

འབྲུག་ཀར་ཕྱི་གནས་ཚད།

**DRAFT BHUTAN STANDARD**

Wheat Flour



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**BHUTAN STANDARDS BUREAU**

The National Standards Body of Bhutan

THIMPHU 11001

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**BHUTAN STANDARD**  
Wheat Flour

DRAFT BHUTAN STANDARDS FOR PUBLIC COMMENTS

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## **DBTS XXX: 2023**

### **FOREWORD**

This Bhutan Standard for Wheat Flour was adopted by Bhutan Standards Bureau after the draft finalized by the Food and Agriculture Technical Committee TC 02 and approved by the Bhutan Standards Bureau Board (BSB Board) on Date Month Year.

This standard is subjected to systematic review after five years to keep pace with the market trends, industrial and technological developments. Any suggestions and further information may be directed to the concerned Technical Committee.

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## Introduction

Wheat is a cereal grain which belongs to the Poaceae and is widely cultivated as staple food.

Common wheat (*Triticum aestivum* L) is the most widely cultivated in Bhutan for flour production. The use of wheat flour in traditional Bhutanese cuisine is gradually increasing, as the country continues to integrate more with the global food culture. While wheat is still a relatively minor crop in terms of production in Bhutan, its importance is growing, and it has the potential to contribute significantly to the country's food security and economic development in the future.

This national standard encompasses sprouted wheat flour and roasted wheat flour (Kapche) along with other regular wheat flour.

The use of standard remains voluntary and when referenced by regulatory authorities as a basis for legislation, the standards become mandatory.

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## BHUTAN STANDARD

### Wheat Flour

#### 1 Scope

This Bhutan Standard prescribe requirements for wheat flour for human consumption prepared from the grain of common wheat (*Triticum aestivum* L.) which is prepackaged, ready for sale to the consumer or destined for use in other food products.

This Bhutan Standard does not apply to fortified wheat flour or any product prepared from wheat flour.

#### 2 Normative References

The following documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

ISO 24333: 2009 *Cereals and cereal products — sampling*

BTS 139: 2019 SARS 00014: 2018 *Bhutan Standard for Food Hygiene-General Principles-Code of Practice*.

BTS 268: 2020 CXS 1-1985 *Bhutan Standard for the labelling of Prepackaged Foods*.

#### 3 Terms and Definitions

For the purpose of this standard, the following terms and definitions shall apply;

##### 3.1 Appearances

The characteristics of the flour when inspected visually.

##### 3.2 Contaminant

Contaminant means any biological or chemical agent, foreign matter not intentionally added to the flour which may compromise food safety or suitability.

##### 3.3 Extraneous Matters

All organic and inorganic matter other than the flour unintentionally added.

##### 3.4 Food Additives

Any substance not normally consumed as a food by itself but are added intentionally to maintain and improve its safety, freshness, taste, texture and appearances.

##### 3.5 Sprouted Wheat Flour

Flour prepared from whole wheat grains which have begun to sprout or germinate.

##### 3.6 Roasted Wheat Flour

Flour prepared from whole wheat grains which has been roasted before the milling process.

##### 3.7 Wheat Flour

The product prepared from common wheat grain milled to a suitable degree of fineness. Herein referred to as 'flour'.

## 4 Quality Factors

### 4.1 Quality Factors - General

Flour shall meet the following general requirements as listed below;

4.1.1 Shall have characteristics colour of the wheat from which it is milled.

4.1.2 Shall be free from objectionable flavours, odor, and appearances.

4.1.3 Shall be free from extraneous matter.

4.1.4 Shall not contain flour from other cereals.

4.1.5 98% or more flour shall pass through 0.21mm to 0.4mm sieve.

### 4.2 Quality Factors - Specific

4.2.1 The flour shall conform to the following chemical compositional requirements as specified under *table 1*;

**Table 1 – Quality Factors-Specific**

S/N	Parameter	Limit	
		Refined Wheat Flour (Maida)	Other Flours
1	Moisture, <i>Max</i>	12%	12%
2	Total Ash, <i>Max</i>	1%	2%
3	Protein, <i>Min</i>	7%	7%
4	Gluten, <i>Min</i>	7.5%	6%
5	Alcohol Acidity, <i>Max</i>	0.12%	0.18%

Laboratories may use any validated method of analysis.

## 5 Contaminants

The analyses of contaminants shall be done from laboratories using any validated method.

### 5.1 Heavy Metal

The flour shall be free from heavy metals in amounts which may represent a hazard to health. If present, they shall not exceed the limits specified in *table 2*;

**Table 2- Heavy metal limits**

S/N	Parameter	Limit, <i>Max</i> (mg/kg)
1	Lead (Pb)	0.2
2	Cadmium (Cd)	0.2
3	Arsenic (As)	0.1

## 5.2 Pesticide Residues

The flour shall comply with those maximum residue limits established by the available Codex Alimentarius Commission or relevant national regulations on pesticide residues.

## 5.3 Mycotoxins

The flour shall be free from Mycotoxins in amounts which may represent a hazard to health. If present, it shall not exceed the limits specified in **table 3**;

**Table 3 – Mycotoxins**

S/N	Parameter	Limit, Max (mg/kg)
1	Total Aflatoxin (B1, B2, G1, G2)	0.02
2	Deoxynivalenol (DON)	1
3	Ochratoxin A	0.005

## 5.4 Microbiological

The flour shall conform to the following microbiological limits specified in **table 4**;

**Table 4 - Microbiological limit**

S/N	Type of Microorganisms	Limit
1	<i>E. coli</i> per g	Absent
2	<i>Salmonella Spp.</i> per 25g	Absent
3	Yeast and Mould, cfu/g, Max	10 <sup>4</sup>
4	Total plate count per g, Max	10 <sup>5</sup>

## 6 Food Additives

Permissible food additives and preservatives may be added within the permissible level as specified in BTS 271: 2020 CODEX STAN 192-1995.

## 7 Hygienic Requirement

The flour shall be prepared and handled in accordance with the BTS 139: 2019 SARS 0014:2018 Bhutan Standard on Food Hygiene - General Principles- Code of Practice or relevant national regulations.

## 8 Storage

- 8.1 The received raw material shall be stored in a clean and food grade packing material
- 8.2 The flour shall be stored immediately after being milled in a clean and airtight food grade packing material

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- 8.3** The flour when stored shall have clearly defined boundaries and be away from toxic chemicals exposure/odor producing industries.
- 8.4** The packed product shall be stored in a dry, cool and away from the direct sun exposure.
- 8.5** Suitable pest and rodent control program shall be in place and be effective to ensure that there are no signs of pest infestation.
- 8.6** Suitable waste management and waste disposal shall be in place.

### **9 Sampling**

Sampling shall be carried out according to the procedure described in ISO 24333: 2009 or any internally accepted methods.

### **10 Packaging**

#### **10.1 Packing Material**

- 10.1.1** The flour shall be packed in airtight food grade packing materials which will safeguard the hygienic, nutritional, and organoleptic qualities of the product.
- 10.1.2** The packing material shall be made of substances which are safe and suitable for their intended use.
- 10.1.3** When the flour is packed in sacks, they shall be thermoplastic lined, clean, sturdy and properly sewn or sealed.

#### **10.2 Labelling**

The labelling shall be in accordance to BTS 268: 2020 CXS 1-1985 Bhutan Standard for the labelling of Prepackaged Foods.

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Bhutan Food and Drug Authority, MoH, Thimphu

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Bhutan Exporters Association, Phuentsholing

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