



Technical Specifications for **ENRICHED DRIED SKIMMED-MILK POWDER**

Specification reference: **Enriched Dried Skimmed-Milk powder**

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1. SCOPE

This standard prescribes the requirements for vitamin **Enriched Dried Skimmed-Milk powder**.

2. STANDARDS AND RECOMMENDATIONS

Enriched Dried Skimmed-Milk powder shall comply, except when specified otherwise in the contract, with the following guidelines or standards of Codex Alimentarius:

- CAC/MRL 02-2006, Maximum residue limits for veterinary drugs in foods
- CAC/RCP 57, Code of hygiene practice for milk and milk products
- CODEX STAN 1: General standard for the labelling of pre-packaged foods
- CODEX STAN 192-1995, Codex general standard for food additives
- CODEX STAN 193, Codex general standard for contaminants and toxins in foods

3. DEFINITIONS

Milk

Means the normal, clean and fresh secretions, without any addition or subtraction, extracted from the udder of a healthy cow, and free from colostrums, i.e. excluding that got during the first seven days after calving.

Commercial sterility

The attained practical sterility after the product has been treated aiming at absolute sterility.

4. RAW MATERIALS AND PROCESSING

4.1 Raw materials

Milk

Milk powder milk shall be produced from milk which conforms to Codex Stan 206-1999 definition, i.e. 'Milk is the normal mammary secretion of milking animals obtained from one

or more milkings without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing’.

Vitamins

Dry Skimmed-Milk powder must be fortified with vitamin A and D (level is showed at product specification). The vitamin mixture incorporated in the milk must be guaranteed to contain 10 times more vitamin A than vitamin D. The vitamins must be of pharmaceutical quality and produced for human consumption. The vitamin A must be in the form of palmitate and/or acetate. The 10:1 ratio between the vitamin A and vitamin D concentration and also the content of these vitamins in the preparation to be added to the skimmed-milk powder shall be guaranteed by the producer and/or supplier in writing. Only products meeting these requirements may be added to the skimmed-milk powder to enrich it with vitamins A and D.

The information on the preparation of the vitamins A and D used allowing identification of:

- entries, removals and quantities used,
- the name and address of the producer and/or supplier,
- the enrichment procedure used,
- the ‘use-by’ date,

must be entered in a register that the manufacturer of the vitaminised skimmed-milk powder shall be obliged to keep.

The reference method for determination of vitamin A content is that given in international standard FIL 142. That for determining the vitamin D content of the preparation to be added to the skimmed-milk powder is the one given in AOAC Methods 43.079.

Vitamins A and D must be purchased from a WFP approved supplier: BASF (Stern Vitamin), DSM, Fortitech, Nicholas Piramal, Hexagon Nutrition or their authorized dealers and GAIN premix facility. Addresses of premix suppliers are on <http://foodqualityandsafety.wfp.org>

Micronutrient premixes must be stored in a dry, cool and clean place.

4.2 Processing

Method of processing

Skimmed-milk powder is obtained by the spray method.

Homogeneity of micronutrients

Theoretical calculations indicate that a mixing system with a Coefficient of Variation of 10% using iron as the indicator element, will enable product to meet the above variation target on 95%, provided that all conditions of mixing are rigorously applied. To conduct these calculations see the WFP handbook: Fortified Blended Food- Good Manufacturing Practice and HACCP Principles and fortification guide on <http://foodqualityandsafety.wfp.org>

Food safety and risk assessment at manufacturing premises

For compliance with Codex standards the processor must be able to demonstrate by principle and practice the adoption, implementation and recording of:

- Good Manufacturing Practice
- Hazard Analysis Critical Control Point program

In this context an appointed WFP Inspector / Quality Surveyor is entitled to visit the factory without prior notice during any period when WFP product is being manufactured to check that the GMP and HACCP systems are in place. The Inspector / Quality Surveyor may request to see:

- **Records** (i.e. names of people in charge of the process and quality control, temperatures of the process, mixing times / quantity, cleaning schedules, etc).
- **Procedures** (e.g. cleaning, personnel hygiene, HACCP, sampling and analysis).
- **Instructions** (e.g. process instructions, cleaning instructions).
- The **quality manual** for the process or factory.

The manufacturer must be *registered under national food law* as a processor of foods for human consumption.

5. PRODUCT SPECIFICATIONS

5.1 Minimum requirements:

- Protein: minimum 31.4 % of non-fat dry matter
- Fat: maximum 1 %
- Moisture: maximum 4 %
- Titratable acidity in ml of decinormal sodium hydroxide solution: maximum 19,5,
- Lactates: maximum 150 mg/100 g,
- Additives: none
- Phosphatase test: negative, i.e. maximum 4 µg of phenol/g of reconstituted milk,
- Insolubility index: maximum 0,5 ml (at 24 °C)
- Burnt particles: maximum 15 mg, i.e. at least disc B
- Buttermilk test: negative
- Whey test: negative
- Taste and smell: clean
- Appearance: white or slightly yellow, no impurities or coloured particles
- Antimicrobial substances: negative
- Absence of pathogenic /toxic bacteria and/or salmonella and/or mouse disease
- Micro-organisms: maximum 40 000/g,
- Coliform test: negative in 0.1 g, in accordance with Regulation (EC) No 1080/96 (OJ L 142, 15.6.1996, p. 13),
- vitamin A content in IU/100 gram: 5 000-10 000
- vitamin D content in IU/100 gram: 500-1 000

5.2 Contaminants

Enriched Dried Skimmed-Milk powder shall be free from objectionable matter; not contain any substances originating from micro-organisms or any other poisonous or deleterious

substances such as anti-nutritional factors, heavy metals or pesticide residues, in amounts which may represent a hazard to health.

5.3 Age requirement

The enriched dried skimmed milk powder must have been manufactured not more than one month before shipment date.

“Use by date” 2 years from manufacturing date, 1.5 year after date of delivery.

5.4 Fit for human consumption guarantee

Suppliers shall have to check the quality of their products and guarantee that they are ‘**fit for human consumption**’.

6. PACKAGING

As per contractual agreement

7. LABELLING

As per contractual agreement

8. STORING

Enriched Dried Skimmed-Milk powder must be stored under dry, ventilated and hygienic conditions.