

Cereals and Pulses - Specification for fortified soft wheat flour

1. Scope

This Ghana standard specifies the requirements for fortified soft wheat flour (*Triticum aestivum* L.)

2. Normative references

The following references contain provisions applicable to this Ghana Standard. At the time of publication, the editions indicated were valid.

All Standards are subject to revision and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below

GS 46 : 2005 Food Technology- Labelling of pre-packaged foods.

GS 59: 1997 Methods of test for wheat flour.

GS 97: 2005 Methods of sampling for milled cereal, pulse and oil-seed products

3. Definitions

For the purpose of this standard the following definitions apply.

3.1 soft wheat flour :

A product obtained by tempering and milling cleaned soft wheat *Triticum aestivum* L or blends thereof in which the bran and germ are considerably removed and the remainder is comminuted to a suitable degree of fineness.

3.2 fortificant :

The prescribed compound which provides the specified micronutrient intended to be added to a food vehicle

3.3 food vehicle :

Food product intended to be fortified.

3.4 micronutrient :

A natural or synthesized vitamin or mineral or a trace element that is essential for normal growth, development and maintenance of life and of which a deficiency will be detrimental to health.

3.5 fortification :

The addition of one or more micronutrients by means of a fortificant premix to a food stuff, whether or not it is normally contained in the foodstuff, for the purpose of preventing or correcting a demonstrated deficiency of one or more nutrients in the general population or specific population group.

3.6 fortificant premix :

A blend of fortificants and diluents formulated to provide specified and determinable amounts of micronutrients

3.7 diluent :

A suitable, inert , food grade carrier for the micronutrients.

3.8 fortified soft wheat flour :

Soft wheat flour which has undergone the process of fortification .

3.9 lot: A quantity of flour made from the same materials and under similar conditions by the same manufacturer.

3.10 defective: A test sample or test specimen of flour that fails in one or more respects to satisfy the requirements of this specification

4. Requirements

4.1 Raw material

The wheat from which the flour is milled shall be of sound quality.

4.2 Final product

The wheat flour and any added ingredient shall be clean, safe, suitable and of good quality. The product shall conform to the requirements in Table 1, when tested by the appropriate method of test in column 3.

TABLE 1 - Requirement for fortified soft wheat flour

Characteristics	Limit	Test Method Refer to Clause No. of GS 59
Moisture, % m/m (max)	14.5	Clause 2
Total Ash, % m/m (max)	0.8	Clause 3
Alcoholic acidity, % (max)	0.1	Clause 4
Protein (N x 5.7) % m/m (DMB) (min)	9	Clause 5
Sedimentation value (min)	22	Clause 6
Acid insoluble ash % m/m (max)	0.05	Clause 7
Aerobic Plate Count per gram (max)	1 x 10 ⁴	Clause 8
Coliform count per gram (max)	10	Clause 9
Yeast and Mould count per gram (max)	1 x 10 ²	Clause 10

4.3 Granularity

White flour shall have a particle size such that, 98% of the flour passes through a 212 millimicron (No. 70) sieve.

4.4 Fortification

Soft wheat flour shall be fortified with vitamins and minerals as indicated in Table 2

TABLE 2 – Fortificants for soft wheat flour

Fortificants	Quantity mg/kg	Tolerance
Vitamin A	2.0	±10%
Thiamin	8.4	±10%
Riboflavin	4.5	±10%
Niacin	59.0	±10%
Folic Acid	2.08	±10%
Vitamin B 12	0.01	±10%
Iron	58.5	±10%
Zinc	28.3	±10%

*Note : Vitamin A for Wheat flour fortification is a dry, encapsulated form of Vitamin A palmitate containing (75,000 g RE/g). The most common commercial Premix used contains a blend of Vitamin A palmitate, other vitamins and minerals.

4.5 Potassium bromate shall not be present in wheat flour.

5. Other ingredients

The following ingredients may be added to the flour.

Ingredient	Quantity (Max)
Pyridoxine	2.5 mg/kg
L-ascorbic acid	250 mg/kg
Azodicarbonamide	45 mg/kg
Sulphur dioxide	200 mg/kg

6. Packaging and Labelling

6.1 Packaging

Unless otherwise specified, wheat flour shall be packaged in cotton sacks,

woven polypropylene sacks, polyethylene lining, paper sacks with polyethylene lining or in polyethylene sacks.

6.2 Labelling

In addition to the provisions of the Ghana Standard for labelling of prepackaged foods (GS 46 - 2005), the following shall apply.

6.2.1 Name of product

The name of the product shall be declared

6.2.2 List of ingredients

A complete list of ingredients shall be declared on the label.

6.2.3 Name and address

The name and address of the manufacturer of the product shall be declared.

6.2.4 Country of Origin

Country of origin shall be declared on the product.

6.2.5 Lot identification

Each bulk consignment and each individual container of packaged consignment shall be permanently marked in code or in clear to identify the lot.

6.2.6 Net content

The net content shall be declared by weight in metric system (S.I Units) of measurement.

6.2.7 Date marking and storage instructions.

6.2.7.1 Date marking

The 'date of minimum durability' (Preceded by the words "Best before") shall be declared by the month and year in uncoded numerical sequence.

6.2.7.2 Storage conditions

a) In addition to the date, any special conditions for storage shall be indicated if the validity of the date depends thereon.

b) Where applicable, storage instructions shall be in close proximity to the date marking.

7. Sampling and testing

7.1 Sampling

Sampling shall be done in accordance with the provisions of GS 97 : 1990 Methods of sampling for milled cereal, pulse and oil-seed products

7.2 Testing

The samples selected in accordance with 7.1 shall be tested for compliance with the requirements of this specification.

8. Criteria for conformity

A lot shall be deemed to comply with the requirements of this standard if after testing of the samples selected in accordance with 7.1 no defective is found.