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**GB**

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

**GB 4789.25-2024**

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**National food safety standard - Food microbiology testing -  
Sampling and sample processing for wines, beverages and  
frozen drinks**

食品安全国家标准 食品微生物学检验 酒类、饮料、冷冻饮  
品采样和检样处理

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# **National food safety standard - Food microbiology testing - Sampling and sample processing for wines, beverages and frozen drinks**

## **1 Scope**

This standard specifies the sampling and sample processing methods for wines, beverages, and frozen drinks.

This standard applies to the sampling and sample processing of wines (including fermented alcoholic drinks and their integrated alcoholic beverages), beverages, packaged drinking water (including drinking natural mineral water), and frozen drinks.

## **2 Equipment and materials**

### **2.1 Sampling tools**

Sampling tools shall be made of stainless steel or other materials of appropriate strength, with smooth surfaces, rounded corners, and no gaps. Sampling tools shall be cleaned, sterilized, and kept dry before use. Sampling tools include stirring utensils, pipettes, sampling spoons, scoops, knives, sampling drills, scissors, tweezers, etc.

### **2.2 Sample container**

The material (such as glass, stainless steel, and plastic) and structure of the sample container shall be able to fully ensure the original state of the sample. Containers and lids shall be clean, sterile, and dry. The sample container shall be of sufficient volume so that the sample can be fully mixed before testing. Sample containers include sampling bags, sampling tubes, sampling bottles, etc.

### **2.3 Other supplies**

The thermometer, aluminum foil, sealing film, sampling registration form, sterile filtration device, alcohol lamp, etc. are included.

## **3 Sampling**

### **3.1 Sampling principles and sampling plans**

Sampling principles and sampling plans shall be implemented in accordance with the provisions of GB 4789.1.

The number of sampling pieces  $n$  shall be implemented in accordance with the requirements of relevant food safety standards. The sampling volume of each sample shall not be less than 5 times the sample volume of the inspection unit, or determined according to the purpose of inspection. The following specifies the sampling requirements for 1 food sample.

### **3.2 Wines**

**3.2.1** It is applicable to fermented alcoholic drinks and their integrated alcoholic beverages, etc.

**3.2.2** Wines in individual packages of less than or equal to 1000 mL: Take individual packages from the same batch.

**3.2.3** Wines with a volume of more than 1000 mL in individual packages: Individual packages can be taken, or the liquid may be shaken or stirred with a sterile stick before sampling, and after mixing, an appropriate amount of sample may be pipetted and placed in the same sterile sampling container.

### **3.3 Liquid beverages**

**3.3.1** It is applicable to liquid beverages without ethanol or with ethanol content not exceeding 0.5% by mass fraction, packaged drinking water (including drinking natural mineral water), and liquid beverages containing solid or semi-solid ingredients.

**3.3.2** Liquid beverages in individual packages of less than or equal to 1000 mL: Take individual packages from the same batch.

**3.3.3** Liquid beverages with individual packages larger than 1000 mL: Individual packages can be taken, or the liquid can be shaken or stirred with a sterile stick before sampling, and after mixing, an appropriate amount of sample can be pipetted and placed in the same sterile sampling container.

### **3.4 Solid beverages**

**3.4.1** Solid beverages in individual packages of less than or equal to 1000 g: Take individual packages from the same batch.

**3.4.2** Solid beverages with individual packages larger than 1000 g: Individual packages can be taken, or appropriate amounts of samples can be taken from different parts of the same package with a sterile sampling tool and placed into the same sterile sampling container.

### **3.5 Frozen drinks**

**3.5.1** Frozen drinks in individual packages of less than or equal to 1000 g(mL): Take

or use sterilized scissors to cut off the part of the wooden (plastic) stick exposed outside the sample.

**4.2.5** If the liquid sample contains solid or semi-solid components, for the sample with a volume of less than 200 mL, all the contents shall be homogenized before sampling and testing; for the sample with a volume of more than 200 mL, it can be mixed upside down, and then 200 mL of the sample is taken and homogenized before sampling and testing.

**4.2.6** Liquid samples containing gas shall be poured into a sterilized container first, with the lid loose, and shaken gently to expel the gas. When shaking, avoid contaminating the operating table with the gas-containing liquid, and cover it with gauze if necessary. After all the gas is expelled, take a sample for inspection.

**4.2.7** For solid beverages that can produce gas after dissolution, after adding the corresponding diluent or enrichment solution, shake it thoroughly to allow all the gas to be expelled before proceeding to the next step of inspection.

### **4.3 Dilution**

**4.3.1** The dilution method and dilution multiple shall be selected in accordance with the methods specified in the relevant food safety standards.

**4.3.2** After weighing or quantifying, the sample to be tested shall be diluted at a ratio of 1:10. If there are large particles in the diluent after mixing, it can be stirred, or placed in a sterile homogenizing cup or sterile homogenizing bag for homogenization to prepare a homogenous sample solution.

**4.3.3** If the product standard stipulates that the total number of colonies is less than 10 CFU/g or 10 CFU/mL, the diluent of the first dilution shall be used, and the undiluted stock solution can be used for liquid samples. If the original solution or 1:10 diluent is too viscous, increase the dilution factor.

**4.3.4** If the solid sample requires the initial diluent with a concentration higher than 1:10 to obtain the test results, the dilution factor can be appropriately reduced. The membrane filtration method can also be used for inspection. See 4.4 for specific operations.

### **4.4 Handling of food samples requiring inspection by membrane filtration method**

**4.4.1** It is applicable to filterable wines, beverages, packaged drinking water (including drinking natural mineral water), edible ice cubes, as well as diluted filterable beverage slurries and solid beverage samples.

**4.4.2** Pore size of sterile filter membranes: For bacteria testing, use a filter membrane with a pore size of no more than 0.45  $\mu\text{m}$ ; for mold and yeast testing, use a filter

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