

## Foreword

This Bangladesh Standard was adopted by the Bangladesh Standards and Testing Institution on ....., after the recommendation by the Sectional Committee for the Fruits, Vegetables and their Derived Products had been approved by the Agricultural and Food Products Divisional Committee.

Barbecue Sauce refers to a culinary preparation used as an adjunct to food, prepared from tomato, fruit, or vegetable base, singly or in combination, blended with nutritive sweeteners, salt, spices, condiments, and other permitted ingredients to impart a distinctive flavour, colour, and aroma. In Bangladesh, barbecue sauce has gained increasing popularity in both household and commercial food preparation, particularly in the fast food, restaurant, and ready-to-eat food sectors. With the growing trend of diversified culinary practices and consumer preference for convenient, high-quality processed foods, the local production and import of barbecue sauces have expanded considerably. Therefore, it has become essential to develop a national standard to ensure product quality, safety, and uniformity, thereby safeguarding consumer interests and promoting fair trade practices in the domestic and international markets.

The Technical Committee responsible for the preparation of this standard has taken into consideration the views of the members of this committee, local producers, consumers and technologists and has related the standard to the manufacturing and trade practices followed in the country in this field.

In the formulation of this standard, considerable assistance has been derived from the following publications, which are acknowledged with thanks:

- i. CXS 306-2023 Standard for Chili Sauce
- ii. A-A-20335B:2012 Barbecue Sauce — Commercial Item Description, U.S. Department of Agriculture (USDA)

This standard is subject to periodical reviews and amendments, if necessary, in order to keep pace with the latest industrial and technological innovations. Any suggestions for improvement will be recorded and placed before the committee in due course.

For the purpose of deciding, whether a particular requirement of this standard is complied with the final value observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with BDS 103. The number of significant places retained in the rounded off value should be the same as that of the specified value in the standard.

# Bangladesh Standard Specification for Barbecue Sauce

## 1. Scope

- 1.1 This standard specifies the requirements and methods of test for barbecue sauce for edible purposes.

## 2. Normative References

- 2.1 The relevant standards listed in Annex-A are necessary adjuncts to this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

## 3. Terminology

- 3.1 **Barbecue Sauce** means a culinary preparation used as an adjunct to food, prepared from the edible portion of suitable fruits or vegetables or their pulps or purees, with or without tomato products, and processed by blending with nutritive sweeteners, vinegar, caramel colour, salt, spices, condiments, and other permitted edible ingredients appropriate to the product. The product shall possess a characteristic smoky, tangy, or spicy flavour typical of barbecue-type sauces and shall be of uniform consistency and flavour.

## 4. Ingredients

The following raw materials shall be used in the manufacture of barbecue sauce:

- 4.1 A substantial amount of a primary ingredient, commonly tomato products (such as ketchup, tomato puree, or tomato paste), or alternatively, a vinegar (e.g., apple cider vinegar), or a mustard base. The barbecue sauce may or may not have fruit puree. If added, it shall have a minimum of 20 percent fruit puree.
- 4.2 Sugars and/or other foodstuffs with sweetening properties such as, brown sugar, honey, high fructose corn syrup or molasses.
- 4.3 Salt, edible oil, caramel colour, potable water, and acidic ingredient to provide tanginess, typically vinegar or citric acid.
- 4.4 Onion, garlic, ginger, chili peppers, and various spices like paprika, black pepper, mustard powder, and cumin and any other permitted flavouring materials.
- 4.5 **'Food Additives'** - The product may contain any food additives as permitted under the food category 12.6 in the latest available version of Codex General Standard for Food additives (CODEX STAN 192).
- 4.6 **Thickening agent** - The product may contain thickening agents such as modified starches (as per GMP) and xanthan gum (maximum 0.5%), which must be declared on the product label.

**4.7 Food Preservatives** – The product may contain only the following preservatives when tested according to the given methods in the table 1.

**Table-1 Limit for preservatives**

Sl.no. (1)	Preservatives (2)	Limit (3)	Method of test (4)
i.	Benzoic acid and/or its salts (as Benzoic acid), mg/kg, <i>Max.</i>	1000	BDS ISO 22855
ii.	Sorbic acid and/or its salts (as Sorbic acid), mg/kg, <i>Max.</i>	1000	BDS ISO 22855
iii.	Sulphur dioxide, Sulphites and/or its salts (as Sulphur dioxide), mg/kg, <i>Max.</i>	300	BDS ISO 5523

**NOTE** – When more than one preservative is used, the amount of each shall be such that, when expressed as a percentage of the amount permitted singly, the sum of these percentages does not exceed one hundred percent.

## 5. Requirements

**5.1** The product shall be free from pest, insects and their residues, rodent hair, adulterants, foreign matter, visible fungal infestation and other signs of spoilage.

**5.2** The finished product shall be smooth and possess a consistency such that not more than a slight separation of free liquid occurs. The barbecue sauce may have small pieces of vegetable particulates, and spices.

**5.3** It shall have a spicy, smoky, sweet/sour tomato flavour and odour characteristic of the flavour specified. There shall be no foreign flavours or odours.

**5.4** It shall be a deep reddish brown to dark brown and shall be smooth, glossy, moderately thick.

**5.5** The product shall also comply with the specific requirements given in Table 2, 3 and 4.

**Table 2 Requirements for Barbecue Sauce**

Sl. No. (1)	Characteristics (2)	Requirements (3)	Method of test (4)
i)	Total soluble solids, percent by mass,	23-56	Annex B/ BDS ISO 2173/ AOAC 932.12
ii)	Salt, percent by mass	1.50 - 3.80	AOAC 941.13
iii)	pH <i>Max.</i>	4	BDS ISO 1842

**Table 3 Maximum Limit for Heavy metals**

Sl. No. (1)	Characteristics (2)	Limit (3)	Method of test (4)
i)	Arsenic (As), mg/kg, <i>Max.</i>	0.2	AOAC 986.15
ii)	Lead (Pb), mg/kg, <i>Max.</i>	0.3	AOAC 999.10
iii)	Copper (Cu), mg/kg, <i>Max.</i>	5.0	AOAC 990.10
iv)	Zinc (Zn), mg/kg, <i>Max.</i>	5.0	AOAC 986.15
v)	Tin (Sn), mg/kg, <i>Max.</i>	250.0	AOAC 980.19

**Table 4 Maximum Limit for Microbiological Parameters**

Sl. No.	Characteristics	Limit	Method of test
(1)	(2)	(3)	(4)
i)	Total Plate Count, cfu/g, <i>Max.</i>	50	BDS ISO 4833-1
ii)	Yeast and Mould count, cfu/g, <i>Max.</i>	<10	BDS ISO 21527-1
iii)	Total Coliform count, cfu/g, <i>Max.</i>	Nil	BDS ISO 4832
v)	<i>Salmonella</i> /25g, <i>Max.</i>	Absent	BDS ISO 6579-1

**5.6** The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container when packed in rigid containers. The water capacity of the container is defined as the volume of distilled water at 20 °C that the sealed container is capable of holding when completely filled.

**5.7 Hygiene** – During processing, handling, storage and transportation, effective measures must be taken to prevent cross contamination with chemicals, microbial or physical contaminants.

**5.7.1** The product shall be processed and packed under strict hygienic conditions in premises maintained in accordance with BDS 822.

**5.8 Pesticide residues** – The product covered by this standard shall comply with the maximum residue limits for pesticide established by the Codex Alimentarius Commission.

**5.9 Legal Requirement** – The product shall in all other aspects comply with the requirements of the legislations enforced in the country.

## 6. Packing and Marking

**6.1 Packing** – The material shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional and organoleptic properties of the product throughout the shelf life of the product.

**6.2 Marking** – Each package shall be suitably labeled so as to give the following information:

- Name of the product;
- Name and address of the manufacturer/importer;
- List of the ingredients including allergen if applicable;
- Batch or code number;
- Net content in g;
- Date of manufacture and expiry;
- Storage condition;
- Maximum Retail Price (MRP);
- Country of origin, in case of imported products; and
- Any other requirements as specified under the 'Packaged Commodities Rules, 2021 (Amendment-2025)' of BSTI.

**6.2.1** Each package may also be marked with the BSTI Certification Mark.

**NOTE** – The use of BSTI Certification Mark is governed by the provisions of Bangladesh Standards and Testing Institution Act, 2018 and the Rules and Regulations made thereunder. Details of conditions, under which a license for the use of BSTI Certification Mark may be granted to manufacturers or processors, may be obtained from the Bangladesh Standards and Testing Institution.

## 7. Sampling

7.1 Representative samples shall be prepared as prescribed in col. 3 of BDS 1010.

## 8. Tests

8.1 Test shall be carried out as prescribed in the relevant column of Table 1, 2, 3 and 4.

8.2 **Quality of Reagents** – Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (BDS 833) shall be used where the use of water as a reagent is intended.

**NOTE** – ‘Pure chemicals’ shall mean chemicals that do not contain impurities, which may affect the result of analysis.

## 9. Compliance

9.1 When on testing, each of the samples is found to conform to the requirements specified in this Bangladesh Standard Specification, the lot, batch or consignment from which the samples have been drawn shall be deemed to comply with standard specification.

### Annex - A [Clause 2.1]

#### List of Relevant Standards

BDS and ISO No.	Title
BDS 103	Methods of rounding off numerical value
BDS 822	Code of hygienic conditions for food processing units
BDS 833	Water for laboratory use
BDS 1010	Methods of sampling and test for processed fruits and vegetables in cans/containers
ISO 750:1998	Fruit and vegetable products — Determination of titratable acidity
BDS ISO 1842	Fruit and vegetable products - Determination of pH
BDS ISO 4832	Microbiology of food and animal feeding stuffs- Horizontal method for the enumeration of coliforms- colony count technique
BDS ISO 4833-1	Microbiology of food chain – Horizontal method for the enumeration of microorganism – Part 1: Colony count at 30°C by the pour plate technique
BDS ISO 5523	Liquid fruit and vegetable products – Determination of sulphur dioxide content (Routine method)
BDS ISO 6579-1	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of <i>Salmonella</i> – Part 1: Detection of <i>Salmonella</i> spp
BDS ISO 21527-1	Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds- Part 1: Colony count technique in products with water activity greater than 0.95.
BDS ISO 22855	Fruit and vegetable products - Determination of benzoic acid and sorbic acid concentrations - High performance liquid chromatography method

**Annex B**  
**Determination of Soluble Solids Content**  
(Exclusive of Salt)  
[Table 2, Item (i)]

**B-0 General**

**B-0.1** The total soluble solids are determined by subtracting the percent by mass of insoluble solids from percent by mass of total solids.

**B-1 Determination of Total Solids**

**B-1.1 Apparatus**

**B-1.1.1 Flat-bottom dishes**

**B-1.1.2 Vacuum Oven**

**B-1.2 Procedure** – Weigh accurately into a large flat bottom dish a portion of sample of so such size sample that the dry residue will not be less than 3 to 4 g of dry material. Distribute thinly in an even layer oven bottom of dish, diluting with water if necessary to facilitate distribution. Dry at 70 °C in a vacuum oven under pressure not exceeding 100 mm of mercury until consecutive weighings made at 2-hour intervals do not vary by more than 3 mg.

**B-1.3 Calculation** – From the loss in mass observed, calculate the percent by mass of total solids.

**B-2 Determination of Insoluble Solids**

**A-2.1** Wash 20 g of sample repeatedly with hot water, centrifuging after each addition of water and pouring the clear, supernatant liquid through weighed filter or Buchner funnel. (The filter used is one of two such papers dried 2 hours at 100 °C and weighed in a covered dish. The second paper is used, if necessary, when first paper becomes clogged). After 4 or 5 washings, transfer remaining insoluble matter to filter, dry in a covered dish for 2 hours at 100 °C. Cool in desiccators and weigh.

**B-2.2 Determination of Soluble Solids**

**B-2.2.1** The total soluble solids, percent by mass will be the difference between per cent total solids less the percent insoluble solids.

**B-2.3 Determination of Percentage of Soluble Solids**

**B-2.3.1** Percentage of total soluble solids (exclusive of salt) may then be estimated by subtracting the percentage of insoluble solids and salt present in the sample is 1.5 per cent of the value obtained for total soluble solids.