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**Cat food — Specification**



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## Foreword

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This African Standard was prepared by ARSO/TC 17, *Animal feeding, feeds and feeding stuffs*.

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## Cat food — Specification

### 1 Scope

This Draft African Standard specifies the requirements, sampling and methods of test for cat foods.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ARS 56, *Prepackaged foods – Labelling*

CAC/RCP 1, *General principles of food hygiene*

Codex Stan 192, *General standard for food additives*

AOAC 999.12, *Taurine in pet food*

AOAC Official Method 935.14, *Iodine in mineral mixed feeds — Elmslie–Caldwell method*

AOAC Official Method 942.23, *Thiamine (vitamin B<sub>1</sub>) in human and pet foods — Fluorometric method*

AOAC Official Method 944.12, *Folic acid (pteroylglutamic acid) in vitamin preparations — Microbiological methods*

AOAC Official Method 945.74, *Pantothenic acid in vitamin preparations — Microbiological methods*

AOAC Official Method 952.20, *Cobalamin (vitamin B<sub>12</sub> activity) in vitamin preparations — Microbiological methods*

AOAC Official Method 961.15, *Vitamin B<sub>6</sub> (pyridoxine, pyridoxal, pyridoxamine) in food extracts — Microbiological method*

AOAC Official Method 970.65, *Riboflavin (vitamin B<sub>2</sub>) in foods and vitamin preparations — Fluorometric method*

AOAC Official Method 974.29, *Vitamin A in mixed feeds, premixes, and human and pet foods — Colorimetric method*

AOAC Official Method 975.08, *Fluorine in animal feed — Distillation method — Ion selective electrode method*

AOAC Official Method 981.15, *Riboflavin in foods and vitamin preparations — Automated method*

AOAC Official Method 984.26, *Vitamin C (Total) in Food — Semiautomated Fluorometric Method*

AOAC Official Method 988.15, *Tryptophan in foods and food and feed ingredients — Ion exchange chromatographic method*

AOAC Official Method 994.12, *Amino acids in feeds — Performic acid oxidation with acid hydrolysis — Sodium metabisulfite method*

AOAC Official Method 996.16, *Selenium in feeds and premixes*

AOAC Official Method 999.13, *Lysine, methionine, and threonine in feed grade amino acids and premixes*

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- AOAC Official Method 999.14, *Choline in infant formula and milk — Enzymatic colorimetric method*
- CODEX STAN 192, *General standard for food additives*
- ISO 2591-1, *Test sieving — Part 1: Methods using test sieves of woven wire cloth and perforated metal plate*
- ISO 5510:1984, *Animal feeding stuffs — Determination of available lysine*
- ISO 5984:2002, *Animal feeding stuffs — Determination of crude ash*
- ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*
- ISO 6490-1, *Animal feeding stuffs — Determination of calcium content — Part 1: Titrimetric method*
- ISO 6491, *Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*
- ISO 6492, *Animal feeding stuffs — Determination of fat content*
- ISO 6496, *Animal feeding stuffs — Determination of moisture and other volatile matter content*
- ISO 6497, *Animal feeding stuffs — Sampling*
- ISO 6654, *Animal feeding stuffs — Determination of urea content*
- ISO 6865, *Animal feeding stuffs — Determination of crude fibre content — Method with intermediate filtration*
- ISO 6866, *Animal feeding stuffs — Determination of free and total gossypol*
- ISO 6867, *Animal feeding stuffs — Determination of vitamin E content — Method using high-performance liquid chromatography*
- ISO 6869, *Animal feeding stuffs — Determination of the contents of calcium, copper, iron, magnesium, manganese, potassium, sodium and zinc — Method using atomic absorption spectrometry*
- ISO 7937, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of Clostridium perfringens — Colony-count technique*
- ISO 13903, *Animal feeding stuffs — Determination of amino acids content*
- ISO 13904, *Animal feeding stuffs — Determination of tryptophan content*
- ISO 14565, *Animal feeding stuffs — Determination of vitamin A content — Method using high-performance liquid chromatography*
- ISO 14718, *Animal feeding stuffs — Determination of aflatoxin B<sub>1</sub> content of mixed feeding stuffs — Method using high-performance liquid chromatography*
- ISO 16634-1, *Food products — Determination of the total nitrogen content by combustion according to the Dumas principle and calculation of the crude protein content — Part 1: Oilseeds and animal feeding stuffs*
- ISO 17375, *Animal feeding stuffs — Determination of aflatoxin B<sub>1</sub>*
- ISO/TS 17764-2, *Animal feeding stuffs — Determination of the content of fatty acids — Part 2: Gas chromatographic method*
- ISO 1841-2, *Meat and Meat products — Determination of chloride content, part 2: Potentiometric method*

### 3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

#### 3.1

**crude fibre**

residue obtained after acid and alkaline digestion of a cat food sample that contains cellulose, hemicellulose and lignin

**3.2**

**crude fat**

total fat content of cat food determined by a laboratory test

**3.3**

**metabolizable energy**

amount of the useful energy in cat food that represents that portion of the food gross energy not lost in faeces, urine and gaseous products of fermentation (calculated from chemical composition)

**3.4**

**total ash**

inorganic part of a cat food, consisting of mineral elements determined in a laboratory by incineration at a high temperature and weighing the residue

**3.5**

**acid insoluble ash**

part of the total ash remaining after treatment with hydrochloric acid

**3.7**

**moisture content**

mass fraction of substances lost on drying the food sample by using the accredited procedure

**3.8**

**additive**

substance intentionally added to food and/or water, not consumed as food by itself, whether or not it has a nutritional value, that affects the characteristics of food including organoleptic properties, animal products, animal production or performance or welfare, or the environment

**3.10**

**crude protein**

total protein content of cat food which is determined by analysing the nitrogen content of food and multiplying the result by a factor.

**4 Requirements**

**4.1 General quality requirements**

**4.1.1** Cat food may be in the form of dry or wet.

**4.1.2** Cat food shall be palatable

**4.1.3** Cat foods shall be free from:

- a) metallic and glass objects;
- b) adulterants;
- c) physical moulds;
- d) pathogens or insect infestation;
- e) mustiness;
- f) rancidity; and
- g) any objectionable odours.

**4.2 Ingredients for cat foods**

**4.2.1** All ingredients and raw materials shall be of good quality and shall be of sound condition and not deteriorated.

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4.2.2 Where standards have been declared for ingredients or raw materials, such ingredients or raw materials shall conform to such standards.

4.2.3 Vitamin preparations added to cat feed shall be in stabilised form.

## 5 Specific requirements

5.1 Moisture content of dry and wet cat food shall not exceed 10% and 75% respectively when tested in accordance with the requirements of ISO 6496.

5.2 Cat food shall comply with the nutrient requirements and metabolizable energy specified in Table 1 when tested with the test methods specified therein.

**Table 1 – Specific nutrient requirements for cat food**

Nutrient	Cat food				Test method
	Grower	Lactating	Pregnant	Adult and maintenance	
ME, Kcal/kg, min.	4 000	4 000	4 000	4 000	Annex D
Crude protein, min. %	25	30	25	20	ISO 16634-1
Crude fat, min. %	9	9	9	9	ISO 6492
Linoleic acid, %	0,55	0,55	0,55	0,55	ISO/TS 17764-2
Arginine, %	0.96	1.5	1.5	0.77	ISO 13903,
Histidine, %	0.33	0.71	0.43	0.26	ISO 13903,
Isoleucine, %	0.54	1.2	0.77	0.43	ISO 13903,
Leucine, %	0.44	0.6	0.5	0.17	ISO 13903,
Lysine, %	0.88	1.04	0.9	0.34	ISO 5510
Methionine	1.28	2	1.8	1.02	AOAC 999.13
Methionine +cysteine , %	0.85	1.4	1.1	0.34	ISO 13903
Phenyl alanine, %	0.5	0.5	0.5	0.5	ISO 13903
Phenyl alanine + tyrosine , %	1.91	1.91	1.91	1.53	ISO 13903
Threonine, %	0.65	1.08	0.89	0.52	AOAC 999.13
Tryptophan, %	0.16	0.19	0.19	0.13	ISO 13904
Valine, %	0.64	1.2	1	0.51	ISO 13903
Taurine, %	0.1	0.1	0.1	0.1	AOAC 999.12
Taurine in canned products, %	0.2	0.2	0.2	0.2	AOAC 999.12
Calcium, %	0.8	1.1	1	0.3	ISO 27085
Phosphorus, %	0.72	0.8	0.8	0.26	ISO 6491
Sodium, %	0.16	0.16	0.16	0.1	ISO 6869

Potassium, %	0.6	0.6	0.6	0.6	ISO 6869,
Chloride, %	0.1	0.2	0.2	0.1	ISO 1841-2

Note: The level of free fatty acids in cat foods shall not exceed 15 % of the crude fat content at the time of manufacture, when tested in accordance with the requirements of ISO/TS 17764-2. Annex A provides further information on the micronutrient requirements for cat food.

## 6 Food additives

6.1 Flavours and colours used in cat food shall be of a natural source.

6.2 Food additives used in cat food shall conform to the requirements specified in Codex Stan 192.

## 9 Hygiene, receiving, storage and transportation

Cat food shall be produced, transported, received and stored in accordance with the procedure described in the appropriate sections of CAC/RCP 1

## 10 Packaging and labelling

### 10.1 Packaging

Cat food shall be packed in food grade containers that are of sufficient strength, and sufficiently sealed so as to withstand reasonable handling without tearing, bursting or falling open. The containers shall be clean and not previously used.

### 10.2 Labelling

In addition to the requirements of ARS 56, Each package of cat food shall be legibly and indelibly marked with the following information:

- a) name and type of the cat food;
- b) name and physical address of the manufacturer.
- c) nutrient composition; CP, CF, ME, Ca & P
- d) net weight in SI Units;
- e) batch or lot number;
- f) directions and precautions for use;
- g) date of manufacture; and
- h) best before.

## 11 Sampling

Sampling shall be done in accordance with the requirements of ISO 6497.

**Annex A  
(Informative)**

**Micronutrient requirement for cat food**

**A.1 Micronutrient requirement for cat food**

<b>Nutrient</b>	<b>Grower</b>	<b>Lactating</b>	<b>Pregnant</b>	<b>Adult and Maintenance</b>
Vitamin A, IU	9000	3550	9000	9000
Vitamin D, IU	750	250	750	750
Vitamin E, mg	38	38	38	38
Vitamin K, mg	1	1	1	1
Vitamin B12, mg	5.5	5.5	5.5	5.5
Vitamin B2, mg	4	4	4.5	4.5
Vitamin B6, mg	4	2.5	4	4
Vitamin B3, mg	40	40	40	40
Vitamin B5, mg	6	6	6	6
Vitamin B12, mg	22.5	22.5	22.5	22.5
Folic acid, mg	750	750	750	750
Vitamin B7, mg	75	75	75	75
Choline, mg	2400	2400	2400	2400
Iron, mg	80	80	80	80
Copper, mg	1	5	10	10
Zinc, mg	75	75	75	75
Manganese, mg	10	5	10	10
Selenium, mg	300	300	300	300
Iodine, mg	1800	1300	1800	1300

**Annex B**  
**Method for calculating metabolizable energy**

$$\text{ME in cat food \{Kcal/100g\}} = \text{GE \{Kcal/100g\}} \times \left( \frac{87.9 - [0.88 \times \text{CF}\{\%\}]}{100} \right) - (0.77 \times \text{CP}\{\%\})$$

$$\text{ME in cat food \{Kcal/100g\}} = \text{GE \{Kcal/100g\}} \times \left( \frac{95.6 - [0.89 \times \text{TDF}\{\%\}]}{100} \right) - (0.77 \times \text{CP}\{\%\})$$

$$\text{GE} = (\text{kcal/100g}) = (5.7 \times \text{protein}) + (9.4 \times \text{fat}) + (4.1 \times [\text{NFE} + \text{CF}])$$

Where

CF – Crude fibre

CP - Crude protein

TDF – Total dietary fibre

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National Research Council. Nutrient Requirements of Dogs and Cats. Washington, DC: National Academy Press, 2006.

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*Draft ARSO Standard for Public Review*

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