

འབྲུག་གླེང་ཕྱི་གི་གནས་ཚད། ཁ་གསལ།  
**DRAFT BHUTAN STANDARD**

**Ginger Powder - Specification**



ICS 67.220.10

© Copyright 2024

**BHUTAN STANDARDS BUREAU**

**The National Standards Body of Bhutan**

**THIMPHU 11001**

August 2024

Price group A

འབྲུག་ལ་སྐོར་ཕྱི་གི་གནས་ཚུལ། ལ་གསལ།  
**DRAFT BHUTAN STANDARD**

**Ginger Powder - Specification**

DRAFT BHUTAN STANDARD FOR THE PURPOSE OF WIDE CIRCULATION

**PDF disclaimer**

This PDF may contain embedded typefaces. In accordance with Adobe's Licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The Bhutan Standards Bureau accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

**COPYRIGHT PROTECTED DOCUMENT**

© BSB 2024

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from BSB at the address below in the country of the requester.

Director General  
Bhutan Standards Bureau  
Rijug Lam  
Thimphu-11001  
Tel: 00975-2-325104/325401  
Fax: 00975-2-323712/328298  
Web: [www.bsb.gov.bt](http://www.bsb.gov.bt)  
Published in Thimphu, Bhutan

Table of Contents

FOREWORD..... iv

Introduction..... v

Ginger Powder - Specification ..... 1

1 Scope..... 1

3 Terms and Definition..... 1

    3.1 Extraneous Matter ..... 1

    3.2 Food additives..... 1

    3.3 Insect infestation ..... 1

    3.4 Rancid..... 1

4 Quality Factors..... 1

    4.1 Quality Factors - General ..... 1

    4.2 Quality Factors - Specific ..... 2

5 Contaminants..... 2

    5.1 Heavy Metal ..... 2

    5.2 Pesticide Residues..... 3

    5.3 Mycotoxins ..... 3

    5.4 Microbiological..... 3

6 Food additives..... 3

7 Hygienic Requirement..... 3

8 Storage ..... 3

10 Packaging ..... 4

11 Labelling..... 4

Bibliography ..... 5

DRAFT BHUTAN STANDARD FOR THE PURPOSE OF WIDE CIRCULATION

**FOREWORD**

This Bhutan Standard for Ginger Powder - Specification 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.

DRAFT BHUTAN STANDARD FOR THE PURPOSE OF WIDE CIRCULATION

## **Introduction**

Ginger powder is processed from the dried rhizomes of ginger plant with scientific name *Zingiber officinale* under Zingiberaceae family, mostly cultivated in tropical to sub-tropical regions up to 1500m from mean sea level. There are two released varieties (Samtenling Saga 1 and Samtenling Saga 2) commonly cultivated as a spice both for domestic consumption and commercial purpose.

The use of standard remains voluntary and when referenced by regulatory authorities for implementation, the standards become mandatory.

DRAFT BHUTAN STANDARD FOR THE PURPOSE OF WIDE CIRCULATION

འབྲུག་ལྗོངས་ཕྱི་ལོ་གནས་ཚུན་ བ་གསལ་ལྷན་ཁང་།  
**DRAFT BHUTAN STANDARD**  
**Ginger Powder - Specification**

## 1 Scope

This standard shall apply to requirements for ginger (*Zingiber officinale*) in powdered form.

## 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.

CXS 343-2021 *Standard for dried roots, rhizomes and bulbs: dried or dehydrated ginger.*

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 Definition

For the purpose of this standard, the following terms and definition shall apply:

### 3.1 Extraneous Matter

All organic or inorganic matter other than the product unintentionally added. For example - dirt, mould growth, insect infestation, etc.,

### 3.2 Food additives

Food additive means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result (directly or indirectly), in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include contaminants or substances added to food for maintaining or improving nutritional qualities.

### 3.3 Insect infestation

The presence of live or dead animals, larvae, eggs, or other insect related contaminants in food commodities.

### 3.4 Rancid

Unpleasant taste as a result of being old and stale especially in food containing fat or oil.

## 4 Quality Factors

### 4.1 Quality Factors - General

The product shall meet the following general requirements:

4.1.1 Shall have characteristic odour and taste of ginger.

4.1.2 Shall not have musty odour or rancid or bitter taste.

# BTS XXX: 2024

4.1.3 Shall be free from extraneous matter.

4.1.4 The ginger shall be ground to such a fineness that the whole of the material passes through 500 micron sieve.

## 4.2 Quality Factors - Specific

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

**Table 1 – Quality Factors-Specific**

S/N	Parameter	Limit (%)	Recommended Test Method
1	Moisture, Max	11	IS 1797
2	Total Ash on dry basis, Max a) Unbleached b) Bleached	8 12	IS 1797
3	Acid Insoluble Ash on dry basis, Max	1.5	IS 1797
4	Water Soluble Ash, Min	1.9	IS 1797
5	Volatile oil Content, Min	1	IS 1797
6	Calcium as calcium Oxide, Max a) Bleached b) Unbleached	2 1	IS 1797

4.2.2 The test methods are only recommendation and laboratories may use any validated method of analysis.

## 5 Contaminants

### 5.1 Heavy Metal

The product 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 limit**

S/N	Parameter	Limit, Max (mg/kg)	Recommended Test Methods
1	Lead (Pb)	1.5	IS 2860
2	Arsenic (As)	0.1	IS 2860

## 5.2 Pesticide Residues

The product 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 product 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	Limits (Max)	Recommendation Test methods
1	Total Aflatoxin, (µg/L)	10	ISO 16050
2	Aflatoxin B1, (µg/L)	5	ISO 16050
3	Ochratoxin A, (µg/kg)	15	EN 17250

## 5.4 Microbiological

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

**Table 4 - Microbiological limit**

S/N	Type of Microorganisms	Limits (Max)	Recommended Test Methods
1	Salmonella per 25 gm	Absent	IS 5887
2	Yeast and Mould, (cfu/g)	1*10 <sup>3</sup>	IS 5403
4	Bacillus Cereus, (cfu/g)	10 <sup>4</sup>	IS 5887

## 6. Food additives

Permissible food additives and preservative maybe added within the permissible level in accordance with CXS 343-2021 Standard for dried roots, rhizomes and bulbs: dried or dehydrated ginger.

## 7 Hygienic Requirement

The product 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 storeroom shall be dry, well protected from sun, well ventilated, free from objectionable odours and proofed against entry of insects and vermin.

8.2 The store shall have adequate lighting facility.

8.3 The product shall not be kept directly on the floor.

## 9 Sampling

## **BTS XXX: 2024**

Sampling shall be carried out according to internationally accepted methods or national methods recognized internationally.

### **10 Packaging**

**10.1** The packaging material shall be clean, sound, dry, and made of food grade materials which does not affect the product and protects it from moisture absorption.

**10.2** The packaging material shall be free from any fungal or insect infestation and shall not impart any foreign smell.

**10.3** The product shall be securely packed and sealed.

**10.4** The packaging material shall protect the product's safety and quality during transportation and storage.

### **11 Labelling**

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

DRAFT BHUTAN STANDARD FOR THE PURPOSE OF WIDE CIRCULATION

## **Bibliography**

ISO 1003:2008(E) Spices — Ginger (*Zingiber officinale* Roscoe) — Specification.

CX/SCH 19/4/4 August 2018 Codex Committee on Spices and Culinary Herbs Fourth Session.

CXS 343-2021 *Standard for dried roots, rhizomes and bulbs: dried or dehydrated ginger.*

IS 1908: 2020 Spices and Condiments — Ginger, Whole and Ground — Specification (Fourth Revision).

DEAS 916: 2017 Ginger —Specification.

Amending Regulation (EC) No 1881/2006 as regards maximum levels of lead in certain foodstuffs (Official Journal of the European Union).

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.*

Ubonnuch C, Ruangwises S, Gritsanapan W, Ruangwises N. Total and inorganic arsenic contents in some edible zingiberaceous rhizomes in Thailand. *Evid Based Complement Alternat Med.* 2013;2013:506389. doi: 10.1155/2013/506389. Epub 2013 Apr 18. PMID: 23690845; PMCID: PMC3652143.

**FOOD AND AGRICULTURE TECHNICAL COMMITTEE (TC02)**

***Organization***

National Dairy Development Centre, MoAL, Thimphu  
Bhutan Agro Industries Limited, Thimphu  
Bhutan Exporters Association, Phuentsholing  
Bhutan Food and Drug Authority, MoH, Thimphu  
Bhutan Livestock Development Corporation Limited, Thimphu  
Department of Agriculture, MoAL, Thimphu  
Department of Agriculture, MoAL, Thimphu  
Department of Agricultural Marketing and Cooperatives, MoAL, Thimphu  
Department of Agricultural Marketing and Cooperatives, MoAL, Thimphu  
Department of Industry, MoICE, Thimphu  
National Post Harvest Centre, DAMC, MoAL, Paro  
Competition and Consumers Affairs Authority, MoICE, Thimphu  
Competition and Consumers Affairs Authority, MoICE, Thimphu  
Bhutan Standards Bureau, Thimphu

***Representative(s)***

Mr. Phuntsho T Norbu (Chairperson)  
Ms. Tashi Dema  
Mr. Tshering Yeshe  
Ms. Yeshe Lhamo  
Mr. Birendra Dhakal  
Mr. Namgay Thinley  
Mr. Bal Bahadur Rai (Alternate)  
Mr. Dawa Tshering  
Mr. Jamyang Lophyal (Alternate)  
Mr. Tashi Dorji  
Ms. Sonam Lhamo  
Mr. Jigme Dorji  
Ms. Tshewang Choden (Alternate)  
Mr. Karma Wangdi,  
Offtg. Director General  
(Ex-officio member)

**Member Secretary**

Cheki Zangmo  
Standardization Division  
Bhutan Standards Bureau

**SUB COMMITTEE ON SPICES, CULINARY HERBS AND CONDIMENTS (TC02/SC07)**

***Organization***

National Post Harvest Centre, DAMC, MoAL, Paro

Bhutan Food and Drug Authority, MoH, Gelephu

Bio Bhutan Private Limited, Thimphu

Department of Agriculture, MoAL, Thimphu

Khengrig Namsum Cooperatives, Zhemgang

***Representative(s)***

Ms. Sonam Lhamo (Chairperson)

Ms. Thinley Zangmo

Mr. Phuntsho Dorji

Mr. B.B Rai

Mr. Thinley Wangdi

**Member Secretary**

Cheki Zangmo  
Standardization Division  
Bhutan Standards Bureau