



GB 5009.2-2024

# National Food Safety Standard

## Determination of Relative Density of Food

食品安全国家标准 食品相对密度的测定

National Health Commission of the People's  
Republic of China  
State Administration for Market Regulation

Release Date: Feb. 08, 2024  
Implementation Date: Aug. 08, 2024

*Translated by ChemLinked*

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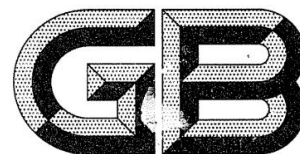
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## National Standard of the People's Republic of China

GB 5009.2-2024  
In Replacement of GB 5009.2-2016

### National Food Safety Standard

#### Determination of Relative Density of Food

食品安全国家标准

食品相对密度的测定

Date of publication: 2024-02-08

Date of implementation: 2024-08-08

Issued by:

National Health Commission of the People's Republic of China  
State Administration for Market Regulation

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## Foreword

This standard replaces GB 5009.2-2016 “National Food Safety Standard Determination of Relative Density of Food”.

Compared with GB 5009.2-2016, the main changes of this standard are as follows.

——The third method has added a calculation formula;

——The fourth method, U-type oscillating tube digital density meter method, has been added.

## National Food Safety Standard

### Determination of Relative Density of Food

#### 1. Scope

This standard specifies the method for determining the relative density of liquid foods.

This standard applies to the determination of relative density of liquid foods.

#### Method 1 Density Bottle Method

#### 2. Principle

At 20°C, the masses of water and sample filling the same density bottle are measured separately. The capacity of the density bottle, i.e. the volume of the sample, can be determined from the mass of water. The density of the sample can be calculated based on the mass and volume of the sample. The ratio of the sample density to the water density is the relative density of the sample.

#### 3. Instruments and equipment

**3.1** Density bottle: Precision density bottle, see Figure A.1 in Annex A.

**3.2** Constant temperature water bath: accuracy  $\pm 1^{\circ}\text{C}$ .

**3.3** Analytical balance: sensitivity 0.1 mg.

#### 4. Analysis Steps

Take a clean, dry, constant-weight, accurately weighed density bottle, fill it with the sample, and place it in a water bath for 0.5 h to make the temperature of the sample content reach  $(20\pm 1)^{\circ}\text{C}$ . Cover the bottle cap and use a fine filter paper strip to absorb the sample on the branch pipe mark. After covering it with a small cap, take it out and wipe the outer wall of the density bottle with filter paper. Place it in the balance room for 0.5 h and weigh it accurately. Pour out the sample, clean the density bottle, fill it with water, and immerse it in a water bath for 0.5 h to make the temperature of the contents reach  $(20\pm 1)^{\circ}\text{C}$ . Cover the bottle cap and use a fine filter paper strip to absorb the water on the branch pipe mark. Cover it with the small cap and take it out. Wipe the outer wall of the



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