

Teklad Global 19% Protein Extruded Rodent Diet  
(Sterilizable)

**Product Description-** 2019S is a fixed formula, autoclavable extruded diet manufactured with high quality ingredients designed to support gestation, lactation, and growth of rodents. It is useful for poorly breeding and genetically engineered strains. 2019S does not contain alfalfa or soybean meal, thus minimizing the occurrence of phytoestrogens. Typical isoflavone concentrations (daidzein + genistein aglycone equivalents) range from non-detectable to 20 mg/kg. Exclusion of alfalfa reduces chlorophyll, improving optical imaging clarity. Absence of fish meal minimizes the presence of nitrosamines. 2019S is supplemented with additional vitamins to ensure nutritional adequacy after autoclaving. The extruded form helps reduce diet clumping and hardness.

**Related codes 2019 and 2919 (irradiated).**

Macronutrients		
Crude Protein	%	19.2
Fat (acid hydrolysis) <sup>a</sup>	%	9.0
Carbohydrate (available) <sup>b</sup>	%	44.9
Crude Fiber	%	2.6
Neutral Detergent Fiber <sup>c</sup>	%	12.1
Ash	%	4.6
Energy Density <sup>d</sup>	kcal/g (kJ/g)	3.3 (13.8)
Calories from Protein	%	23
Calories from Fat	%	22
Calories from Carbohydrate	%	55

Minerals		
Calcium	%	0.9
Phosphorus	%	0.7
Non-Phytate Phosphorus	%	0.4
Sodium	%	0.1
Potassium	%	0.4
Chloride	%	0.4
Magnesium	%	0.2
Zinc	mg/kg	60
Manganese	mg/kg	80
Copper	mg/kg	15
Iodine	mg/kg	6
Iron	mg/kg	200
Selenium	mg/kg	0.23

Amino Acids		
Aspartic Acid	%	1.1
Glutamic Acid	%	3.5
Alanine	%	1.2
Glycine	%	0.7
Threonine	%	0.6
Proline	%	1.8
Serine	%	0.9
Leucine	%	2.3
Isoleucine	%	0.8
Valine	%	0.9
Phenylalanine	%	1.1
Tyrosine	%	0.5
Methionine	%	0.6
Cystine	%	0.3
Lysine	%	1.1
Histidine	%	0.4
Arginine	%	0.8
Tryptophan	%	0.2

**Ingredients** (in descending order of inclusion)- Ground wheat, ground corn, corn gluten meal, wheat middlings, soybean oil, calcium carbonate, dicalcium phosphate, brewers dried yeast, L-lysine, iodized salt, DL-methionine, magnesium oxide, choline chloride, calcium propionate, L-tryptophan, menadione sodium bisulfite complex (source of vitamin K activity), vitamin E acetate, calcium pantothenate, thiamin mononitrate, manganous oxide, niacin, ferrous sulfate, zinc oxide, riboflavin, vitamin A acetate, pyridoxine hydrochloride, copper sulfate, vitamin B<sub>12</sub> supplement, folic acid, calcium iodate, biotin, vitamin D<sub>3</sub> supplement, cobalt carbonate.

## Standard Product Form: Extruded

Vitamins		
Vitamin A <sup>e, f</sup>	IU/g	30.0
Vitamin D <sub>3</sub> <sup>e, g</sup>	IU/g	2.0
Vitamin E	IU/kg	135
Vitamin K <sub>3</sub> (menadione)	mg/kg	100
Vitamin B <sub>1</sub> (thiamin)	mg/kg	117
Vitamin B <sub>2</sub> (riboflavin)	mg/kg	27
Niacin (nicotinic acid)	mg/kg	120
Vitamin B <sub>6</sub> (pyridoxine)	mg/kg	26
Pantothenic Acid	mg/kg	140
Vitamin B <sub>12</sub> (cyanocobalamin)	mg/kg	0.15
Biotin	mg/kg	0.90
Folate	mg/kg	9
Choline	mg/kg	1200
Fatty Acids		
C16:0 Palmitic	%	0.9
C18:0 Stearic	%	0.2
C18:1ω9 Oleic	%	1.7
C18:2ω6 Linoleic	%	3.9
C18:3ω3 Linolenic	%	0.4
Total Saturated	%	1.2
Total Monounsaturated	%	1.7
Total Polyunsaturated	%	4.4
Other		
Cholesterol	mg/kg	--

**Shelf life:** With proper storage, diet is suitable for use out to 9 months.

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<sup>a</sup> Ether extract is used to measure fat in pelleted diets, while an acid hydrolysis method is required to recover fat in extruded diets. Compared to ether extract, the fat value for acid hydrolysis will be approximately 1% point higher.

<sup>b</sup> Carbohydrate (available) is calculated by subtracting neutral detergent fiber from total carbohydrates.

<sup>c</sup> Neutral detergent fiber is an estimate of insoluble fiber, including cellulose, hemicellulose, and lignin. Crude fiber methodology underestimates total fiber.

<sup>d</sup> Energy density is a calculated estimate of *metabolizable energy* based on the Atwater factors assigning 4 kcal/g to protein, 9 kcal/g to fat, and 4 kcal/g to available carbohydrate.

<sup>e</sup> Indicates added amount but does not account for contribution from other ingredients.

<sup>f</sup> 1 IU vitamin A = 0.3 µg retinol

<sup>g</sup> 1 IU vitamin D = 25 ng cholecalciferol

For nutrients not listed, insufficient data is available to quantify.

Nutrient data represent the best information available, calculated from published values and direct analytical testing of raw materials and finished product. Nutrient values may vary due to the natural variations in the ingredients, analysis, and effects of processing.