

GCC Standardization Organization (GSO)

Draft of Standard FDS

Prepared by GSO Technical Committee No. TC05

GSO 05 FDS 147/2020

Honey

This document is a draft GSO Standard circulated for comments. It is, therefore, subject to alteration and modification and may not be referred to as a GSO Standard until approved by GSO.

## Introduction

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

GSO through the technical program of committee TC No.: 5" *Technical committee for Sector of Foods and Agriculture Products* "has prepared this GSO Standard 147 "*Honey.*" The Draft Standard has been prepared by the UAE. The draft Standard has been developed in English and Arabic and is based on relevant Arab, international and national standards and references.

This standard has been approved as a Gulf (Standard / Technical Regulation) by GSO Board of Directors in its meeting No.( ), held on../../. The GSO standard 147:2008 is to be cancelled and replaced by the approved standard.

## Honey

### 1. Scope:

1. This GSO standard is concerned with the required conditions for honey produced from bees. It covers all forms of honey intended for human consumption, including packed in bulk containers that are subsequently repacked into retail packages. The standard does not include honey that has other added ingredients, such as nuts, herbs, spices, or other food ingredients, or honey intended for use in food processing (baker's honey).

### 2. Complementary References:

- 2.1 SFDA.FD/ GSO 9 “Prepackaged foodstuff labels”.
- 2.2 SFDA.FD GSO 150 – Expiration dates for food products - Part II: voluntary expiration dates.
- 2.3 GSO 122 Methods of Testing Honey.
- 2.4 GSO 1016 Microbiological limits for commodities and foodstuffs.
- 2.5 GSO CAC 193 General Standard for Contaminants and Toxins in Food and Feed.
- 2.6 GSO 382 MRL 1 Maximum limits for pesticides residues in agricultural and food products.
- 2.7 GSO 839 Food Packages - Part 1 - General Requirements.
- 2.8 GSO 988: Limits of Radiation Levels Permitted in Agricultural and Food Products - Part One.
- 2.9 GSO 1694 General Principles of Food Hygiene.
- 2.10 GSO 2233 Nutritional Data Requirements on the Label.
- 2.11 GSO 2333 Requirements for foods with nutritional and health claims.
- 2.12 1 GSO CAC GL General Guidelines for Misleading Food Claims.
- 2.13 GSO 2481 Maximum Limits Permissible for Veterinary Drugs Residues in Food.
- 2.14 GSO OIML R 87 Quantity of Product in Prepackages.
- 2.15 32 GSO CAC GL Manual for the Production, Classification, Marketing and Labeling of Organic Foods.
- 2.16 GSO 168: Requirements of Storage Facilities for Dry And Canned Foodstuffs.
- 2.17. GSO 2481: Maximum Residues Limits (Mrls) of Veterinary Drugs In Food.
- 2.18. GSO 2504: General requirements for the transportation of food (Non- chilled and frozen).

### **3. Definitions:**

For the purpose of this standard, the following definitions are used:

- 3.1 Honey produced from bees: the natural sweet substance produced by honey bee species *Apis mellifera* or *Apis Florea* from the nectar of blossoms or from secretions of living parts of plants or from excretions of insects that feed on plant sap, which the bees collect, transform by combining with specific substances of their own, deposit, dehydrate, store and leave in the honey comb to ripen.
- 3.2 Blossom honey or nectar honey: honey which comes from nectars of plants.
- 3.3 Honeydew honey: honey which comes from excretions of plant sucking insects (hemiptera) on the living parts of plants, or secretions of living parts of plants.
- 3.4 Extracted honey: honey obtained from honey comb (after removing the protective layer) using a honey extractor (centrifugal extractors).
- 3.5 Pressed honey: honey obtained by pressing honeycombs
- 3.6 Drained honey: honey obtained after draining extracted honey from honeycombs, whose protective layer has been removed.
- 3.7 Comb honey: honey that bees store in the cells of combs and which is sold in sealed whole combs (with their protective layer) or sections of such combs.
- 3.8 Cut comb in honey or chunk honey: honey containing one or more pieces of comb honey.
- 3.9 Filtered honey: honey which has been filtered using filters (sieves) in a way that allows for the removal of part of the pollen grains.
- 3.10 Crystallization of honey: This is when the texture of the sticky honey is transformed into a coherent consistency. Some parts of the honey may be homogeneous; or some parts may be in floating liquid form whereas the crystals are at the bottom. The honey becomes viscous when it ripens, as it starts to crystallize gradually until it becomes solid in some types of honey. The duration for crystallization can vary depending on the type of honey.
- 3.11 Schade unit: The amount of required enzyme to convert 0.01 grams of starch to the prescribed endpoint in one hour at 40 ° C under test conditions.
- 3.12 Granulated honey: liquid honey that has undergone crystallization process, under natural crystallization conditions. Its crystals are homogeneous, fine in size, and have a smooth texture, as a result of the crystallization of glucose sugar in it.
- 3.13 Honey naturally low in enzyme: honey that naturally has a low content of the diastase enzyme due to its plant source, such as citrus honey.

### **4. Description:**

- 4.1 Honey is essentially composed of a number of sugars, predominantly fructose and glucose, and a small percentage of sucrose and other sugars. It also contains other substances such as organic acids, enzymes and solid particles resulting from honey collection.

- 4.2 The colour of honey varies from nearly colourless (transparent) to dark brown.
- 4.3 The consistency can be fluid, viscous, or partly to entirely crystallised.
- 4.4 The flavour and aroma vary, reflecting the plant source which the bees feed on.

## **5 General requirements:**

- 5.1. The requirements stipulated in the standard mentioned in clause (2.9) are to be applied to the product when it is prepared and traded in production facilities.
- 5.2. That honey does not contain any natural or synthetic food additions or materials (including food additives), and it does not contain any additions other than honey.
- 5.3. It shall be free from any odor, taste, or foreign flavor or corruption agent acquired from outside or from foreign materials during its preparation and storage.
- 5.4. The honey shall not have begun fermentation or effervescence (froth arising from fermentation).
- 5.5. No nectar or constituent particular to honey may be removed except where this is unavoidable when removing foreign inorganic material or organic material.
- 5.6. The honey shall be free from materials foreign to its components such as insects, their parts and phases (larvae - eggs ... etc.), sand particles, and any other impurities.
- 5.7. Chemical or biochemical treatment shall not be used to influence honey crystallization.
- 5.8. It is not allowed to alter the natural acidity of honey.
- 5.9. Honey shall not be heated or processed to such an extent that its essential composition is altered and/or its quality is impaired and/or the effectiveness of naturally occurring enzymes is inhibited or its activity reduced .
- 5.10 The moisture content shall not exceed 23% for heather honey, and 20% for other honey types.
- 5.11. Free acidity should not exceed 50 milliequivalents per 1000 grams (Acacia honey is excluded from the estimation of the free acidity value, and shall not exceed 100 milliequivalents per 1000 grams).
- 5.12 The activity of the diastase enzyme after processing and/or blending shall not be less than 8 Schade units, and not less than 3 Schade units in the case of honey types in which the enzyme is naturally reduced.
- 5.13. The hydroxymethylfurfural (HMF) content of honey after processing and/or blending shall not be more than 40 mg/kg. In case the honey's origin is countries or regions with high temperatures, as well as blends of this honey type, the HMF content shall not be more than 80 mg/kg.

5.14. The sugars content shall be as follows:

Total glucose and fructose content	not less than 45 g/100g	Honeydew honey, blends of honeydew honey with blossom honey
	not less than 60 g/100g	Other honey types
Sucrose content	not more than 10 g/100g	Alfalfa ( <i>Medicago sativa</i> ), Citrus spp., False Acacia ( <i>Robinia pseudoacacia</i> ), French Honeysuckle ( <i>Hedysarum</i> ), Menzies Banksia ( <i>Banksia menziesii</i> ), Red Gum ( <i>Eucalyptus camaldulensis</i> ), Leatherwood ( <i>Eucryphia lucida</i> ), <i>Eucryphia milligani</i>
	not more than 15 g/100g	Lavender ( <i>Lavandula</i> spp), Borage ( <i>Borago officinalis</i> )
	not more than 5 g/100g	Other honey types

5.15. The content of water insoluble solids should be as follows:

- not more than 0.5 g / 100 g in pressed honey.
- not more than 0.1g / 100g in other types of honey.

5.16. The electrical conductivity values shall be as follows:

- a) not more than 0.8 mS/cm for honey not listed under (b) or (c), and blends of these honeys –
- b) not less than 0.8 mS/cm for honeydew and chestnut honey and blends of these, except with those listed under (c)
- c) exceptions: Ziziphus spina-Christi tree (*Ziziphus*), Acacia tortilis Tree, Strawberry tree (*Arbutus unedo*), Bell Heather (*Erica*), Eucalyptus, Lime (*Tilia* spp), Ling Heather (*Calluna vulgaris*) Manuka or Jelly bush (*Leptospermum*), Tea tree (*Melaleuca* spp) – and blends of these.

5.17. Taking into consideration what is stipulated in the standard mentioned in clause (2.5), the honey shall be free from heavy metals quantities that may pose a risk to human health.

5.18. The maximum limits of pesticide residues shall not exceed what is specified in the standard mentioned in clause (2.6)

5.19. The radiation limits shall not exceed what is stipulated in the standard mentioned in the clause (2.8).

5.20. Honey producers must adhere to good manufacturing practices to control yeast and molds through reducing water activity, so as to comply with the standard mentioned in clause (2.4).

5.21. The limits of veterinary drugs residues shall not exceed what is specified in the standard mentioned in clause (2.17).

5.22 The quantity of the product in the package should match the requirements specified in the standard mentioned in clause (2.14).

5.23. In geographical areas where bees feed on wild berries (*Coriaria arborea*), tutin toxin should not exceed 0.7 mg / kg.

## **6 Methods of Sampling and Analysis:**

Samples and tests are taken from the representative sample according to the standard mentioned in clause (2.3) or according to the CODEX standard no. CXS 12 for honey.

## **7 Packaging, Transport, and Storage**

7.1. Packaging: Bee honey shall be packed in suitable packages in accordance with the standard mentioned in clause. (7.2).

7.2. Transport: Honey packages are transported in a way that protects them from mechanical damage and contamination in accordance with the standard mentioned in clause (2.18).

7.3. Storage:

7.3.1. Honey packages are to be stored away from sources of intense light or high temperature, in accordance with the standard mentioned in clause (2.16).

7.3.2. Honey shall not be exposed to direct sunlight during storage.

7.3.3. Honey shall be stored in well-ventilated places.

7.3.4. Adherence to the sanitary conditions in the place of storage away from sources of contamination with pesticides and fertilizers and chemicals.

## **8 Labelling**

Without prejudice to what is specified in the standards mentioned in clauses (2.1/2.2/2.10/ 2.11), the following shall apply:

8.1. Name of the product (honey)

8.2. The origin of the honey can be added, whether in terms of the geographical location (if it is a product specific to a geographical area) or according to the terrain (mountain/ desert ... etc) or the plant origin (if it is clear in its physical, chemical, and micro-physical components and properties).

8.3. When honey is classified according to its blossom or plant source, the common name or plant name of the blossom source must be adjacent to (following) the product name (honey).

- 8.4. The name of the country in which the honey was produced, the country of packaging, and the name of the producer or packaging company.
- 8.5. Adding the phrase "a blend of blossom honey with honeydew honey" when mixing blossom or nectar honey with honeydew honey.
- 8.6 Adding the phrase "honeydew honey" on the front of the package when clause (3.3) is applicable to the honey product.
- 8.7 In the case of honey that is naturally low in enzyme, this must be mentioned on the product label.
- 8.8. It is permissible to name the honey according to the way it is extracted - as follows:
  - 8.8.1 Honey extract.
  - 8.8.2 Pressed honey.
  - 8.8.3 Drained honey.
- 8.9. Honey may be named according to the following forms:
  - 8.9.1 (honey / bee honey) for liquid or crystallized honey or a mixture of the two.
  - 8.9.2 (Comb honey).
  - 8.9.3. Cut comb in honey or chunk honey.
- 8.10. Adding the phrase "filtered honey" near the name of the product when clause (3.9) is applicable.



**References:**

1. STANDARD FOR HONEY, CXS 12-19811 Adopted in 1981. Revised in 1987, 2001. Amended in 2019 .
2. Australia New Zealand Food Standards Code - Standard 1.4.1 Contaminants and Natural Toxicants .
3. Australian Government, Australian Pesticides and Veterinary Medicine Authority. Australia New Zealand .
4. Food Standards Code — Standard 1.4.2 — Maximum Residue Limits Amendment Instrument No. APVMA 1, 2014.
5. Jordan Standard: Sugar and sugar products – Honey .