



# বাংলাদেশ স্ট্যান্ডার্ডস এন্ড টেস্টিং ইনস্টিটিউশন

শিল্প মন্ত্রণালয়

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

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নং ৩৬.০৫.০০০০.০০২.১২.৫২২.১৯ /১০০৬)

তারিখ: ১৬-০৩-২০২০ খ্রিঃ

বিষয়: টেকনিক্যাল কমিটি কর্তৃক প্রাথমিকভাবে অনুমোদিত খসড়া মান-এর উপর মতামত আহ্বান প্রসঙ্গে।

উপর্যুক্ত বিষয়ে আদিষ্ট হয়ে জানানো যাচ্ছে যে, জাতীয় মান প্রণয়ন/রিভিশন/অ্যামেন্ডমেন্ট-এর নিমিত্ত বিএসটিআই গঠিত 'সফট ড্রিংকস এন্ড বেভারেজেস' টেকনিক্যাল কমিটি কর্তৃক গত ০৮ মার্চ ২০২০ তারিখে নিম্নবর্ণিত বাংলাদেশ জাতীয় মান দুটির খসড়া যথাক্রমে রিভিশন এবং নতুনভাবে প্রণয়নের নিমিত্ত প্রাথমিকভাবে অনুমোদিত হয়:

- i) BDS 1240 – Drinking Water (Proposed Draft for 2<sup>nd</sup> Rev.)
- ii) New Standard for Aloe Vera Drink

২। টেকনিক্যাল কমিটি কর্তৃক প্রাথমিকভাবে অনুমোদিত খসড়া মান দুটি নিয়মানুযায়ী কৃষি ও খাদ্য বিভাগীয় কমিটি কর্তৃক চূড়ান্তভাবে অনুমোদনের পূর্বে আপনার/আপনার প্রতিষ্ঠানের মতামত আহ্বান করা যাচ্ছে। বিবেচ্য মানটির উপর কোনরূপ মতামত যদি থাকে, তবে তা যৌক্তিকতা উল্লেখপূর্বক প্রদানের নিমিত্ত খসড়া মানটি এতদসঙ্গে প্রেরণ করা হলো।

৩। এমতাবস্থায়, প্রস্তাবিত খসড়া মান দুটির উপর যৌক্তিক কোন মতামত (যদি থাকে), তবে তা আগামী ১৫ মে ২০২০ খ্রিঃ তারিখের মধ্যে নিম্নস্বাক্ষরকারী বরাবর প্রেরণের জন্য অনুরোধ করা হলো। নির্ধারিত সময়ের মধ্যে কোনরূপ মতামত না পাওয়া গেলে প্রস্তাবিত খসড়া মানটির সাথে আপনি/আপনার প্রতিষ্ঠান সম্মত রয়েছেন মর্মে পরবর্তী কার্যক্রম গ্রহণ করা হবে।

৪। জাতীয় মান প্রণয়নে সকলের সহযোগিতা একান্তভাবে কাম্য।

(গোলাম মোঃ সরওয়ার)

উপপরিচালক (কৃষি ও খাদ্য)

মোবাইল: ০১৭১৮৪৬৩৬৬২

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সংযুক্তি: বর্ণনামতে।

বিতরণ প্রয়োজনীয় কার্যার্থে (জেষ্ঠ্যতার ক্রমানুসারে নয়):

- ১। সংশ্লিষ্ট সকল স্টেকহোল্ডার ও কমিটির সদস্যবৃন্দ।
- ২। চেয়ারম্যান, বাংলাদেশ নিরাপদ খাদ্য কর্তৃপক্ষ, প্রবাসী কল্যাণ ভবন, ৭১-৭২ ইস্কাটন গার্ডেন রোড, ঢাকা।
- ৩। মহাপরিচালক, জাতীয় ভোক্তা অধিকার সংরক্ষণ অধিদপ্তর, টিসিবি ভবন, ১ কাওরান বাজার, ঢাকা।
- ৪। সভাপতি, এফবিসিসিআই, ৬০ মতিঝিল বাণিজ্যিক এলাকা, ঢাকা।
- ৫। সভাপতি, ক্যাব, ৮/৬ সেগুনবাগিচা, ঢাকা।
- ৬। পরিচালক (সিএম), বিএসটিআই, ঢাকা।
- ৭। পরিচালক (রসায়ন), বিএসটিআই, ঢাকা।
- ৮। প্রোগ্রামার আইসিটি সেল, বিএসটিআই, ঢাকা (বিএসটিআই'র ওয়েবসাইটে দেয়ার জন্য)।

অনুলিপি (সদয় অবগতির জন্য):

- ১। পরিচালক (মান), বিএসটিআই, ঢাকা।
- ২। পিএ টু মহাপরিচালক, বিএসটিআই।

**Bangladesh Standard  
Specification for  
Drinking Water  
(Second Revision)**

**1. SCOPE**

This Bangladesh Standard specifies requirements and method of sampling and test for drinking water other than natural mineral water for direct consumption.

**2. NORMATIVE REFERENCES**

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. TERMS AND DEFINITIONS**

For the purposes of this standard, the following terms and definitions shall apply:

**3.1 Drinking water** - Water that has been suitably treated for human consumption filled and sealed in containers. It may contain minerals naturally occurring or intentionally added; it may contain carbon dioxide naturally occurring or intentionally added but shall not contain sugars, sweeteners, flavourings or other food stuffs.

**3.2 Potable water** - Water that is safe and suitable for human consumption

**3.3 Drinking water** - Potable water intended for human consumption.

**3.4 Treated water** - Water that has undergone through processes such as flocculation, coagulation, sedimentation, filtration, distillation and disinfection.

**3.5 Water quality** - The chemical, physical and biological characteristics of water in respect to suitability for human consumption.

**3.6 Safe water** - Water that is free of physical, chemical and/or biological substances in concentrations which could cause illness or injury to consumers.

**3.7 Surveillance** - An independent continuous, specific measurement, observation and reporting for the purpose of water quality management and operational activities.

**3.8 Container** - Any bottle, can, jar, pouch or other container to be filled with water, properly labelled and intended for sale. All containers shall be food grade.

**4. TREATMENT AND HANDLING**

**4.1 Collection of water** - The conditions in which the water is collected must not modify the physical properties, composition or quality of the water prior to the treatments.

**4.2 Transportation** - Transportation of water from extraction or collection points to bottling facilities if necessary shall be conducted in a way that does not have any significant effect on the safety and the characteristic composition of the transported water.

**4.3 Forms of treatment** - Chemical, physical, thermal and anti-microbial treatments are permitted. These treatments can be used singly or in combination as multiple barriers.

**4.4 Additional requirements for water derived from ground formation** - Water derived from ground formation (artesian, spring or well water) must not be under the direct influence of the surface water.

## 5. REQUIREMENTS FOR PACKAGED DRINKING WATER

### 5.1 General requirements

5.1.1 The location, construction, operation and supervision of water supply source, its reservoirs and its distribution system shall be subject of approval by the relevant authority.

5.1.2 Drinking water may optionally contain safe and suitable antimicrobial agents. Fluoride may be optionally added.

5.1.3 Drinking water shall be handled under hygienic conditions stipulated in BDS 822 Code of hygienic condition for food processing unit.

5.1.4 The product shall be free from phenolic compounds and mineral oils.

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

### 5.2 Specific requirements

5.2.1 The physical characteristics affecting the quality of water. Packaged drinking water shall conform to the physical characteristics in Table 1

Table 1 Physical Requirement

SI No.	Characteristics	Limit	Method of Test
(1)	(2)	(3)	(4)
i)	Colour, Hazen units, Max.	5	ISO 7887
ii)	Turbidity, NTU, Max.	5	ISO 7027-2
iii)	Taste	Unobjectionable	--
iv)	Odour	Odourless	--

5.2.2 Chemical characteristics affecting the quality of packaged drinking water. Potable water shall conform to the chemical characteristics affecting quality indicated in Table 2.

Table 2 Chemical Requirement

SI No.	Characteristics	Limit	Method of Test
(1)	(2)	(3)	(4)
i)	pH	6.5-8.5	ISO 10523
ii)	Total hardness as CaCO <sub>3</sub> , mg/l, Max.	300	ISO 6059
iii)	Iron (as Fe), mg/l, Max.	0.3	ISO 6332
iv)	Chlorides as Cl <sup>-</sup> , mg/l, Max.	250	ISO 9297
v)	Total dissolved solids, mg/l, Max.	500	ASTMD 5907
vi)	Calcium (as Ca), mg/l, Max.	75	ISO 7980
vii)	Sodium (as Na), mg/l, Max.	200	ISO 9964-1
viii)	Copper (as Cu), mg/l, Max.	1.0	ISO 8288
ix)	Manganese (as Mn), mg/l, Max.	0.5	ISO 6333
x)	Nitrate (as NO <sub>3</sub> ), mg/l, Max.	45	ISO 7890-3
xi)	Nitrite (as NO <sub>2</sub> ), mg/l, Max.	0.02	ISO 6777
xii)	Fluoride (as F), mg/l, Max.	1.0	ISO 10359-2
xiii)	Mercury (as Hg), mg/l, Max.	0.001	ISO 12846
xiv)	Cadmium (as Cd), mg/l, Max.	0.003	ISO 5961
xv)	Selenium (as Se), mg/l, Max.	0.01	ISO TS 17379-1
xvi)	Arsenic (as As), mg/l, Max.	0.01	ISO 17378-1
xvii)	Cyanide (as CN), mg/l, Max.	Absent	ISO 6703-1
xviii)	Lead (as Pb), mg/l, Max.	0.01	ISO 8288

xix)	Zinc (as Zn), mg/l, Max.	3.0	ISO 8288
xx)	Chromium (as Cr), mg/l, Max.	0.05	ISO 9174
xxi)	Barium, mg/l, Max.	1.0	ISO 11885
xxii)	Borates, mg/l, Max.	5.0	ISO 17294-2
xxiii)	Nickel mg/l, Max.	0.02	ISO 8288
xxiv)	Hydrogen sulfide, mg/l, Max.	0.05	ISO 10530
xxv)	Residual free chlorine, mg/l, Max.	0.2	ISO 7393-2
xxvi)	Total organic matter, mg/l, Max.	0.003	ISO 8245

**5.2.3 Microbiological limits** - The product shall not exceed the bacteriological limits given in Table 3 when tested in accordance with the methods prescribed in Column 4 of the Table.

**Table 3 Microbiological Requirement**

SI No.	Characteristics	Limit	Method of Test
(1)	(2)	(3)	(4)
i)	Aerobic microbial count, per ml, Max. (Incubation at 37 °C for 72 h)	100	ISO 6222
ii)	Total coliforms in 100 ml	Absent	ISO 4832
iii)	<i>E. coli</i>	Absent	ISO 9308-1
iv)	<i>Salmonella</i> in 100 ml	Absent	ISO 6579-1

**5.2.4 Health-related limits for agrochemical and radiological substances**

No water shall contain substances from agrochemicals and pesticide residues or emit radioactivity in quantities that may be injurious to health. To this effect, all packaged water shall comply with the health-related requirements of the most recent "Guidelines for Drinking Water Quality" published by the World Health Organization. This characteristic shall be tested only if considered as necessary.

**6. PACKING, MARKING AND LABELING**

**6.1 Packaging** - The product shall be packed in clean, hygienic, colourless, transparent, tamperproof sealable retail containers suitable for preventing the possible adulteration or contamination of water and shall be made from food grade material and strong enough to withstand normal handling and transportation. These containers may be further packed in cases as agreed between the purchaser and the supplier. The capacity of the containers may vary depend on as agreed to between the purchaser and the vendor.

**6.2 Marking** - The product shall be marked or labelled legibly and indelibly with the following information:

- a) Name of the product;
- b) Brand name or trade name, if any;
- c) Net volume, in millilitres or litres;
- d) Name and address of the manufacturer/distributor;
- e) Batch or code number;
- f) Date of manufacturing;
- g) Date of expiry
- h) Country of origin;
- i) Storage instruction and;
- j) Maximum retail price (MRP)
- k) Any other requirements as specified under the Bangladesh standards of weights and measures (packaged commodities) Rules.



**6.3 Water from water distribution system** - When drinking water is supplied by a public or private tap water distribution system, the wording "From a public or private distribution system" must appear along with the name of the product on the front of the main label.

#### **6.4 Labeling Prohibition**

**6.4.1** No claims concerning medicinal (preventative, alleviative or curative) effects shall be made in respect of the properties of the product covered by the standard. Claims of other beneficial effects related to the health of the consumer shall not be made.

**6.4.2** The use of any statement or of any pictorial device, which may create confusion in the mind of the public or in any way mislead the public about the nature, origin, composition and properties of drinking water put on sale, is prohibited.

#### **6.5 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**

Representative samples of the material shall be drawn and conformity of the material to the requirements of the specification shall be determined according to the procedure given in see Annex B.

### **8. TESTING**

Test shall be carried out as prescribed in col. 4 of Table 1, 2 and 3

#### **8.1 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**

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 this standard specification.

**Bangladesh Standard  
SPECIFICATION FOR  
Aloe Vera Drink**

**1. SCOPE**

1.1 This standard prescribes the requirements and methods of sampling and testing for Aloe vera (*Aloe barbadensis* Miller or *Aloe aborescens*) drinks, intended for direct consumption without dilution as a non-alcoholic beverage.

1.2 This Standard does not apply to products used for medicinal purposes.

**2. REFERENCES**

2.1 The Bangladesh Standards listed in Annex G is 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 DEFINITION**

For the purpose of this specification, the following definition shall apply:

**3.1 Aloe vera drink**

A drink intended for consumption without dilution and prepared from unfermented aloe gel with or without some other fruit pulp, spice and containing any soluble sweetener and potable water. The product shall be processed by heat in an appropriate manner before or after being sealed in a container.

**4 INGREDIENTS**

**4.1 Basic ingredients**

4.1.1 Inner leaf liquid aloe gel – The gel content of the product shall be not less than 10 per cent by mass of the product.

4.1.2 Sweeteners

4.1.3 Sugars – Sugar conforming to relevant Bangladesh standard.

4.1.4 Permitted non-nutritive sweeteners only for products which are labeled as "energy reduced" or "with no added sugar" according to BDS CAC 192.

4.1.5 Potable water, conforming to BDS 1240

**4.2 Optional ingredients**

In addition to the ingredients given in 4.1, one or more ingredient(s) of the following may be used.

4.2.1 Syrups - liquid glucose, invert sugar syrup, fructose syrup, liquid cane sugar, isoglucose, high fructose syrup, honey conforming to relevant BDS.

4.2.2 Colouring substances according to BDS CAC 192.

4.2.3 Emulsifying or stabilizing agents according to BDS CAC 192.

4.2.4 Flavouring substances – Natural identical/Natural/Artificial may be used according to BDS CAC 192 but it should be declared in the label.

4.2.5 Edible salt, conforming to relevant Bangladesh standard.

4.2.6 Spices

## 5 REQUIREMENTS

5.1 Hygiene – The product shall be processed, packaged, stored, transported and distributed in accordance with the conditions prescribed in BDS 822. The containers shall be filled under strictly sanitary conditions. After filling, the containers shall be hermetically sealed with a new clean closure.

5.2 Appearance – The product shall be of a uniform consistency and of a characteristic colour and shall be free from any discolouration.

5.3 Flavour and aroma – The product shall be odorless to mildly vegetative with a pleasant flavour and aroma. It shall be free from scorching, caramalization and fermentation.

5.4 The aloe gel shall be free from aloin as much as reasonably possible. Wash the gel 2-3 times and filter with a charcoal filter to reduce or remove aloin content from the pulp. The aloin content shall be not more than 10 ppm in the final product.

5.5 Other requirements – The product shall comply with the requirements given in Table 1, when tested according to the methods given in Column 4 of the Table 1.

TABLE 1 - REQUIREMENTS FOR ALOE VERA DRINK

SI. NO.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST
(1)	(2)	(3)	(4)
i)	Total soluble solids content, per cent by mass, Min.	10.0	Annex B
ii)	Acidity (as citric acid), per cent by mass, Max.	0.075	Annex C
iii)	a) Sulphur dioxide or b) Benzoic acid	a) Max. 70 ppm or b) Max. 150 ppm	a) AOAC 963.11;27.1.39 or b) ISO 22855:2008
iv)	Total plate count.	less than 100 in 1ml	Annex D
v)	Yeasts and moulds count	Absent in 1ml	Annex E
vi)	Total coliform count	Absent in 1ml	Annex F
vii)	Arsenic (as As), mg/kg, Max.	0.1	AOAC 986.15
viii)	Lead (as Pb), mg/kg, Max.	0.5	AOAC 999.10

+ Canned products shall not contain sulphur dioxide

5.6 Pesticide residues – The product shall be prepared with special care under Good Manufacturing Practices, so that residues of the those pesticides which may be required in the production, storage or processing of the raw materials or the finished food ingredient do not remain, or, if technically unavoidable, are reduced to the maximum extent possible.

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

## 6 PACKING

**6.1** The product shall be packaged in food grade sterilized sanitary cans, glass containers, PET bottle, laminate paper (tetra or combi – 6 layer laminate paper) under strict hygienic conditions and the containers shall be sealed air-tight, products packaged in metal containers shall not contain sulphur dioxide.

**6.2** The containers shall be capable of withstanding the temperatures involved in processing.

## 7 MARKING AND LABELLING

**7.1** The following shall be marked or labeled legibly and indelibly on each container destined for the final consumer.

- a) Name of the product as Aloe vera drink;
- b) Brand name or trade mark, if any;
- c) Net volume, in ml;
- d) Any permitted food additives class and name or INS number;
- e) Instructions for storage and use, if any;
- f) Name and address of the manufacturer, packer or distributor in Bangladesh;
- g) Batch number or code number or a decipherable code marking;
- h) Date of manufacture;
- i) Date of expiry;
- j) Complete list of ingredients, in descending order or their proportions shall be declared in the list of ingredients;
- k) Country of origin, in case of imported products;
- l) Maximum retail price;

**Note-1:** A pictorial representation of product on the label shall not mislead the consumer with respect to the aloe vera so illustrated.

**Note-2:** When non-nutritive sweeteners are added as substitutes for sugars, the statement, "with non-nutritive sweetener(s)" and "energy reduced" or "with no added sugar" as the case may be, shall be included in conjunction with or in close proximity to the product name.

**7.2** The container 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.

**8 SAMPLING** – Representative samples of the product for ascertaining conformity to the requirements of this standard shall be drawn as prescribed in Annex A.

**9 METHOD OF TEST** – Tests shall be carried out as prescribed in col. 4 of Table 1 of the standard.

**9.1 Quality of reagents** – Unless otherwise specified, pure chemicals shall be employed in tests and distilled water (see BDS 833) shall be used wherever the water as a reagent is intended.

**Note** – pure chemicals shall mean chemicals that do not contain impurities, which may affect the result of analysis.



**10 CRITERIA FOR CONFORMITY**

A lot shall be declared as conforming to the requirements of this specification if the following conditions are satisfied:

- 10.1 Each container examined as in A.5.1 satisfies the packing and marking requirements.
- 10.2 Each container tested as in A.5.2 satisfies the microbiological requirements given in 5.5.
- 10.3 Each container tested as in A.5.3 satisfies the requirements given in 5.2 and 5.3.
- 10.4 The composite sample tested as in A.5.4 satisfies the requirements given in 5.5.

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