

**PAKISTAN STANDARD SPECIFICATION  
FOR  
BANASPATI (4<sup>TH</sup> REVISION)**



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**PAKISTAN STANDARDS AND QUALITY CONTROL AUTHORITY,  
STANDARDS DEVELOPMENT CENTRE,  
Plot No. ST.7/A, Block-3, Scheme-36, Gulistan-e-Jouhar,  
Karachi-Pakistan**

PAKISTAN STANDARDS & QUALITY CONTROL AUTHORITY

**(STANDARDS DEVELOPMENT CENTRE)**  
**(AGRICULTURE & FOOD DIVISION)**

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**PAKISTAN STANDARD SPECIFICATION  
FOR  
BANASPATI Ghee (4<sup>th</sup> REVISION)**

**0. FOREWORD**

- 0.1 This Pakistan Standard was adopted by the Pakistan Standards & Quality Control Authority, Standards Development Centre on **30.03.2010** after the draft finalized by the Oilseeds & their Allied Products Technical Committee has been approved by the National Standards committee for Agricultural & Food Products.
- 0.2 This Pakistan Standard Specification on Banaspati (PS: 221) was first revised in 1981 and secondly 1997, thirdly in 2003. The committee felt it necessary to revise it again in the light of latest development in the Industries.
- 0.3 In the preparation of this standard the views of the manufacturers, technologists and testing authorities have been taken into consideration.
- 0.4 PS: 56 for "Methods of Sampling and Test for Vegetable Oils and Fats" is a necessary adjunct to this standard.
- 0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the results of a test or analysis, shall be rounded off in accordance with PS:103 for "Methods of Rounding off Numerical values" the number of significant places retained in the rounded off value shall be the same as that of the specified value in the standard.
- 0.6 This standard is intended chiefly to cover the technical provisions relating to the supply of the material and it does not purport to include all the necessary provisions of a contract.
- 0.7 All the ingredients preparation, processing, packaging storage and for transportation shall be according to PS: 3733 for Halaal Food Management System Requirement for any Organization in the Food Chain.

**1. SCOPE**

- 1.1 This Pakistan Standard prescribes the general requirements and Sampling for Banaspati.

**2. TERMINOLOGY**

- 2.1 Banaspati means the product obtained by hydrogenation of edible oil of vegetable origin or blend of vegetable oils. It shall contain no flavouring, colouring or any other matter deleterious to health. The product shall also conform to the following requirements :
- 2.2 Edible Vegetable oils to be used for the preparation of Banaspati may include Refined Cotton Seed Oil, Refined Low Erucic Acid Rapeseed Canola Oil, Refined Sesame Seed Oil, Refined Ground Nut Oil, Refined Soyabean Oil (Edible Grade), Refined Palm Oil, Refined Palmolein, Refined Sunflower Oil, Refined Maize (Corn) Oil and Refined Safflower Oil.

### 3. REQUIREMENTS

- 3.1 The product shall be prepared from properly refined, bleached and deodorized hydrogenated vegetable oils in premises maintained under hygienic condition according to PS: 1825 for Good Manufacturing Practice in Manufacturing, Processing, Packing or Holding Human Food.
- 3.2 The product shall be produced from any of the following vegetable oil or a blend thereof:
- i. Refined Cotton Seed Oil.
  - ii. Refined Low Erucic Acid Rapeseed (Canola Oil).
  - iii. Refined Edible Sesame Seed Oil.
  - iv. Refined Ground Nut Oil.
  - v. Refined Soyabean Oil.
  - vi. Refined Palm Oil (Edible Grade).
  - vii. Refined Maize (Corn) Oil.
  - viii. Refined Safflower Oil.
  - ix. Refined Sunflower Oil.
  - x. Refined Palmolein.
- 3.3 The product shall be clean and wholesome (conducive to sound health).
- 3.4 When melted the product shall be clear, bright and free from sediment, unpleasant taste and odour.
- 3.5 The product shall also conform to the characteristic given in Table — 1 and Table — 2.

**TABLE — 1**

S #.	Characteristic	Limits
i.	Moisture & Volatile matter by % weight, max.	0.15
ii.	Free fatty Acid (calculated as oleic acid) % by weight, max.	0.2
iii.	Melting point, as estimated by the capillary tube opens at both ends.(Max.)	39 °C
iv.	Butyro Refractometer reading at 40 °C	Not less than 48.0
v.	Unsaponifiable matter % by weight max.	1.5
vi.	Nickel, mg/kg, max.	0.2
vii.	Peroxide value, max.	5.0
viii.	Anisidine Value max / *Rancidity (Kries Test)	3.0 R
ix.	Vitamin – A	33000 I.U. to 45000 I.U. per kg of the finished product.
x	Vitamin-D3	3000 I.U. to 4500 I.U. per kg of the finished product.
xi.	Soap content., ppm, max	50
xii.	Trans Fatty Acids	5 % max.

\*Colour produced in Kries Test shall be interpreted alongwith Peroxide Value and shall be sensory test as negative. If the colour is not deeper than 3.0 R 1 inch cell ovibond scale.

**TABLE-2**  
**REQUIREMENTS FOR CONTAMINANTS**

	<b>Contaminant Limits</b>
Matter volatile at 105°C	Not more than 0.2%
Insoluble impurities	Not more than 0.05% m/m
Iron (Fe)	Not more than 1.5 mg/kg
Copper (Cu)	Not more than 0.1 mg/kg
Lead (Pb)	Not more than 0.1 mg/kg
Arsenic (As)	Not more than 0.1 mg/kg

4. **SAMPLING**

4.1 Representative samples of the product shall be drawn in the manner prescribed in Appendix – A.

5. **TEST**

5.1 The relevant Testing Method of ISO, CAC and of other internationally recognized standard methods may be taken into account for analysis purpose.

6. **PACKING AND MARKING**

6.1 Banaspati shall be packed in well-closed tin containers made from food grade material and it shall conform to PS:4773 for Tinsplate containers for Ghee, Banaspati, Cooking Oil/Edible Oils or the material shall be packed in suitable sealed flexible packs (PS:4797)\*\* or Plastic containers (made from food grade plastic)

\*\* Flexible Packs for the packing of Banaspati, Ghee, Cooking Oil & Edible Oils.

**Note:** The use of indigenous seed oil should be encouraged in the blend for use in the manufacturing of Banaspati.

6.1 The weight of Tin Container for Packing of Banaspati should be as follows :-

<b>Weight of Finished Product Kg</b>	<b>Weight of Tin Containers (gm)</b>
16	880 to 890
10	660 to 670
05	330 to 340
2.5	180 to 190
0.1	-
500 gms	-
250 gms	-

6.2 Marking - The following particulars shall be clearly given on each container :-

- a. Name of the material in block letters.
- b. Batch Number.
- c. Name and address of the manufacturer.
- d. Net weight of the content and gross weight in Kg.
- e. Date of manufacture and expiry\*\*\*.
- f. The words contains 33000 I.U.  $\pm$  10 % (Assay variation) of Vitamin-A per kg of the finished product when packed.
- g. Pakistan Standard Number and Mark & License Number.
- h. Storage conditions.
- i. Product shall be labelled in accordance with the Pakistan Standard for Labelling of Prepackaged Foods (PS: 1485), in addition to category specific labelling/markings requirement(s).
- j. Any claim regarding "Trans Fatty Acid" shall be substantiated and compliant with requirement criteria defined in Codex Standard

6.2.1 No label, declaration, methods of preparation and publicity concerning the product, shall be made in a manner likely to mislead the purchaser and/or consumer as to the true nature/or composition of the product as a whole.

\*\*\* (PS: 4449 for Expiration periods for food product shall be strictly followed).

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**APPENDIX– A.****(Clause 3.1)****A-0 SAMPLING****A-1 GENERAL REQUIREMENTS OF SAMPLING**

A-1.0 In drawing, preparing, storing and handling samples the following precautions and directions shall be observed.

A-1.1 Samples shall be taken in a protected place not exposed to damp air, dust or soot.

A-1.2 The sampling device shall be clean and dry when used.

A-1.3 Precaution shall be placed in clean and dry containers. The sample containers shall be of such a size that they are almost completely filled by the sample.

A-1.4 Each container shall be sealed air-tight after filling and marked with full details of sampling, date of sampling, batch or code number name of the manufacturer and other important particulars of the consignment.

A-1.5 All the samples shall be stored in such a manner that there is no deterioration of the material.

A-1.6 Unless otherwise specified, sampling shall be done by a person agreed to between the purchaser and the vendor and in the presence of the purchaser (or his representative) and the vendor (or his representative).

**A-2 SCALE OF SAMPLING**

A-2.1 Lot - All the containers in a single consignment of the material drawn from a single batch of manufacture shall constitute a lot. If a consignment is declared to consist of different batches of manufacturer, the batches shall be grouped separately and the containers in each group shall constitute a separate lot.

A-2.1.1 Samples should be tested for each lot for as pertaining conformity of the material to the requirements of the specification.

A-2.2 Gross Sample - A number of containers not less than the cube root of the total number in the lot rounded up to the next higher whole number, shall be selected at random for drawing sample. Minimum number of containers to be selected for sampling from various sizes of lots.

**TABLE - II**

Lot Size	Sample Size
2 to 8	2
9 to 27	3
28 to 64	4
65 to 125	5
125 to 216	6
217 to 343	7
344 to 512	8
513 to 729	9
730 to 1000	10
1001 to 1331	11

**A-3 TEST SAMPLES & REFEREE SAMPLE**

A-3.1 Preparation of Test Sample – Take in a suitable glass or tin container with the help of appropriate sampling device a quantity of the material, as prescribed in Table III from each of the top, middle and bottom of each container selected for sampling melt by warming in a water bath, mix thoroughly and then draw with a second sampling device at least 2.5 kg of the material to form the composite sample. Take out about 1.5 kg of the material and divide into three equal parts, each having at least approx. 500 gm (½ kg) of the material. Each portion thus obtained shall be transferred immediately to a clean and dry sample container and sealed airtight. The container shall be labeled with the particulars given under A-1.5 one of these samples shall be for the purchaser and one for the vendor.

**TABLE - III**

<i>Amount in the Container</i>	<i>Amount to be sampled from each part of the Container</i>
Up to 1.5 kg	25 g
From 1.6 kg to 2.5 kg	50 g
From 2.6 kg to 4 kg.	75 g
From 4.1 kg to 10 kg.	100 g
From 10.1 kg to 20 kg or above	250 g
Approximately	500 g

A-3.2 Referee Sample - The third sample (see A-3.1) bearing the seals of purchaser and the vendor shall constitute the referee sample to be used in case of dispute.