



## Technical Specifications for: Fruit-based infant cereal

Version: 2

Replacing: v.1, 2022

Date of issue: 16/11/2022

*Key updates:*

- *Name of the product changed from 'Frutolino' to 'Fruit-based infant cereal'.*
- *The possibility of using brand names for labelling is now stated.*

### 1. Definition/Introduction

Fruit-based infant cereal is a processed cereal-based complementary foods for young children aged 6 -59 months. The product is used to complement breast feeding. It is NOT a breast-milk replacer.

The product shall be prepared by adding 5 heaping tablespoons (30 g) of flakes into 200 ml of boiled water (cooled to 50°C). Ratio between flakes and water is 1 ¼ : ¾.

### 2. Standards

Except when specified otherwise in the contract, the manufacture, testing, packaging and labelling, of the product shall be in strict compliance with the specifications set forth herein, and with the following standards/guidelines<sup>1</sup> (whichever is stricter). Supplier shall not deviate in any way from the Specifications without WFP's prior written consent.

Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995)

- CODEX GENERAL PRINCIPLES OF FOOD HYGIENE (CXC 1-1969)
- CODEX GUIDELINES FOR THE VALIDATION OF FOOD SAFETY CONTROL MEASURES (CXG 69-2008)
- CODEX PRINCIPLES FOR THE ESTABLISHMENT AND APPLICATION OF MICROBIOLOGICAL CRITERIA FOR FOODS (CAC/GL 21-1997)
- CODEX PRINCIPLES AND GUIDELINES FOR THE CONDUCT OF MICROBIOLOGICAL RISK MANAGEMENT (CXG 63-2007)
- RECOMMENDED METHODS OF SAMPLING FOR THE DETERMINATION OF PESTICIDE RESIDUES FOR COMPLIANCE WITH MRLS (CXG 33-1999)
- CODEX GENERAL STANDARD FOR FOOD ADDITIVES (CXS 192-1995)
- CODE OF PRACTICE ON FOOD ALLERGEN MANAGEMENT FOR FOOD BUSINESS OPERATORS (CXC 80-2020)
- GUIDELINES ON FORMULATED SUPPLEMENTARY FOODS FOR OLDER INFANTS AND YOUNG CHILDREN (CXG 08-1991)
- CODEX STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN. (CXC 074- 1981)
- CODEX CODE OF HYGIENIC PRACTICE FOR LOW-MOISTURE FOODS (CXC 75-2015)

<sup>1</sup> The latest edition of the referenced below (including any amendments) applies.

- GLOBAL FOOD SAFETY INITIATIVE (GFSI) SCHEME STANDARDS (FSSC 22000, IFS, BRC, SQF OR EQUIVALENT)
- GENERAL STANDARD FOR THE LABELLING OF AND CLAIMS FOR PRE-PACKAGED FOODS FOR SPECIAL DIETARY USES (CXS 146-1985)
- EU regulations

### **3. Raw Materials**

All ingredients shall be of good quality, comply with the latest version of Codex Alimentarius and applicable food laws and regulation in the originating countries (which-ever is stricter). Where there is no standard available, JEFCA and EFSA evaluations shall be considered for guidance limits. Suppliers shall conduct risk assessment on raw materials to ensure quality of raw materials is adequate to meet final product specifications.

The raw materials are wheat semolina 42%, sugar, whole milk powder 24%, fruits 6% (mash of apples, peaches, pears and apricots), calcium lactate, toast (wheat flour, sugar, yeast, refined sunflower oil, powdered skim milk) and vitamins ( $\beta$ -carotene, thiamin mononitrate, riboflavin, pyridoxine hydrochloride, L-ascorbic acid, cholecalciferol, DL- $\alpha$ -tocopherol acetate, folic acid, nicotinamide).

### **4. Processing**

#### **Food safety and quality management at manufacturing premises**

The manufacturer shall be able to demonstrate by principle and practice the adoption, implementation and recording of:

- Good Manufacturing Practices (GMPs)
- Good Hygiene Practices (GHPs)
- Hazard Analysis Critical Control Point program (HACCP)
- Global Food Safety Initiative (GFSI) scheme principles

In this context an appointed WFP staff/ WFP appointed Inspector / Quality Surveyor/Auditor is entitled to visit the factory without prior notice during any period when WFP product is being manufactured to check that production is done as per WFP contract specifications.

The WFP staff/Inspector / Quantity & Quality Inspectors/Auditors may examine any aspect of Supplier's manufacturing premises and its documentation relating to any product or service provided to WFP, including but not limited to production facilities, procedures, records, certifications, or practices.

Food suppliers shall notify WFP immediately of lots (pre-delivery and post-delivery) that fail to meet contract requirements. Any testing on food safety parameters for foods (and/or the associated raw materials) delivered to WFP shall be pre-agreed with WFP.

#### **Homogeneity of micronutrients**

Coefficient of Variation (CV) of maximum 10% using iron as the indicator element.<sup>2</sup>

### **5. Product Specifications**

#### **General requirements**

- The product's organoleptic characteristics shall be characteristics of the designated product
- The product shall meet the testing requirements stated in this document

---

<sup>2</sup> The guidelines for calculating CV: <https://foodqualityandsafety.wfp.org/food-fortification-and-coefficient-of-variation-cv-calculation>.

## Nutritional requirements

The product shall contain in average the following nutrients in 100gram of flake throughout the shelf life.

Energy	1709 kJ/405kcal
Fat	7,0 g
- of which saturated	4,5 g
Carbohydrate	73,0 g
- of which sugars	32,0 g
Fibre	2,8 g
Protein	11,0 g
Salt	0,25 g
Vitamin A	250,0 µg RE
Vitamin B <sub>1</sub>	0,55 mg
Vitamin B <sub>2</sub>	0,70 mg
Vitamin B <sub>6</sub>	0,38 mg
Vitamin C	23,0 mg
Vitamin D	6,3 µg
Vitamin E	2,5 mg α-TE
Folic acid	42,0 µg
Niacin	4,0 mg
Calcium	500,0 mg

## Product Safety

- The product shall not contain any harmful substances including, but not limited to, micro-organisms, heavy metals, pesticides, mycotoxin, foreign matter or anti-nutritional factors, in amounts that may represent a hazard to health. Where Codex standard is absent, JEFCA and EFSA evaluations shall be considered for guidance limits.
- The product shall comply strictly with Codex General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995)<sup>3</sup>, Codex Maximum Residue Limits for Pesticide Residues<sup>4</sup> and guidelines of International commission on microbiological specifications for foods<sup>5</sup>.
- Fit for human consumption guarantee: Suppliers shall manage the quality of their products and guarantee that the product is 'fit for human consumption' and in line with TIC Council/IFIA Guidelines<sup>6</sup>.

## Shelf life

The product shall have minimum 12 months shelf life when stored in ambient temperature, dry place and in hygienic conditions, away from direct sunlight. Or reduced shelf life as per contract.

Products shall meet this specification, remain stable & suitable for human consumption throughout the shelf-life.

Products shall have a minimum of 80% of shelf life remaining when presented to WFP for inspection, unless otherwise authorized by WFP.

## 6. Packaging And Marking

As per contract.

The use of brand names for labelling is allowed.

## 7. Additional technical document requirements

<sup>3</sup> <https://www.fao.org/fao-who-codexalimentarius/codex-texts/list-standards/tr/>

<sup>4</sup> <https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/en/>

<sup>5</sup> <https://www.icmsf.org/publications/books/>

<sup>6</sup> [http://www.ifia-federation.org/content/wp-content/uploads/Fit\\_for\\_Human\\_Consumption\\_Bulletin\\_Rev\\_4.pdf](http://www.ifia-federation.org/content/wp-content/uploads/Fit_for_Human_Consumption_Bulletin_Rev_4.pdf)

When required, suppliers shall submit a CoA of the final product to WFP, along with other documents for payment. Additionally, suppliers shall provide other technical documents upon request from WFP.

## 8. Analytical Requirements

Suppliers shall follow their own food safety and quality management plan. WFP can conduct the tests on products as per the Table below. Additionally, WFP reserves the rights to change this testing plan at any time.

Any products taken for the purpose of weight check and lab testing (including retention samples) shall be replenished by the suppliers. The shipment quantity shall not be less than the purchased quantity. Where non-destructive inspection is done, suppliers shall close the package or replace it.

In addition to the pre-delivery Q&Q inspection, WFP can also perform prior-assessment (e.g., documentation check, production monitoring, audits, assessment of raw materials, etc.).

Suppliers acknowledge that any prior-assessment by WFP or its designated inspection agents does not constitute a determination whether the specifications for the foods set out in this document or any purchase order (including mandatory technical requirements) have been met. Suppliers will be required to comply with their warranty and other contractual obligations whether or not WFP carries out such prior assessment.

The prior assessment undertaken by WFP or its designated inspection agents will not substitute for the pre-delivery Q&Q inspection and testing of the goods upon delivery to WFP.

Tests	Requirements	Reference methods (latest versions) <sup>7</sup>
Moisture	Max. 5.0%	ISO 712: 2009
Protein	Min. 9.5 <sup>8</sup> g/100g (N x 6.25)	ISO 20483 AOAC 992.23 EN ISO 16634-2:2016
Fat	Min. 6.0 <sup>9</sup> g/100g	ISO 11085
Organoleptic quality (smell, taste, color)	Pleasant smell and palatable taste, typical color For both powder and porridge as prepared following labelling instructions.	Sensory inspection
Vitamin A	225-375 mcg RE/100g <sup>10</sup>	AOAC 992.04
Calcium	500-725 mg/100g <sup>11</sup>	AOAC 984.27
Aflatoxin (total)	Max. 10 ppb (total of B1, B2, G1, G2)	ISO 16050 / EN 12955
Aflatoxin B1	Max. 0.1 ppb (dry matter basis)	ISO 16050 / EN 12955
Deoxynivalenol (DON)	Max. 0.2 mg/kg (dry matter basis)	EN 15891:2010
Mesophilic aerobic bacteria	Max. 10,000 cfu/g	ISO 4833-1:2013 ICC No 125 AACC 42-11.01
Coliforms	Max. 10 cfu/g	ISO 4832:2006 AOAC 2005.03 AACC 45-15.02
Salmonella	Absent/25g	ISO6579-1:2017 AACC 42-25.03

<sup>7</sup> or equivalent validated methods

<sup>8</sup> Measurement uncertainty included.

<sup>9</sup> Measurement uncertainty included.

<sup>10</sup> Measurement uncertainty included. This requirement is for foods at the time of purchase, not considering loss during shelf life

<sup>11</sup> Measurement uncertainty included.

Escherichia Coli	0 cfu/g	AOAC 991.14 ISO 16649-2:2001
Staphylococcus aureus	0 cfu/g	EN ISO 6888-2:2004 AACC 42-30.04
Bacillus cereus	Max. 50 cfu/g	AOAC 980.31 ISO 7932:2004
Yeasts and moulds	Max. 100 cfu/g	ISO 21527-2:2008 ICC No 146 AACC 42-50.02