AAFCO DOG FOOD NUTRIENT PROFILES
BASED ON DRY MATTER [a]

Nutrients	Units DM Basis	Growth & Reproduction Minimum	Adult Maintenance Minimum [b]	Maximum
Crude Protein	%	22.5	18.0	
Arginine	%	1.0	0.51	
Histidine	%	0.44	0.19	
Isoleucine	%	0.71	0.38	
Leucine	%	1.29	0.68	
Lysine	%	0.90	0.63	
Methionine	%	0.35	0.33	
Methionine-cystine	%	0.70	0.65	
Phenylalanine	%	0.83	0.45	
Phenylalanine-tyrosine	%	1.30	0.74	
Threonine	%	1.04	0.48	
Trytophan	%	0.20	0.16	
Valine	%	0.68	0.49	
Crude Fat [c]	%	8.5	5.5	
Linoleic acid	%	1.3	1.1	
alpha-Linolenic acid	%	0.08	ND [d]	
Eicosapentaenoic + Docosahexaenoic acid	%	0.05	ND [d]	
(Linoleic + Arachidonic):(alpha-Linolenic + Eicosapentaenoic + Docosahexaenoic) acid Ratio				30:1
Minerals				
Calcium	%	1.2	0.5	2.5 (1.8) [e]
Phosphorus	%	1.0	0.4	1.6
Ca:P ratio		1:1	1:1	2:1
Potassium	%	0.6	0.6	
Sodium	%	0.3	0.08	
Chloride	%	0.45	0.12	
Magnesium	%	0.06	0.06	
Iron [f]	mg/kg	88	40	
Copper [g]	mg/kg	12.4	7.3	
Manganese	mg/kg	7.2	5.0	
Zinc	mg/kg	100	80	
Iodine	mg/kg	1.0	1.0	11
Selenium	mg/kg	0.35	0.35	2
Vitamins & Other				
Vitamin A	IU/kg	5000	5000	250000

Vitamin D	IU/kg	500	500	3000
Vitamin E [h]	IU/kg	50	50	
Thiamine [i]	mg/kg	2.25	2.25	
Riboflavin	mg/kg	5.2	5.2	
Pantothenic acid	mg/kg	12	12	
Niacin	mg/kg	13.6	13.6	
Pyridoxine	mg/kg	1.5	1.5	
Folic acid	mg/kg	0.216	0.216	
Vitamin B_{12}	mg/kg	0.028	0.028	
Choline	mg/kg	1360	1360	

[a] Presumes a caloric density of 4000 kcal ME/kg, as determined in accordance with Regulation PF9. Formulations greater than 4000 kcal ME/kg must be corrected for energy density; formulations less than 4000 kcal ME/kg need not be corrected for energy. Formulations of low-energy density should not be considered adequate for reproductive needs based on comparison to the Profiles alone.

[b] Recommended concentrations for maintenance of body weight at an average caloric intake for dogs of a given optimal weight.

[c] Although a true requirement for crude fat per se has not been established, the minimum concentration was based on recognition of crude fat as a source of essential fatty acids, as a carrier of fat-soluble vitamins, to enhance palatability, and to supply an adequate caloric density.

[d] ND – Not Determined. While a minimum requirement has not been determined, sufficient amounts of omega-3 fatty acids are necessary to meet the maximum omega-6:omega-3 fatty acid ratio.

[e] The maximum of 1.8% is applicable to products formulated to meet the Growth and Reproduction Nutrient Profile and products formulated for All Life Stages. The maximum of 2.5% is applicable only to products formulated to meet the Adult Maintenance Nutrient Profile.

[f] Average apparent digestibility for iron associated with recommended minimums is 20% of that consumed. Because of very poor apparent digestibility, iron from carbonate or oxide sources that are added to the diet should not be considered in determining the minimum nutrient concentration for iron.

[g] Because of very poor apparent digestibility, copper from oxide sources that are added to the diet should not be considered in determining the minimum nutrient concentration for copper.

[h] It is recommended that the ratio of IU of vitamin E to grams of polyunsaturated fatty acids (PUFA) be $\geq$ 0.6:1. A diet containing 50 IU of vitamin E will have a ratio of $\geq$ 0.6:1 when the PUFA content is 83 grams or less. Diets containing more than 83 grams of PUFA should contain an additional 0.6 IU of vitamin E for every gram of PUFA.

[i] Because processing may destroy up to 90% of the thiamine in the diet, allowances in formulation should be made to ensure the minimum nutrient concentration for thiamine is met after processing.

AAFCO DOG FOOD NUTRIENT PROFILES
BASED ON CALORIE CONTENT

Nutrients	**Units per 1000 kcal ME**	**Growth & Reproduction Minimum**	**Adult Maintenance Minimum [a]**	**Maximum**

Crude Protein	g	56.3	45.0	
Arginine	g	2.50	1.28	
Histidine	g	1.10	0.48	
Isoleucine	g	1.78	0.95	
Leucine	g	3.23	1.70	
Lysine	g	2.25	1.58	
Methionine	g	0.88	0.83	
Methionine-cystine	g	1.75	1.63	
Phenylalanine	g	2.08	1.13	
Phenylalanine-tyrosine	g	3.25	1.85	
Threonine	g	2.60	1.20	
Tryptophan	g	0.50	0.40	
Valine	g	1.70	1.23	
Crude Fat [b]	g	21.3	13.8	
Linoleic acid	g	3.3	2.8	
alpha-Linolenic	g	0.2	ND [c]	
Eicosapentaenoic + Docosahexaenoic acid	g	0.1	ND [c]	
(Linoleic+Arachidonic):(alpha-Linolenic+Eicosapentaenoic+ Docosahexaenoic) acid Ratio				30:1
Minerals				
Calcium	g	3.0	1.25	6.25 (4.5)[d]
Phosphorus	g	2.5	1.00	4.0
Ca:P Ratio		1:1	1:1	2:1
Potassium	g	1.5	1.5	
Sodium	g	0.80	0.20	
Chloride	g	1.10	0.30	
Magnesium	g	0.10	0.15	
Iron [e]	mg	22	10	
Copper [f]	mg	3.1	1.83	
Manganese	mg	1.8	1.25	
Zinc	mg	25	20	
Iodine	mg	0.25	0.25	2.75
Selenium	mg	0.09	0.08	0.5
Vitamins & Others				
Vitamin A	IU	1250	1250	62500
Vitamin D	IU	125	125	750
Vitamin E [g]	IU	12.5	12.5	
Thiamine [h]	mg	0.56	0.56	
Riboflavin	mg	1.3	1.3	
Pantothenic acid	mg	3.0	3.0	
Niacin	mg	3.4	3.4	
Pyridoxine	mg	0.38	0.38	
Folic acid	mg	0.054	0.054	
Vitamin B_{12}	mg	0.007	0.007	
Choline	mg	340	340	

[a] Recommended concentrations for maintenance of body weight at an average caloric intake for dogs of a given optimal weight.

[b] Although a true requirement for crude fat per se has not been established, the minimum concentration was based on recognition of crude fat as a source of essential fatty acids, as a carrier of fat-soluble vitamins, to enhance palatability, and to supply an adequate caloric density.

[c] ND – Not Determined. While a minimum requirement has not been determined, sufficient amounts of omega-3 fatty acids are necessary to meet the maximum omega-6:omega-3 fatty acid ratio.

[d] The maximum of 4.5 g Ca/1000 kcal ME is applicable to products formulated to meet the Growth and Reproduction Nutrient Profile and products formulated for All Life Stages. The maximum of 6.25 g Ca/1000 kcal ME is applicable to products formulated to meet the Adult Maintenance Nutrient Profile.

[e] Average apparent digestibility for iron associated with recommended minimums is 20% of that consumed. Because of very poor apparent digestibility, iron from carbonate or oxide sources that are added to the diet should not be considered in determining the minimum nutrient concentration for iron.

[f] Because of very poor apparent digestibility, copper from oxide sources that are added to the diet should not be considered in determining the minimum nutrient concentration for copper.

[g] It is recommended that the ratio of IU of vitamin E to grams of polyunsaturated fatty acids (PUFA) be $\geq$ 0.6:1. A diet containing 50 IU of vitamin E will have a ratio of $\geq$ 0.6:1 when the PUFA content is 83 grams or less. Diets containing more than 83 grams of PUFA should contain an additional 0.6 IU of vitamin E for every gram of PUFA.

[h] Because processing may destroy up to 90% of the thiamine in the diet, allowances in formulation should be made to ensure the minimum nutrient concentration for thiamine is met after processing.