corn starch or syrup, or by enzymatic treatment of the endosperm.

While not the best quality source of protein, the use of corn gluten in small amounts offer preventive health benefits for cats. In addition, unlike dogs, cats do not usually show signs of allergic reactions to corn products.

Corn Meal: Corn meal is the entire corn kernel, finely ground. While the whole corn kernel is nutritious, corn is considered to be highly allergenic.

D-Activated Animal Sterol: Source of Vitamin D3

DL-Methionine: Methionine (dL-Methionine) is a sulfur-containing amino acid obtained by the hydrolysis of most common proteins.

Methionine is a principle supplier of sulfur which prevents disorders of the hair (promotes hair growth), skin and nails. It helps lower cholesterol levels by increasing the liver's production of lecithin, reduces liver fat, and protects the kidneys.

DL-methionine is a chelating agent for heavy metals. It regulates the formation of ammonia and creates ammonia-free urine which reduces bladder irritation. DL-methionine is an essential amino acid which serves as a urinary acidifier.

Deboned Chicken: Deboned chicken is the clean flesh without accompanying bone, derived from the parts or whole carcasses of chicken- exclusive of feathers, heads, feet, and entrails. Deboned chicken is highly digestible, an excellent source of amino acids and a good quality protein, and is very palatable.

Defluorinated Phosphate: Defluorinated phosphate includes either calcined, fused, precipitated, or reacted calcium phosphate.

Defluorinated phosphate is a source of calcium, used as a dietary supplement. Calcium builds and maintains strong bones and teeth, regulates heartbeat and other muscle contractions, and is necessary for proper blood clotting.

Dehulled Oats: Dehulled oats are whole oats that have had the outer covering of the grain removed.

Dehulled Soybean Meal: Dehulled soybean meal is the product obtained by grinding the flakes which remain after the removal of most of the oil and the outer covering of the soybean seed by a solvent or mechanical extraction process.

Dehulled soybean meal is a poor quality protein filler. The 'crude protein' analysis on pet food labels is only a measurement of the amount of nitrogen in a food--not the quality of the protein. Because of this, pet food companies can use the cheaper by-products of human food production, such as soybean meal, to boost protein numbers. Meat is always the best source of quality protein. Meat protein is better absorbed and retained and is higher in essential amino acids like methionine, arginine, and taurine. Soybean meal has biologic value less than 50% of that of chicken meal.

Dehydrated Mixed Vegetables: Dehydrated mixed vegetables are the product obtained by removal or separation of water from unspecified vegetables. There is no knowing with this ingredient what vegetables are present, or what their nutrient value is.

Dicalcium Phosphate: Dicalcium Phosphate is a calcium salt of phosphoric acid.

Dicalcium phosphate provides both calcium and phosphorus, which are vital for building and maintaining strong bones and teeth. Calcium also regulates heartbeat and other muscle contractions and is necessary for proper blood clotting. Phosphorus plays an important part in the body's energy production.

Digest: Digest is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed animal tissue. Digest is a palatability enhancer which can contain unpredictable parts from animals of unknown origin.

Dried Beet Pulp: Dried beet pulp is the dried residue from sugar beets which has been cleaned, freed from crowns, leaves, and sand, and extracted in the process of manufacturing sugar. Dried beet pulp is added to some pet foods to act as a fibrous stool hardener.

Dried Blood Meal: Dried Blood Meal is produced from clean, fresh animal blood, exclusive of all extraneous material such as hair, stomach belchings and urine except as might occur unavoidably in good manufacturing processes. A large portion of the moisture is usually removed by a mechanical dewatering process or by condensing by cooking to a semi-solid state.

The semi-solid blood mass is then transferred to a rapid drying facility where the more tightly bound water is rapidly removed. The minimum biological activity of lysine shall be 80%.

Dried Eggs: Dried eggs are USDA-inspected whole eggs, without the shell, in a dehydrated form.

Dried Egg Product: Egg product is product obtained from egg graders, egg breakers, and/or hatchery operations that is dehydrated, handled as liquid, or frozen.

Egg product consists of the unused leftovers from eggs for human production. It can include undeveloped eggs, shells, and other tissues unfit for human consumption.

Dried Milk Protein: Dried milk protein is obtained by drying the coagulated protein residue resulting from the controlled co-precipitation of casein, lactalbumin, and minor milk proteins from defatted milk. In layman's terms, dried milk protein is the dried residue that results from separating protein parts from milk.

Egg: Egg is the part or whole of the reproductive body produced by hens.

Egg Product: Egg Product is product obtained from egg graders, egg breakers and/or hatchery operations that is dehydrated, handled as liquid, or frozen. These shall be labeled as per USDA regulations governing eggs and egg products.

This product shall be free of shells or other non-egg materials except in such amounts which might occur unavoidably in good processing practices, and contain a maximum ash content of 6% on a dry matter basis

Ethoxyquin: Ethoxyquin is a chemical preservative that is not approved for human use.

Feeding Oatmeal: Feeding oatmeal is obtained in the manufacture of rolled oat groats or rolled oats and consists of broken oat groats, oat groat chips, and floury portions of the oat groats, with only such quantity of finely ground oat hulls as is unavoidable in the usual process of commercial milling.

Feeding oat meal is a fractionated grain which results from processing oats for human consumption. It is missing the nutritional value of whole oats, as the hull and portions of the endosperm are missing. (See the ingredient description for Oatmeal)

Fish: Fish is any of various cold-blooded, aquatic vertebrates having gills, commonly fins, and typically an elongated body covered with scales according to Webster's dictionary. Since an

unspecified type of fish is used, the ambiguous nature of this ingredient makes it potentially inconsistent.

Fish Broth: Fish broth is obtained by cooking fish and/or other marine animal products, including bones, shells, parts, and/or muscle, but not including fish solubles.

Fish broth adds moisture while enhancing the protein level and palatability, rather than diluting it. It contains Omega 3 essential fatty acids, which play a vital role in the structures of cell membranes. Essential fatty acids stimulate growth, benefit skin and hair, influence the inflammatory response and affect the development of the nervous system, including the brain.

Fish Meal: Fish meal is the clean, rendered (cooked down), dried ground tissue of undecomposed whole fish or fish cuttings, either or both, with or without the extraction of part of the oil. Fish meal is made from unspecified types of fish. While fish meal can be a good source of essential fatty acids and is very palatable for cats, the ambiguous nature of this ingredient makes it potentially inconsistent.

Flaxseed: Flaxseed is the whole seed of the flax plant. What makes flaxseed so unique is its mix in both soluble and insoluble fiber. Together these fibers aid in digestion and help to prevent constipation. Flaxseed is also an excellent source of Omega 6 and Omega 3 essential fatty acids. These fatty acids can help produce the soft, luxuriant coat. The richest source of alpha-linoleic acid is found in flaxseed.

Flaxseed meal / Flax Meal: Flax meal is the ground product obtained from the seed of the flax plant.

Flax meal is a good source of Omega 6 and Omega 3 essential fatty acids. With a high fiber content and low relative carbohydrate count, flax meal helps to maintain a healthy digestive tract and reduces cholesterol.

Folic Acid: Folic acid is a Vitamin of the B complex that is water-soluble and essential in animal metabolism.

Folic acid is absorbed from the small intestine and small amounts are stored in the liver and other tissues. Excess is excreted in the urine. Its main function is to maintain the cells' genetic code and regulate cell division. It is essential for the normal growth and maintenance of all cells.

When folic acid is deficient in the body, the inability to produce adequate DNA leads to decreased cellular growth and maturation. Like several of the other B vitamins, folic acid is synthesized by the bacteria of the large intestine in dogs and cats.

Glucosamine: Glucosamine hydrochloride is a compound that occurs naturally in the cartilage cushioning the joints. Glucosamine, together with chondroitin sulfate, is believed to stimulate the rebuilding of the cartilage matrix and to play a role in the fight against osteoarthritis.

Glycerine: Glycerine is a colorless, odorless sweet tasting viscous liquid. It is used in some pet

foods to retain moisture and enhance palatability.

Grain Fermentation Solubles: Grain fermentation solubles are the dried material resulting from drying the water soluble materials after separation of suspended solids from grain fermentation.

Grain fermentation solubles are an inexpensive byproduct of human food and beverage production which add little or no nutritional value to pet foods.

Ground Barley: Ground barley is the entire barley kernel, ground or chopped.

Ground Brown Rice: Ground brown rice is the entire product obtained in grinding the rice kernels after the hulls have been removed.

Ground brown rice is a high quality source of carbohydrates and natural fiber, though slightly less digestible than ground (white) rice.

Ground Corn: Ground corn is the entire corn kernel, ground or chopped. Corn products are commonly used in pet foods as a main protein source. Because corn products are lacking in certain amino acids such as methionine, arginine and taurine, they are not as nutritious as high quality meats.

Ground millet: Ground millet is any of various cereal grasses cultivated for grain or fodder. According to the Encyclopedia Britannica, millet is an important food staple in much of Asia, Russia, and western Africa.

In the United States and Western Europe, millet grains are used chiefly for pasture or to produce hay. The nutrient content in millet is not as biologically available to animals as other grains. Ground millet is highly digestible and has a nice "nutty" flavor.

Ground Oats: Oats are the dry ground product of cleaned oats with the hulls removed. Oats are a natural, healthy grain that are rich in B vitamins, and are a good source of carbohydrates.

Ground Rice: Ground rice is the de-hulled rice kernel, ground or chopped, with the bran removed -- known as white rice. Rice is a high quality source of carbohydrates. Rice is the most digestible grain for pet foods and is relatively hypo-allergenic.

Ground Wheat: Ground wheat is the entire wheat kernel, ground or chopped.

Ground wheat is a good quality source of carbohydrates. Because it includes the entire wheat kernel, it contributes additional protein, wheat oil, bran, and vitamins and minerals to the diet. This is in contrast to the fractionated wheat ingredients used by some manufacturers such as wheat bran, wheat flour or wheat middlings, which are leached of much of their nutritional value.

Ground White Rice: Ground rice is the de-hulled rice kernel, ground or chopped, with the bran removed -- known as white rice. Rice is a high quality source of carbohydrates. Rice is the most digestible grain for pet foods and is relatively hypo-allergenic.

Ground Whole Grain Sorghum: Sorghum is the ground grain of the sorghum plant. Sorghum is a member of the grass family; its leaves and stalk resemble corn but it does not have ears. Although sorghum is a good source of carbohydrates, it is low in digestibility.

Ground Whole Rice: Ground whole rice is the entire product obtained in grinding the rice kernels after the hulls have been removed. Rice is a high quality source of carbohydrates. Rice is the most digestible grain for pet foods and is relatively hypo-allergenic.

Ground Whole Wheat: Ground wheat is the entire wheat kernel, ground or chopped. Ground wheat is a good quality source of carbohydrates. Because it includes the entire wheat kernel, it contributes additional protein, wheat oil, bran, and vitamins and minerals to the diet. This is in contrast to the fractionated wheat ingredients such as wheat bran, wheat flour or wheat middlings, which are leached of much of their nutritional value.

Ground Yellow Corn: Ground yellow corn is the entire corn kernel, ground or chopped.

Guar Gum: Guar gum is derived from the ground endosperm of the guar plant. It is a gelatinous substance from the legume family that contains protein and polysaccharides. There is currently no official AAFCO definition for guar gum but is considered GRAS (generally recognized as safe).

Guar gum is used as an emulsifier, thickener, and stabilizer in foods. Several studies have found significant decreases in cholesterol levels after administration of guar gum in humans. These decreases are thought to be a function of the high soluble fiber content of guar. Guar gum is highly digestible and has a low caloric content.

Herring: Herring is the clean tissue of undecomposed whole herring or herring cuttings, either or both, with or without the extraction of part of the oils.

Herring is an excellent single-source protein. It is also an excellent source of Omega 3 essential fatty acids.

Herring Meal: Herring meal is the clean, rendered (cooked down), dried ground tissue of undecomposed whole herring or herring cuttings, either or both, with or without the extraction of part of the oil. Herring meal is a good source of Omega 3 essential fatty acids.

Inulin: A tasteless white polysaccharide found especially dissolved in the sap of the roots and rhizomes of composite plants.

A relatively new highly fermentable fiber, Inulin has not only become widely recognized as a superior prebiotic fiber source, it has also been clinically proven to increase calcium absorption. Derived from chicory roots, Inulin becomes a specific foodstuff for the beneficial bacteria found in the intestinal tract. Benefits from this include firmer stools, reduced risk of colitis and cancers, improvement in glucose and blood lipid metabolism, reduction in gas production (flatulence) and a reduction in fecal odor.

Kibbled Corn: Kibbled corn consists of the dry product obtained by cooking cracked corn under steam pressure and extruding from an expeller or other mechanical pressure device.

Corn products are commonly used in pet foods as a main protein source. Because corn products are lacking in certain amino acids such as methionine, arginine and taurine, they are not as nutritious as high quality meats.

Kibbled Wheat: Kibbled wheat is obtained by cooking cracked wheat under steam pressure and extruding from an expeller or other mechanical pressure device. Wheat is a good quality source of carbohydrates.

Kidneys: Kidneys are one of a pair of organs in the body that excrete waste products of metabolism. They consist chiefly of nephrons by which urine is secreted, collected and discharged into the bladder. When the name of an organ appears by itself on the pet food label, there is no way to know which kind of animal it came from. It could be from a horse, goat, duck, pig or even skunk or other animals of questionable origin.

L-Carnitine: Carnitine, or L-carnitine, is a vitamin-like compound made in the body from the amino acids lysine and methionine. It is found in animal-based, not plant based, sources of protein.

L-carnitine has been used to help with fat metabolism and recent scientific studies indicate that it helps reduce weight in overweight dogs and cats.

Lamb: Lamb consists of lamb tissue, exclusive of any added blood, hair, hoof, hide trimmings, manure, stomach and rumen contents.

Lamb Byproducts: Lamb byproducts consist of the rendered, clean parts of the carcass of slaughtered lambs, such as heads, feet, and viscera, free from fecal content and foreign matter except in such amounts as might occur unavoidably in good processing practices.

Lamb by-products are an inconsistent ingredient because of the multiple organs used, their constantly changing proportions and their questionable nutritional value. Lamb by-products are much less expensive and less digestible than lamb meal.

Lamb Meal: Lamb meal is the dry rendered (cooked down) product from lamb tissues, exclusive of any added blood, hair, hoof, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices.

Lamb meal is simply lamb meat with the moisture removed, making it suitable for use in dry food.

Lecithin: Lecithin is a specific phospholipid and the principal constituent of crude phosphatides derived from oil-bearing seeds.

Lecithin is essential for normal fatty acid transport within cells. It is obtained chiefly from soybeans, corn and egg yolk.

Liver: Liver is the hepatic gland of a mammal. When the word 'meat' or the name of an organ appears by themselves on a pet food label, there is no way to know which kind of animal it came from. It could be horse liver, goat, duck, pig, or even skunk or other animals of questionable origin.

Liver Digest: Liver digest is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed liver tissue.

Liver Meal: Liver meal is the dried product of ground hepatic glands of mammals.



When the word 'meat' or the name of an organ appear by themselves on a pet food label, there is no way to know which kind of animal it came from. It could be horse liver, goat, duck, pig, or even skunk or other animals of questionable origin.

Locust Bean Gum: Locust bean gum is a natural extract from the seed of the carob tree. It is also known as carob gum. Locust bean gum is a natural product used as a gelling agent, stabilizer or emulsifier.

Lysine: Lysine is an amino acid released in the hydrolysis of many common proteins.

The inclusion of meat proteins with cereal proteins in a pet food, coupled with properly controlled processing methods, ensures that the ration contains an adequate level of available lysine. In a completely cereal-based dog food, either supplemental lysine or a meat source of lysine must be added.

Meat Broth: Meat broth is obtained by cooking meat from a mammal, including bones and /or muscle, in much the same process as making a stock. There is currently no specific definition by AAFCO for meat broth.

Meat broth, which can be from any type of mammal, adds moisture and increases the protein and palatability level of food.

Meat Byproducts: Meat byproducts are the non-rendered, clean parts, other than meat, derived from slaughtered mammals. It includes, but is not limited to, lungs, spleen, kidneys, brain, livers, blood, bone, partially defatted low temperature fatty tissue, and stomachs and intestines freed of their contents. It does not include hair, horns, teeth and hoofs.

Meat byproducts are not meat. They can include almost any part of the animal *other* than meat. Because any mammal can be used, cheaper meats like horse, pig, or goat are often included. In addition, organ byproducts (such as liver) may contain chemical residues and other elements of decomposition which raise serious health questions.

Meat Meal / Meat and Bone Meal: Meat Meal or Meat & Bone Meal is the rendered product from mammal tissues, with or without bone, 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.

Most people associate this ingredient with beef. The truth is that it can come from any mammal: pigs, goats, horses, rabbits, rendered animals from shelters, and dead animals found on roads. Meat meal can contain condemned parts and animals that are rejected for human consumption, including '4D' animals: dead, diseased, dying, or disabled. It can include pus, cancerous tissue, and decomposed (spoiled) tissue.

Methionine: Methionine is a natural amino acid which serves as a urinary acidifier.

Methionine is a principle supplier of sulfur which prevents disorders of the hair, skin and nails. It helps lower cholesterol levels by increasing the liver's production of lecithin, reduces liver fat and protects the kidneys. Methionine also regulates the formation of ammonia and creates ammonia-free urine which reduces bladder irritation.

Mixed Tocopherols: Source of Vitamin E.

Natural Flavor (i.e. chicken, turkey, etc): Natural Flavors are minimally processed flavor ingredients that do not contain synthetic or artificial components.

Oat Bran: Oat bran is the coarse outer covering of the oat kernel as separated from cleaned and scoured oat in the usual process of commercial milling.

Oat Fiber: Oat fiber is a white, fine-grained dietary fiber obtained through the processing of oats. It is a class of plant carbohydrate that resists digestion hydrolysis.

Oat Flour: Oat flour is the finely ground and bolted meal obtained from milling oats.

Oat Groats: Oat groats are cleaned oats with the hulls removed.

Oat Hulls: Oat Hulls consists primarily of the outer covering of oats, obtained in the milling of table cereals or in the groating of oats from clean oats.

Ocean Fish: Ocean fish is undecomposed whole fish or cuttings, with or without part of the fish oils. Ocean fish can be comprised of any type of fish, with constantly changing proportions and questionable nutritional value.

Ocean Fish Meal: Ocean fish is undecomposed whole fish or cuttings. Ocean fish meal is fish that has been ground or otherwise reduced in particle size. Ocean fish can be comprised of any type of fish, with constantly changing proportions and questionable nutritional value.

Oatmeal: Oatmeal is the dry ground product of cleaned oats with the hulls removed. Oatmeal is a good source of carbohydrate energy.

Peanut Hulls: Peanut hulls consist of the outer hull of the peanut shell. Peanut hulls have no nutritional value whatsoever, and there are concerns regarding the level of residual fungicides that soak into peanut hulls as they are grown. They are used exclusively as a filler ingredient.

Pearled Barley: Pearled barley is barley that has been dehulled by machine brushing. Pearled barley has the bran removed but leaves the endosperm and germ intact, thereby contributing additional protein, barley oil and vitamins and minerals to the diet.

Phosphorous: Phosphorus is a mineral that is vital to energy production; it helps build bone and form cell membranes and genetic material.

Pork Byproducts: Pork byproducts consist of the rendered, clean parts of the carcass of

slaughtered pig, such as heads, feet, viscera, free from fecal content and foreign matter except in such amounts as might occur unavoidably in good processing practices. Pork byproducts are an inconsistent ingredient because of the multiple organs used, their constantly changing proportions and their questionable nutritional value. Pork byproducts are much less expensive and less digestible than other protein sources.

Pork Liver: The hepatic gland of a pig.

Pork Meal: is the dry rendered (cooked down) product from a combination of clean flesh and skin (with or without accompanying bone), derived from the parts of whole carcasses of pigs or a combination thereof -- exclusive of head, feet or entrails.

In general, pork is an acceptable ingredient but there are palatability issues with pork as compared to other meats. It is difficult to make a highly palatable pet food using pork without adding flavor enhancers. Another problem is that there is an inadequate supply of pork meal that is free from by-products.

Potassium: Potassium plays various roles in metabolism and body functions. It assists in the regulation of the acid-base balance and water balance in the blood and the body tissue. It assists in protein synthesis from amino acids and in carbohydrate metabolism.

Potassium Chloride: A chemical compound, KCl, a colorless or white, cubic, crystalline compound that closely resembles common salt (sodium chloride). It is soluble in water, alcohol, and alkalis.

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Potato Flour: Potato flour is a gluten-free flour made from cooked, dried and ground potatoes. It is used as a thickener. Also known as potato starch.

Whenever flour is part of an ingredient's name, the grain has been processed and some (or all) of the nutritional value has been lost. Frequently these flour ingredients are simply the leftover dust from processing human food ingredients.

Potato Product: Potato product consists of potato pieces, peeling, culls, etc., obtained from the manufacture of processed potato products for human consumption.

Potatoes: Potatoes are whole, freshly cooked, Idaho russet potatoes, that include the skins. Potatoes provide B vitamins, carbohydrates, zinc, vitamin C, copper, iron, magnesium, niacin and potassium.

Poultry: Poultry is the clean combination of flesh and skin with or without accompanying bone, derived from the parts or whole carcasses of poultry or a combination of thereof - exclusive of feathers, heads, feet, and entrails. Poultry is an inconsistent ingredient, which can contain any type of fowl, including buzzards, geese, and other birds.

Poultry Byproduct 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. Poultry byproducts are *not* meat. They can include almost any part of the animal other than meat, including organs and bone which are not suitable for human consumption.

This is a low-quality, inconsistent ingredient, with multiple organs used, constantly changing proportions, and questionable nutritional value. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken. Poultry by-product meal is much less expensive and less digestible than chicken meal.

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Poultry Digest: Animal digests are materials which results from chemical and/or enzymatic hydrolysis of clean and undecomposed animal tissue. The animal tissues used shall be exclusive of hair, horns, teeth, hooves and feathers, except in such trace amounts as might occur unavoidably in good factory practice and shall be suitable for animal feed. If it bears a name descriptive of its kind or flavor(s), it must correspond thereto.

Poultry digest is a cooked-down broth made from unspecified parts of unspecified fowl (turkeys, ducks, geese, buzzards, etc). The animals can be obtained from any source, so there is no control over quality or contamination.

Poultry Fat: Poultry fat is obtained from the tissues of chickens in the commercial process of rendering or extracting. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken.

Poultry Giblets: Poultry giblets are the internal organs of any type of bird.

This is a low-quality, inconsistent ingredient, with constantly changing proportions, and questionable nutritional value. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken. Poultry giblets are much less expensive and less digestible than chicken.

Poultry Liver: The hepatic gland of fowl. This is a low-quality, inconsistent ingredient, with constantly changing proportions, and questionable nutritional value. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken.

Poultry Liver Digest: Poultry liver digest is a material which results from chemical and/or

enzymatic hydrolysis of clean and undecomposed liver tissue of fowls. Poultry liver digest is used by some manufacturers as a flavor enhancer.

This is a low-quality, inconsistent ingredient, with constantly changing proportions, and questionable nutritional value. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken.

Poultry Meal: Poultry meal is the dry rendered (cooked down) product from a combination of clean flesh and skin with or without accompanying bone, derived from the parts of whole carcasses of fowl -- exclusive of feathers, heads, feet, or entrails.

This is a low-quality, inconsistent ingredient, with constantly changing proportions, and questionable nutritional value. The origin can be any fowl (turkeys, ducks, geese, buzzards, etc.), instead of a single source, like chicken.

Powdered Cellulose: Powdered cellulose is purified, mechanically disintegrated cellulose prepared by processing alpha cellulose obtained as a pulp from fibrous plant materials. Powdered cellulose is a fancy term for wood. Dried wood is cleaned and processed into a fine powder and used to add bulk and consistency to cheap pet foods.

Rice: Rice, unless listed as brown rice, is the de-hulled rice kernel, without the bran -- known as white rice.

Rice, in its whole form, is a high quality source of carbohydrates, protein and fiber. This is in contrast to fractionated grain ingredients used by some manufacturers such as rice polishings, rice bran, or brewers rice which have been leached of much of their nutrient value.

Rice Bran: Rice bran is the pericarp or bran layer and germ of the rice. Rice bran adds a rich, hearty natural flavor to the food and has a positive effect on proper digestion due to the high fiber content.

Rice Flour: Rice flour consists principally of the soft, finely ground and bolted meal obtained from milling rice (containing essentially the starch and gluten of the endosperm) together with fine particles of rice bran and the offal from the 'tail of the mill.'

Whenever flour is part of an ingredient's name, the grain has been processed and some (or all) of the nutritional value has been lost. Frequently these flour ingredients are simply the leftover dust from processing human food ingredients.

Rice Gluten Meal: Rice gluten meal is the dried residue from rice after the removal of the larger part of the starch and germ, and separation of the bran by the process employed in the wet milling manufacture of rice starch or syrup, or by enzymatic treatment of the endosperm.

The availability of nutrients in carbohydrate ingredients is dependent upon the digestibility of the grain. Rice gluten meal has an above average amino acid profile and has a substantially higher biological value than either corn gluten or wheat gluten. Rice gluten is an excellent option for any pet allergic to wheat or corn. It is ideal for use in cat foods not only for its hypo-allergenic qualities, but for its low ash content.

Rice Hulls: Rice hulls consist primarily of the outer covering of the rice. Rice hulls are a grain fraction, an inexpensive source of fiber that is considered a filler ingredient

Rice Protein Concentrate: Rice protein concentrate is the concentrated protein fraction of rice grains resulting from the rice wet milling process. Rice protein concentrate is a good source of hypoallergenic protein for pet foods.

Rosemary Extract: Rosemary is an evergreen shrub of *Rosemarinus Officinalis*. Rosemary is used as a preservative.

Rye Flour: Rye flour is an excellent source of dietary minerals and nutritional fiber.

Salmon: Salmon is a marine and freshwater food fish high in protein and Omega fatty acid. There is currently no official AAFCO definition for salmon.

Salmon is an excellent single-source protein. It is also an excellent source of Omega 3 essential fatty acids, which play a vital role in the structures of cell membranes.

Salmon Meal: Salmon fishmeal is the clean, rendered, dried ground tissue of undecomposed salmon or salmon cuttings, either or both, with or without the extraction of part of the oil. Salmon fishmeal is a good source of essential fatty acids and is a palatable ingredient for cats.
Salt: Salt is a natural mineral, necessary for life and good health.

Most pet food ingredients contain enough sodium to meet a dog or cat's nutritional needs. The addition of salt by the manufacturers is generally unnecessary.

Sea Salt: Sea salt, also know as solar salt, is a natural mineral necessary for life and good health. Even though regular salt (mined) and sea salt (solar) come from different places, by the time they make it onto the market, they are practically identical in every way, including nutritional value.

Sodium Ascorbate: Sodium Ascorbate is a common form of Vitamin C.

Sodium Chloride: Sodium chloride is the chemical name for common salt.

Sodium Hexametaphosphate: Sodium Hexametaphosphate is prepared by melting monosodium orthophosphate, followed by rapid cooling.

Sodium Hexametaphosphate is used as a sequestrant and has applications in a wide variety of industries, including as a food additive.

Sodium Phosphate: Phosphorus is a naturally occurring substance that is important in every cell in the body. The majority of phosphorus in the body is found in the bones. The potassium and sodium salt forms of phosphorus are called phosphates.

Sodium phosphate is used to acidify the urine and lower the urinary calcium concentration. This may reduce rash and odor caused by ammonium in the urine. Sodium phosphate is also used as a phosphorus supplement to prevent and/or treat a phosphorus deficiency.

Sodium Propionate: Sodium proprionate is a synthetic substance used as a food preservative.

Sodium Selenite: Sodium selenite is an essential trace mineral and a major antioxidant nutrient.

Sodium selenite is involved with iodine metabolism, pancreatic function, DNA repair, immunity and the detoxification of heavy metals. Studies with humans have shown that this antioxidant can help prevent some cancers and cataracts.

Sorbic Acid: Sorbic acid is a white crystalline carboxylic acid used as a preservative.

Sorbitol: Classified as a sugar alcohol, sorbitol is both a naturally occurring sugar-like compound found in some fruits, and a compound that is produced to be used as a sweetener, as in diabetic human foods, for example. Since it is not easily digested, sorbitol can cause diarrhea.

Sorghum: Sorghum is the ground grain of the sorghum plant. Sorghum is a member of the grass family; its leaves and stalk resemble corn but it does not have ears. Although sorghum is good source of carbohydrates, it is low in digestibility.

Soy Flour / Soybean Flour: Soy flour is the finely powdered material resulting from the screened and graded product after removal of most of the oil from selected, sound, cleaned and dehulled soybeans by a mechanical or solvent extraction process.

Whenever flour is part of an ingredient's name, the grain has been processed and some (or all) of the nutritional value has been lost. Frequently these flour ingredients are simply the leftover dust from processing human food ingredients.

Soybean Hulls: Soybean hulls consist primarily of the outer covering of the soybean. Soybean hulls are used exclusively as a filler ingredient and have no nutritional value whatsoever.

Soybean Meal: Soybean meal is the product obtained by grinding the flakes which remain after removal of most of the oil from soybeans by a solvent or mechanical extraction process.

Soybean meal is a poor quality protein filler. The "Crude Protein" analysis on pet food labels is only a measurement of the amount of nitrogen in a food -- not the quality of the protein. Because of this, pet food companies can use the cheaper by-products of human food production, such as soybean meal, to boost protein numbers.

Meat is always the best source of quality protein. Meat protein is better absorbed and retained and is higher in essential amino acids like methionine, arginine, and taurine. Soybean meal has a biologic value less than 50% of that of chicken meal.

Soybean Mill Run: Soybean mill run is composed of soybean hulls and such bean meats that adhere to the hulls which results from normal milling operations in the production of dehulled soybean meal.

Commonly referred to as 'floor sweepings,' this ingredient is nothing more than an inexpensive filler with little or no nutritional value.

Soybean Oil: Soybean oil is obtained by extracting oil from soybeans. Soybean oil is low among vegetable oils in linoleic acid.

Sunflower Oil: Sunflower oil is obtained by extracting oil from sunflower seeds.

Sunflower oil has a high concentration of linoleic acid (73%), which is important for good skin and coat health.

Taurine: Taurine is the 11th essential amino acid required by cats. Insufficient levels of taurine can lead to blindness and cardiac problems in cats. Meat is naturally high in taurine.

Threonine: Threonine is a colorless crystalline amino acid found in protein; an essential component of human and animal nutrition

Tomato Pomace: Tomato pomace is the mixture of tomato skins, pulp, and crushed seeds.

This is an inexpensive by-product with the potential for pesticide residues in discarded tomato skins, which are the largest component of tomato pomace.

Titanium Dioxide Color: Titanium dioxide color is an artificial chemical coloring.

Tricalcium Phosphate: Calcium is a principal inorganic component of bone. As much as 99% of the body's calcium is found in the skeleton. Calcium is a mineral that is found naturally in foods. Calcium is necessary for many normal functions of the body, especially bone formation and maintenance. Calcium can also bind to other minerals (such as phosphate) and aid in their removal from the body.

Tuna Meal: Tuna is the clean tissue of undecomposed whole tuna or tuna cuttings. Tuna meal is tuna that has been ground or otherwise reduced in particle size.

Turkey: Turkey is the clean combination of flesh and skin with or without accompanying bone, derived from the parts or whole carcasses of turkey or a combination of thereof - exclusive of feathers, heads, feet, and entrails.

Turkey is an excellent source of highly digestible protein.

Turkey Broth: Turkey broth is obtained by cooking turkey bones, parts, and/or muscle tissue. Turkey broth adds moisture and flavor to canned foods and is a good source of fat and protein.

Turkey Byproducts: Turkey By-Products are the rendered clean parts of carcasses of slaughtered poultry such as heads, feet, viscera, free from fecal content and foreign matter except in such trace amounts as might occur unavoidably in good factory practice.

Turkey byproducts are an inconsistent ingredient because of the multiple organs used, their constantly changing proportions and their questionable nutritional value. Turkey byproducts are much less expensive and less digestible than other protein sources.

Turkey Meal: Turkey meal is the dry rendered (cooked down) product from a combination of clean flesh and skin with or without accompanying bone, derived from the parts of whole carcasses of turkeys -- exclusive of feathers, heads, feet, or entrails. Turkey meal is an excellent source of protein.

Venison: Venison consists of flesh and skin, exclusive of any added blood, hair, hoof, hide trimmings, manure, stomach or rumen contents. There is currently no official AAFCO definition for venison. Venison is a very lean, low fat source of protein. This expensive meat as an alternative for pets that may have sensitivities to chicken or lamb.

Wheat Flour: Wheat flour consists principally of the soft, finely ground and bolted meal obtained from milling wheat (containing essentially the starch and gluten of the endosperm) together with fine particles of wheat bran, wheat germ, and the offal from the tail of the mill.

Whenever flour is part of an ingredient's name, the grain has been processed and some (or all) of the nutritional value has been lost. Frequently these flour ingredients are simply the leftover dust from processing human food ingredients.

Wheat Germ: Wheat germ is the embryo of the wheat kernel separated in milling. Although wheat germ is a good source of protein and vitamins, wheat and wheat by-products can cause allergic reactions in many dogs and cats.

Wheat Germ Meal: Wheat Germ Meal consists chiefly of wheat germ together with some bran and middlings or shorts. It must contain not less than 25% crude protein and 7% crude fat.

Wheat Gluten: Wheat gluten is the tough, viscid nitrogenous substance remaining when wheat is washed to remove the starch.

Wheat gluten is a cheap by-product of human food processing, the result of washing wheat and letting the starchy liquid dry. It offers almost no nutritional value, and serves mostly to bind the food together.

Whey Protein Concentrate: Whey protein concentrate is the product obtained by removal or separation of water, lactose and/or minerals from whey by ultra filtration, dehydration or other process.

White Rice: White rice is the de-hulled rice kernel, without the bran. White rice, in its whole form, is an excellent source of complex carbohydrates, protein and fiber.

Whitefish: Whitefish is the clean tissue of undecomposed whole whitefish and/or whitefish cuttings, any of several deepwater fishes of the family Coregonidae. There is currently no official AAFCO definition for whitefish.

Whitefish is an excellent single-source protein. It is also an excellent source of Omega 3 essential fatty acids, which play a vital role in the structures of cell membranes. Essential fatty acids stimulate growth, benefit skin and hair, influence the inflammatory response and affect the development of the nervous system, including the brain.

Whole Corn: Whole corn is the whole corn kernel or the entire ear of corn without husks. Corn can be allergenic in certain dogs and cats.

Whole Eggs: Whole eggs are the whole of the reproductive body produced by hens, with the shell removed.

Eggs are an excellent source of protein with naturally occurring complex combinations of amino acids.

Whole Grain Wheat: Whole grain wheat is the entire wheat kernel, ground or chopped.

Whole grain wheat is a good quality source of carbohydrates. Because it includes the entire wheat kernel, it contributes additional protein, wheat oil, bran, and vitamins and minerals to the diet. This is in contrast to the fractionated wheat ingredients used by some manufacturers such as wheat bran, wheat flour or wheat middlings, which are leached of much of their nutritional value.

Whole Oats: Whole oats consist of the entire oat grain without processing. Whole oats are a good quality source of carbohydrates. The fractionated oat ingredients used by some manufacturers such as oat bran, feeding oat meal, or oat flour, are leached of much of their nutritional value.

Yogurt: Yogurt is the product resulting from the culturing of a mixture of milk and cream products with the lactic acid-producing bacteria, *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. Other bacterial cultures and select strains of bacteria may also be used. Sweeteners, flavorings, and other ingredients may be added. There is no official definition of yogurt by AAFCO.



Yogurt is a very good source of calcium, protein, potassium and magnesium. It can aid in bone growth and maintenance.

Yucca Schidigera: Yucca schidigera is a supplement from the yucca plant.

Miscellaneous Vitamins and Minerals:

Vitamins: Vitamins are organic compounds that function as parts of enzyme systems essential for the transmission of energy and the regulation of metabolisms of the body. AAFCO regulates minimum standard quantities of vitamins and minerals in levels that pets need to survive. All pet food manufacturers supplement their products with vitamins and minerals.

- * Vitamin A Acetate is a fat-soluble vitamin which maintains a healthily coat and skin, promotes bone growth, protects against infection and is necessary for good eye health.
- * Vitamin B12 Supplement promotes normal growth, development and helps prevent anemia.
- * Vitamin D-3 Supplement is necessary for utilization of calcium and phosphorus and assimilation of Vitamin A.
- * Vitamin E Supplement is a fat soluble vitamin which acts as an anti-blood clotting agent, promotes muscle growth and repair, improves the immune system promotes healing of skin problems and improves the heart and circulatory system. It is an antioxidant and preservative in food.
- * Beta-carotene is a substance from plants that the body converts into Vitamin A. It also acts as an antioxidant and an immune system booster.
- * Choline Chloride (Vitamin B4) influences the metabolism of carotene and vitamin A in animals. It is an essential component for ensuring the proper functioning of the nervous

system.

- * d-Calcium Pantothenate (Vitamin B5) aids in wound healing and protects against stress and infections.
- * Folic Acid (Vitamin B9) promotes normal growth.
- * Menodione Sodium Bisulfite Complex (source of Vitamin K activity)
- * Niacin Supplement (Vitamin B3) maintains muscle tone and a healthy skin and coat.
- * Pyridoxine Hydrochloride (Vitamin B6) is a coenzyme in the metabolism of protein, carbohydrates and fat. It also promotes red blood cell formation, aids in maintaining a strong immune system and contributes to a healthy nervous system.
- * Riboflavin Supplement (Vitamin B2) contributes to healthy vision.
- * Thiamine Minonitrate (Vitamin B1) maintains normal functions of the nervous system and has flea repellent characteristics.

Minerals: Minerals are inorganic substances essential for a host of vital processes within the body. AAFCO regulates minimum standard quantities of vitamins and minerals in levels that pets need to survive. All pet food manufacturers supplement their products with vitamins and minerals. Chelated minerals provide three to ten times greater assimilation than common minerals.

- * Calcium Carbonate provides for strong bones and teeth, helps regulate blood clotting and promotes the use of amino acids.
- * Calcium Iodate is a mineral which provides strong bones and teeth. It helps regulate blood clotting and promotes the use of amino acids.
- * Cobalt Carbonate promotes red blood cell formation.
- * Cobalt Proteinate (chelated cobalt) is a trace mineral that promotes red blood cell formation. It is required for the production of Vitamin B12.
- * Copper Proteinate (a chelated source of Manganese) promotes red blood cell formation.
- * Copper Sulfate promotes red blood cell formation and is a catalyst for the storage and release of iron for the formation of hemoglobin.
- * Ferrous Sulfate is an elemental iron. It prevents anemia and poor growth in puppies. It forms part of several proteins and enzymes in the body.
- * Iron Proteinate (a chelated iron) prevents anemia and poor growth in puppies. It forms part of several proteins and enzymes in the body.
- * Manganese Proteinate (a chelated source of Manganese) promotes cartilage and bone growth.
- * Manganese Sulfate promotes cartilage and bone growth.
- * Potassium Chloride promotes regular heartbeat, works in maintaining the transfer of nutrients to cells and works in conjunction with sodium to maintain water balance in tissue and cells.
- * Sodium Selenite is a mineral that regulates the fluid balance in the body. It is extremely important in maintaining blood pressure.
- * Zinc Oxide is an antioxidant that promotes a healthy skin and coat, aids in healing wounds and normal growth development.
- * Zinc Proteinate (a chelated source of Zinc) is an antioxidant which promotes healing of wounds and normal growth development.
- * Zinc Sulfate is a mineral and antioxidant.

Ingredient definitions compiled from:

American Association of Feed Control Officials (AAFCO)

Naturapet

Prestige Pet Online

Additional helpful resources:

Food Pets Die For, by Ann M. Martin

Protect Your Pet, by Ann M. Martin

