



National Standard of the People's Republic of China

GB 4789.3-2010

National Food Safety Standard
Food microbiological examination:
Enumeration of coliforms
食品安全国家标准
食品微生物学检验 大肠菌群计数

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Contents

Foreword	1
1. Scope	1
2. Terms and Definitions	1
3. Devices and Materials	1
4. Culture Media and Reagents	1
5. Examination Procedures	2
6. Operating Steps	3
7. Examination Procedures	4
8. Operating Steps	4
8.1 Diluting the samples.....	4
8.2 Plate count.....	4
8.3 Selecting colony plate counts.....	4
8.4 Verification test	5
8.5 Reporting coliform plate counts.....	5
Annex A (Regulatory) Culture Media and Reagents	6
Annex B (Regulatory) Most Probable Number (MPN) of Coliform Retrieval Table	8

Foreword

The standard substitutes the GB/T 4789.3-2008 *Microbiological Examination in Foods: Enumeration of coliforms*

Compared with the GB/T 4789.3-2008 main changes are following:

- Modify Chinese-English titles in the standard;
- The scope of plate colony counts in "Method 2 Coliform Plate Counts" is modified to "15 CFU-150 CFU";
- Delete "Method 3 Coliform Petrifilm™ Method"

The Annex A and Annex B here of the standard are informative annex.

The releases of all editions substituted by this Standard are as follows:

- GB 4789.3-1984, GB 4789.3-1994, GB /T 4789.3-2003, GB /T 4789.3-2008

National Food Safety Standard

Food microbiological examination: Enumeration of coliforms

1. Scope

This standard specifies the method for enumeration of coliforms in foods.

This standard is applicable to enumeration of coliforms in various foods.

2. Terms and Definitions

The following terms and definitions are applicable to this standard.

2.1 Coliforms

A cluster of concurrently aerobic and anaerobic gram negative sporeless bacilli which can ferment lactose and generate acid and gas if cultured in 36D for 24 hours.

2.2 Most probable number; MPN

A Poisson distribution-based indirect counting method

3. Devices and Materials

Devices and materials except conventional sterilizing and culturing devices for microbiological laboratory are as follows:

3.1 Thermostatic incubator: $36^{\circ}\text{C}\pm 1^{\circ}\text{C}$

3.2 Refrigerator: $2\sim 5^{\circ}\text{C}$

3.3 Thermostatic water bath: $46^{\circ}\text{C}\pm 1^{\circ}\text{C}$

3.4 Balance: sensitive to 0.1g

3.5 Homogenizer

3.6 Oscillator

3.7 Aseptic suction tube: 1ml (with 0.01ml graduation), 10ml (with 0.1ml graduation) or micro pipettor and sucker

3.8 Aseptic conical flask: 500ml in volume

3.9 Aseptic culture dish: 90mm in diameter

3.10 pH meter or pH colorimetric tube or precision pH test paper 3.11 Colony counter

4. Culture Media and Reagents

4.1 Lauryl sulfate tryptose (LST) broth: See Chapter A.1 of Annex A

4.2 Brilliant green lactose bile (BGLB) broth: See Chapter A.2 of Annex A

4.3 Violet red bile agar (VRBA): See Chapter A.3 of Annex A

4.4 Phosphate buffer solution: See Chapter A.4 of Annex A

4.5 Aseptic physiological saline: See Chapter A.5 of Annex A

4.6 1 mol/L Sodium hydroxide (NaOH): See Chapter A.6 of Annex A

4.7 1 mol/L Hydrochloric acid (HCL): See Chapter A.7 of Annex A



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