



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

GB 4789.1-2016

**National food safety standard - Food Microbiological
Examination: General Guideline
(English Translation)**

Issued on: December 23, 2016

Implemented on: June 23, 2017

Issued by: National Health and Family Planning Commission of the PRC

Table of Contents

Foreword...	3
1 Scope...	4
2 Laboratory Basic Requirements...	4
3 Sample Collection...	6
4 Examination...	8
5 Biosafety and Quality Control...	8
6 Record and Report...	9
7 Sample Treatment after Examination...	9

Foreword

This Standard replaced GB 4789.1-2010 National Food Safety Standard - Food Microbiological Examination. General Guideline.

Compared with GB 4789.1-2010, this Standard has the major changes as follows.

- Add the Appendix A, Microbiological Laboratory Routine Examination Supplies and Equipment;
- Modify the laboratory basic requirements;
- Modify the sample collection;
- Modify the inspection;
- Modify the sample treatment after inspection;
- Delete the normative references.

National Food Safety Standard -
Food Microbiological Examination. General Guideline

1 Scope

This Standard specifies the basic principles and requirements for food microbiological examination.

This Standard is applicable to the food microbiological examination.

2.1.1 He/she shall Have the corresponding microbiological professional education

or training experience; have the corresponding qualification, and can understand and correctly perform the examination.

2.1.2 He/she shall master the laboratory biosafety operation and disinfection knowledge.

2.1.3 He/she shall, during the examination process, keep the personal clean and tidy;

prevent the artificial pollution of the sample.

2.1.4 He/she shall, during the examination process, abide by the relevant safety measure provisions; and ensure his/her own safety.

2.1.5 The personnel who has color deficiencies shall not engage in the experiments

for color discrimination.

2.2.3 The working area and overall layout of the laboratory shall meet the requirements of engaging in the examination; the laboratory layout shall adopt the one-way working flow; prevent the cross-pollution.

2.2.4 The temperature, humidity, cleanliness and illumination and noise, etc. of the

$\leq c$ pieces of samples are allowed to be between m value and M value; the corresponding microbial indicator examination value of no samples are allowed to exceed M value.

For instance. $n=5$, $c=2$, $m=100\text{CFU/g}$, $M=1000\text{CFU/g}$. It means that collect 5 samples from 1 batch of products; if the examination results of the 5 samples are all less than or equal to m value ($\leq 100\text{CFU/g}$), such conditions are allowable; if the examination results of ≤ 2 samples (X) are between m value and M value ($100\text{CFU/g} < X \leq 1000\text{CFU/g}$), such conditions are also allowable; if the examination results of 3 and above samples are between m value and M value, such conditions are

unallowable; if the examination results of any sample are greater than M value ($>1000\text{CFU/g}$), such conditions are unallowable.

3.2.3 The sampling solutions of various foods shall be carried out as per the provisions of relevant food standards.

3.2.4 Food sample collection in the food safety accident.

- a) If the food safety accident is caused by food pollution during the batch production and processing, the food sample shall be collected and judged as per the principles in 3.2.2 and 3.2.3. The same batch of food samples shall be focused on to collect.
- b) If the food safety accident is caused by restaurant or family cooking or processing, the remaining food samples shall be focused on to collect; so that meet the requirements of etiology and pathogen confirmation.

3.3.1.1 The food samples with the same batch, independent package, and appropriate quantity shall be collected; the sampling amount of each sample shall meet the requirements of microbial indicator examination.

3.3.1.2 The solid food with independent package weight less than or equal to 1000g,

or the liquid food with volume less than or equal to 1000mL shall take the sample from the same batch of package.

3.3.1.3 Shake or use sterile bar to mix the liquid food with independent package greater than 1000mL before sampling, after it becomes homogeneous, take appropriate amount of sample; put it into the sterile sampling container as a food sample. For the solid food greater than 1000g, use the sterile collector to take an appropriate amount of sample from different parts of the same package; then put into the same sterile sampling container as a food sample.

3.3.2 Bulk food or one-site produced food

Use the sterile sampling tool to take sample on-site from n different parts; put then into Appendix A

Microbiology Laboratory Routine

Examination Supplies and Equipment

A.1 Equipment

A.1.1 Weighing device. balance, etc.

A.1.2 Disinfection and sterilization device. dry baking/drying device, autoclaving device, filtration and sterilization device, ultraviolet and other devices.

A.1.3 Culture medium preparation device. pH meter, etc.

A.1.4 Sample treating device. homogenizer (shear or beat homogenizer), centrifuge, etc.

A.1.5 Diluting device. pipettes, etc.

A.1.6 Cultivating device. constant temperature incubator, constant temperature water bath, etc.

A.1.7 Microscopic counting device. microscope, magnifier, Vernier caliper, etc.

A.1.8 Refrigerating device. refrigerator, freezer, etc.

A.1.9 Biosafety device. biosafety cabinet.

A.1.10 Other devices.

A.2 Examination supplies

A.2.1 Routine examination supplies. inoculation ring (needle), alcohol lamp, tweezers, scissors, spoon, sterile cotton ball, silica-gel (cotton) plug, suction tube, suction ball, test tube, flat plate, conical flask, wide jar, micro-hole plate, measuring cylinder, glass rod, L-shaped glass rod, pH test paper, marker, homogeneous bag, etc.

A.2.2 Examination supplies for on-site sampling. sterile sampling container, cotton swabs, smudge stick, sampling specification board, transit tube, etc.

.....