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GCC STANDARDIZATION ORGANIZATION (GSO)

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اللفل الأسود الكامل والمطحون  
Black pepper, whole and ground

Prepared by :  
Gulf technical committee for standards of food and agriculture products

This document is a draft Gulf standard circulated for comments, it is therefore, subject to change, and may not be referred to it as a Gulf standard, until approved by the board of directors

ICS: 67.080

**FOREWORD**

Standardization Organization for GCC (GSO) is a regional Organization which consists of the National Standard Bodies of GCC member States. One of GSO main functions is to issue Gulf Standard/ Technical regulation through specialized technical committees (TCs).

GSO through the technical program of committee TC NO.5 " Gulf technical committee for standards of food and agriculture products " has update the GSO Standard No.( 717 / 2007 ) " Black pepper, whole and ground " The Draft Standard has been prepared by ( State of Qatar ).

This standard has been approved as Gulf Technical regulation by GSO Board of Directors in its meeting No...../.....held on     /     /     H,     /     /

The approved standard will replace and supersede the GSO standard No. ( GSO5 / 717/2007 ).

## Black pepper, whole and ground

### 1. Scope and field of application:

This Gulf Standard applies to the basic requirements that must be met in the black pepper (*Piper nigrum* L.), whole and ground.

### 2. Complementary references

- 2.1 GSO ( 9 ) " Labelling of prepackaged foodstuffs ".
- 2.2 GSO ( 21 ) "hygienic regulation for food plants and their personal. " .
- 2.3 GSO ( 150-2 ) "Expiration dates for food products ".
- 2.4 GSO ( 168 ) "Requirements of storage facilities for dry and canned foodstuffs.
- 2.5 GSO ( 363 ) "Methods of test for spices and condiments-Part 1:Determination of the defective fruits percentage, mass litre,degree of fineness of grinding, crude fibre percentage, total nitrogen percentage, starch".
- 2.6 GSO ( 383 ) " Maximum allowable limits of pesticides residue in agricultural and food products : Part 2".
- 2.7 GSO ( 719 ) " Whole pepper – Determination of apparent bulk density ".
- 2.8 GSO ( 839 ) " Food packages – Part 1 : General requirements ".
- 2.9 GSO ( 988 ) " Limits of radionativity levels permitted in foods stuff part - 1. " .
- 2.10 GSO ( 927 ) " Spices and condiment- determination of filth ".
- 2.11 GSO /ISO ( 928 ) " Spices and condiments – Determination of total ash ".
- 2.12 GSO /ISO ( 930 ) " Spices and condiments – Determination of acid insoluble ash".
- 2.13 GSO /ISO ( 939 ) " Spices and condiments - Determination of moisture content – Entrainment method ".
- 2.14 GSO /ISO ( 948 ) " Spices and condiments – sampling ".
- 2.15 GSO /ISO ( 1108 ) " Spices and condiments - Determination of non-volatile ether extract. ".
- 2.16 GSO /ISO ( 1208 ) "Spices and condiments - Determination of filth. ".
- 2.17 GSO /ISO ( 5564 ) " Black pepper and white pepper, whole or ground – Determination of piperine content – spectrophotometric method ".
- 2.18 GSO CAC ( 229 )" Analysis of pesticide residues : recommended methods ".

### 3. Definitions :

#### 3.1 Black pepper :

Dried berry of *Piper nigrum* L., having an unbroken pericarp

#### 3.2 Whole black pepper :

Is the whole dry berry of *Piper nigrum* L., generally picked before complete ripening. Berries of black pepper generally have a diameter of 3 mm to 6 mm and are brown, grey or black in colour with a wrinkled pericarp.

**3.3 Black pepper, non-processed (NP) :**

Pepper that has not undergone any clearing, preparation or grading by the producing country before being exported.

**3.4 Black pepper, semi-processed (SP) :**

Pepper that has undergone partial cleaning but without preparation or grading by the producing country before being exported.

**3.5 Black pepper processed :**

Pepper that has been processed (cleaning, preparation, grading, etc.) by the producing country before being exported.

**3.6 Black pepper, ground :**

Pepper obtained by grinding black pepper berries without adding any foreign matter to the pepper.

**3.7 Grey pepper**

Commercial name sometimes given to ground black pepper.

**3.8 Light berry**

Berry that has reached an apparently normal stage of development but the kernel does not exist.

**3.9 Pinhead**

Berry of very small size that has not developed.

**3.10 Broken berry**

Berry that has been separated into two or more pieces.

**3.11 Extraneous matter**

All materials other than black pepper berries, irrespective of whether they are of vegetable (e.g. stems and leaves) or mineral origin (e.g. sand).

NOTE Light berries, pinheads or broken berries are not considered as extraneous matter.

**4. Requirements :**

The following requirements must be available in black pepper :

4.1 Black pepper shall be free from mould growth and living insects, and practically free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary in any particular case. If the magnification exceeds 10, this fact shall be mentioned in the test report. .

4.2 When ground, the odour and flavour shall be characteristic of black pepper, strongly sharp and very aromatic. The product shall be free from foreign odours and flavour..

4.3 The product shall be free from any foreign odours and flavor.

NOTE The appearance of berries has no direct relation to their flavour. Smaller berries can be more aromatic than berries of larger size or better appearance.

4.4 Whole black pepper shall meet the physical characteristics specified in table ( 1 ) .

**Physical characteristics**  
**Table ( 1 )**

Characteristics	Requirements	
	Processed pepper	Semi processed and non-processed Pepper NP or SP
Extraneous matter, % (m/m) max.	1.5	2.5
Light berries, % (m/m) max.	5.0	10.0
Pinheads or broken berries, % (m/m) max.	4.0	7.0
Bulk density, g/l, min.	490	450

4.5 whole and ground black pepper shall meet the chemical characteristics specified in table ( 2 )

**Chemical characteristics**  
**Table ( 2 )**

Characteristics	Requirements		
	Semi processed and non-processed Pepper NP or SPT	Processed pepper P	Ground pepper
Moisture content, % (m/m) max.	13.0	13.0	13.0
Total ash, % (m/m) max., on dry basis	7.0	6.0	6.0
Non-volatile ether extract, % (m/m) min., on dry basis	6.0	6.0	6.0
Volatile oils, % (ml/100 g) min., on dry basis	2.0	2.0	1.0*
Piperine content, % (m/m) min., on dry basis	4.0	4.0	4.0
Acid-insoluble ash, % (m/m) max., on dry basis	-	-	1.2
Crude fibre, insoluble index, % (m/m) max., on dry basis	-	-	17.5
* The volatile oil content should be determined immediately after grinding.			

4.6 The microbiological limits must be as the following :

4.6.1 In the case of add boiling water before use:

4.6.1.1 The total count of aerobic bacteria shall not increase than  $10^7$  per gram.

4.6.1.2 The total count of fungi and yeasts shall not increase than  $10^4$  per gram.

4.6.1.3 The total count of bacteria Entrobacteriaceae shall not increase than  $10^4$  per gram.

4.6.2 In the case of direct use:

4.6.2.1 The total count of aerobic bacteria shall not increase than  $10^5$  per gram.

4.6.2.2 The total count of fungi and yeasts shall not increase than  $10^3$  per gram.

4.6.2.3 The total count of bacteria Entrobacteriaceae shall not increase than  $10^3$  per gram.

4.7 It must be is free from pathogens and toxins.

4.8 The limits of radionativity levels permitted in foods stuff shall be comply to Gulf standards mentioned in Item ( 2.9 ).

4.9 The **limits of pesticides residue** shall not exceed the limits mentioned in Gulf standards mentioned in Item ( 2.6 ).

## **5. Sampling :**

Samples shall be taken according to the Gulf standard mentioned in Item ( 2.14 ).

## **6. Methods of test and examination : -**

Tests shall be carried out using a representative sample drawn according to Item (5) to determine its compliance with the following :

6.1 Determination of moisture content shall be according to the Gulf Standard mentioned in item ( 2.14 ).

6.2 Determination of total ash shall be according to the Gulf Standard mentioned in item ( 2.11 ).

6.3 Determination of acid insoluble ash shall be according to the Gulf Standard mentioned in item ( 2.12 ).

6.4 Determination of extraneous matter content shall be according to the Gulf Standard mentioned in item ( 2.5 ).

6.5 Determination of non-volatile ether extract shall be according to the Gulf Standard mentioned in item ( 2.15 ).

6.6 Determination of crude fibre content shall be according to the Gulf Standard mentioned in item ( 2.5 ).

6.7 Determination of the Light berry percentage shall be according to the Gulf Standard mentioned in item ( 2.5 ).

6.8 Determination of apparent bulk density shall be according to the Gulf Standard mentioned in item ( 2.7 ).

6.9 Determination of piperine content shall be according to the Gulf Standard mentioned in item ( 2.17 ).

6.10 Determination of filth shall be according to the Gulf Standard mentioned in items ( 2.10 ), ( 2.16 ).

6.11 Determination of pesticides residues shall be comply to the Gulf standards mentioned in Item ( 2.18 ).

## **7. Packaging , transportation and storage : -**

The following shall be met during packaging, transportation and storage :

7.1 the packaging shall be comply according to the Gulf Standard mentioned in item ( 2.7 ).

7.2 The product shall be packed in clean, sound, dry containers and made of material which does not affect the product.

7.3 The container shall be carried out in such a way as to protect it from mechanical damage and contamination.

7.4 The packages should be handled and transported in such a manner that they are protected from rain, sun, or other excessive heat sources, from unpleasant smells and all contamination, particularly in the holds of ships

7.5 The product shall be stored in well – ventilated stores and meet the health requirements comply according to the Gulf Standard mentioned in item ( 2.4 ).

7.6 The packages of pepper should be stored in covered rooms, well protected from sun, rain and excessive heat.

7.7 The store should be dry, free from unpleasant smells and protected against penetration of insects and vermin. The ventilation should be regulated so that good ventilation is ensured during the dry period and ventilation can be fully stopped during the damp period. Suitable provisions should be taken to allow fumigation of the store.

## **8. Labelling :**

Without prejudice to what has been mentioned in Gulf standards stated in Items ( 2.1 ), ( 2.3 ) the following information shall be declared on the container :

8.1 Name of the product and the tradename ,if any.

8.2 Name and address of the manufacturer or packer, or trademark.

8.3 code or batch number.

8.4 Net mass.

8.5 Commercial stage ( NP or SP or P).

8.6 Producing country, destination, the name of port or town.

8.7 Production and expiration date.

8.8 Any other information such as the year of harvest and the date of packaging.

8.9 Way of use.

## **Main references**

### **Egyptian standards**

**No. 385-1/2009**

**Pepper, Whole or ground – Part 1**

**Black pepper**