

| Vitamin Name | Natural Name | Synthetic Name | Made From Source | Solubility | Signs of Deficiency | Signs of Toxicity | Dietary Source |
|-----------------|-----------------|---|---|------------------|---|---|---|
| Vitamin A | Beta-carotene | Vitamin A acetate, vitamin A palmitate, beta carotene, retinyl palmitate or retinyl acetate | Made by combining fish, palm or refined oils with beta-ionone. Beta-ionone is manufactured using citrus, acetone and calcium oxide | Fat soluble | Vision loss, blindness, skin disease and growth retardation | Symptoms include visual changes, bone pain, and skin changes. Chronic toxicity can lead to liver damage and increased pressure on the brain | Liver, salmon, mackeral, herring, eggs, carrots, kale, spinach, beet greens, swiss chard, sweet potato, pumpkin, squash, cantaloupe, romaine lettuce, sweet, red, green and yellow peppers, dairy |
| Vitamin B1 | Thiamin | Thiamine monohydrate, thiamine mononitrate, or thiamine hydrochloride | Made from coal tar, ammonia, acetone and hydrochloric acid | Water soluble | Fatigue, irritability, poor memory, sleep disturbances, and abdominal discomfort. Long term deficiency may cause heart failure | Weakness and a headache. High levels can cause a rapid, irregular heart beat and low blood pressure. | Trout, tuna, mackerel, salmon, pork, venison, chicken liver, pork liver, pumpkin seeds, sunflower seeds, green peas, squash, asparagus |
| Vitamin B2 | Riboflavin | Vitamin B2 or riboflavin | Made with acetic acid and nitrogen or using genetically modified bacteria and fermentation | Water soluble | Loss of appetite, weight loss, conjunctivitis, ocular lesions and flaky dermatitis with marked irritation on the hind legs, chest and abdomen. | None reported | Meat and organ meats, eggs, beans and legumes, seaweed and leafy green vegetables |
| Vitamin B3 | Niacin | Niacin or niacinamide | Manufactured using coal tar, ammonia, acids, and formaldehyde. | Water soluble | Black Tongue or Sore Mouth Disease, inflamed gums, lips and inner cheeks, weight loss, bloody diarrhea, vomiting and if not treated, death. | Bloody diarrhea at 250x the recomme- nded dosage, death from chronic exposure. | Beef, legumes, grains, yeast and fish |



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| Vitamin B5 | Pantothenate | Pantothenic acid, calcium pantothenate or panthenol | It uses isobutyraldehyde and formaldehyde to form a calcium or sodium salt. | Water soluble | Fatigue, nausea, and headache | None reported | Trout, salmon, tuna, eggs, lean pork, beef, chicken, turkey, organ meat, pumpkin seeds, flaxseed, sunflower seeds, sweet potato, broccoli, cauliflower, dairy |
| Vitamin B6 | Pyridoxine | Pyridoxine hydrochloride or pyridoxine HCL | Derived from petroleum ester, hydrochloric acid and formaldehyde. | Water soluble | Anorexia and weight loss in pups, convulsions, muscle twitching, anemia, itchy rashes, somnolence, depression, confusion, a weak immune system and neuropathy | In excess, impairment of motor skills and balance and muscle weakness | Organ meats, Salmon, herring, halibut, tuna, turkey, chicken, lean pork, lean beef, bananas, squash, spinach, sunflower seeds, pumpkin seeds, flaxseed |
| Vitamin B7 | Biotin or d (+) biotin | Vitamin B7 or biotin | Produced using petroleum, hydrochloric acid and formaldeyde. | Water soluble | Fur and skin conditions, eye discharge, small litter size, sometimes diarrhea. If not treated can limb paralysis | None reported | Black eyed peas, pinto beans, black beans, kidney beans, spinach, asparagus, collard greens, romaine lettuce, broccoli, citrus fruits, flaxseed, sunflower seeds, cauliflower, carrots, squash |
| Vitamin B9 | Folate | Folic acid | Made from petroleum derivatives, acids and acetylene | Water soluble | Glossitis, diarrhea, depression, confusion, anemia, and fetal neural tube defects and brain defects (during pregnancy) | None reported | Black eyed peas, pinto beans, black beans, kidney beans, spinach, asparagus, collard greens, romaine lettuce, broccoli, citrus fruits, flaxseed, sunflower seeds, cauliflower, carrots, squash |



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| Vitamin B12 | Choline or phosphatidyl choline | Choline chloride or choline bitartrate | Made using ethylene, ammonia and hydrochloric acid or tartaric acid | Water soluble | Diarrhea, extreme weight loss, loss of appetite or eating more than usual. Lack of energy, weakness, excessive sleepiness, lack of muscle mass, altered mental state, seizures, death | None reported | Liver, heart, kidney, rabbit, chicken, turkey, pork, lamb, goat, ostrich, buffalo, egg, beef, salmon, halibut, haddock, mackerel, sardine, dairy |
| Vitamin C | Ascorbate or dehydroasc- orbate. | Ascorbic acid or any type of ascorbate | Isolated from genetically modified corn sugar that's hydrogenated and processed with acetone | Water soluble | Bad breath, bleeding, bone weakness, delayed wound healing, joint pain, muscle weakness, anemia, bleeding from the mouth, bloody urine, loose teeth, swollen gums | Diarrhea | Liver, kidney, heart, fish, spinach, kale, swiss chard, watercress, broccoli, cauliflower, red bell pepper, brussel sprouts, pineapple, kiwi, cantaloupe |
| Vitamin D | Vitamin D is actually a downstream metabolite of cholesterol - it's more of a hormone than a vitamin | Vitamin D1, D2, D3, D4, cholecalciferol or lumistero. | Produced from animal fat or cattle brains and is either irradiated or extracted with solvents | Fat soluble | Lameness and poor mineralization of bone, rickets, lethargic, lose muscle mass, renal failure, heart disease, cancer | Abnormally high levels of calcium and phosphorous in the blood, vomiting, weakness, depression, loss of appetite, increased thirst and urination, dark tarry feces containing blood, blood in vomit, seizures, muscle tremors, abdominal pain, excessive drooling, weight loss, constipation | Egg, sardine, liver, kidney, salmon, tuna, dairy,, turnip |



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| Vitamin E | RRR-alpha- tocopherol | Vitamin E acetate; Mixed tocopherols; all-rac-alpha- tocopherol; d-l alpha-tocopherol; d-alpha- tocopherol (isolated); dl-alpha- tocopheryl acetate and any acetate. | Created using refined oils | Fat soluble | Muscle paralysis and muscle weakness in limbs, decreased muscle mass, increased sensitivity to pain, eye problems, impaired immune system, itchy skin, dandruff, dull thin coat, cell damage and death in skeletal muscle, heart, testes, liver, and nerves. | None reported | Ostrich, buffalo, egg, halibut, haddock, sardine, kidney, liver, brain, kelp, spinach, swiss chard, dandelion, red bell pepper, turnip |
| Vitamin K | Phylloquinone | Vitamin K3; menadione; phytonadione; naphthoquinone; dihydro-vitamin K1 | Coal tar derivative | Fat soluble | Impairment of blood coagulation creating increased clotting time and hemorrhaging | None reported | Egg, halibut, haddock, sardine, liver, kelp |