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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19111-2017

**[Including 2019XG1] Maize oil
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	5
2 Normative References...	5
3 Terms and Definitions...	6
4 Classification...	6
5 Relative Density and Fatty Acid Composition...	7
6 Quality Requirements...	8
7 Test Methods...	9
8 Inspection Rules...	9
9 Labeling...	10
10 Packaging, Storage, Transportation and Sales...	10
Appendix A (informative) Total Sterols and Composition in Crude Maize Oil...	12
Bibliography...	13

1 Scope

This document defines the terms and definitions for maize oil, specifies its classification, relative density and fatty acid composition, quality requirements, inspection rules, labeling, packaging, storage, transportation and sales, and describes the corresponding inspection methods.

This document applies to crude maize oil and finished product of maize oil. The quality indicators for crude maize oil apply only to the trade of crude maize oil.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of dated references, only the version with the specified date applies to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 191 Graphical Symbols Marking for Handling and Storage of Packages

GB/T 5009.37 Method for Analysis of Hygienic Standard of Edible Oils

GB 5009.168 National Food Safety Standard - Determination of Fatty Acid in Foods

GB 5009.229 National Food Safety Standard - Determination of Acid Value in Foods

GB 5009.236 National Food Safety Standard - Determination of Moisture and Volatile Matter in Animal and Vegetable Fats and Oils

GB/T 5524 Animal and Vegetable Fats and Oils - Sampling

GB/T 5525 Vegetable Fats and Oils - Method for Identification of Transparency, Odor and Taste

GB/T 5526 Animal and Vegetable Fats and Oils - Determination of Relative Density

GB/T 5531 Inspection of Grain and Oils - Heating Test of Vegetable Fats and Oils

GB/T 5533 Inspection of Grain and Oils - Determination of Soap Content in Vegetable Oils

GB/T 15688 Animal and Vegetable Fats and Oils - Determination of Insoluble Impurities Content

GB/T 17374 Sales Package of Edible Vegetable Oils

GB/T 20795 Determination of Smoking Point for Vegetable Fats and Oils

GB/T 25223 Animal and Vegetable Fats and Oils - Determination of Composition of Sterols and Total Sterols Contents - Gas Chromatographic Method

GB/T 30354 Criterion for Bulk Transportation of Edible Vegetable Oils

GB/T 35877 Inspection of Grain and Oils - Cold Test of Animal and Vegetable Fats and Oils

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1

maize oil

An oil product made from corn germ as a raw material (including corn germ and a small amount of corn bran and corn endosperm).

NOTE: also known as maize germ oil or corn germ oil.

3.2

crude maize oil

An oil product made from corn germ as a raw material and is not directly consumed by humans.

NOTE: also known as crude corn oil.

3.3

finished product of maize oil

Crude maize oil (3.2) processed for human consumption.

3.3.1

pressing maize oil

Finished product of maize oil produced by refining crude maize oil (3.2) obtained by mechanically pressing corn germ.

3.3.2 Solvent extraction maize oil

Finished product of maize oil produced by refining crude maize oil (3.2) obtained from corn germ or machine-pressed cake, utilizing the property of solvents to dissolve fats.

3.4 sterol

4-Non-methyl sterols, hydroxyl-containing cyclopentane-perhydrophenanthrene compounds, existing in organisms in a free state or combined with fatty acids to form esters.

4 Classification

4.1

In accordance with the processing degree, maize oil is classified into crude maize oil and finished product of maize oil.

4.2

In accordance with the processing process, finished product of maize oil is classified into pressing maize oil and solvent extraction maize oil.

5 Relative Density and Fatty Acid Composition

The relative density and fatty acid composition of maize oil are shown in Table 1. The composition and parameters represent the basic characteristics of maize oil and are for reference only when used for authenticity determination. The total amount and composition of sterols in crude maize oil are shown in Appendix A.

Table 1 -- Relative Density and Fatty Acid Composition of Maize Oil

Table 1 -- Relative Density and Fatty Acid Composition of Maize Oil (continued)

6.1 Quality Indicators of Crude Maize Oil

The quality indicators of crude maize oil are shown in Table 2.

Table 2 -- Quality Indicators of Crude Maize Oil

6.2 Quality Indicators of Finished Product of Maize Oil

The quality indicators of finished product of maize oil are shown in Table 3.

Table 3 -- Quality Indicators of Finished Product of Maize Oil

7 Test Methods

7.1

Inspection of relative density. performed in accordance with GB/T 5526.

7.2

Inspection of fatty acid composition. performed in accordance with GB 5009.168.

7.3

Inspection of transparency, aroma and taste. performed in accordance with GB/T 5525.

7.4 Inspection of moisture and volatile matter content. performed in accordance with GB

5009.236.

7.5 Inspection of insoluble impurity content. performed in accordance with GB/T 15688.

7.6 Inspection of acid value. performed in accordance with GB 5009.229.

7.7 Inspection of color. performed in accordance with GB/T 5009.37.

7.8 Heating test. performed in accordance with GB/T 5531.

7.9 Inspection of soap content. performed in accordance with GB/T 5533.

7.10 Freezing test. performed in accordance with GB/T 35877.

7.11 Inspection of smoking point. performed in accordance with GB/T 20795.

7.12 Inspection of total sterol and composition. performed in accordance with GB/T 25223.

8.1 Sampling

Performed in accordance with the requirements of GB/T 5524.