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National Food Safety Standard Food Microbiological Examination: Examination of Enterobacteriaceae

食品安全国家标准

食品微生物学检验 肠杆菌科检验

National Health and Family Planning Commission
of the People's Republic of China

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National Standard of the People's Republic of China

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National Food Safety Standard

Food Microbiological Examination: Examination of Enterobacteriaceae

1 Scope

This standard specifies the test method for Enterobacteriaceae in food.

The Method I of this standard applies to the enumeration of Enterobacteriaceae in food with high content of Enterobacteriaceae; the Method II applies to the enumeration of Enterobacteriaceae in food with low content of Enterobacteriaceae.

2 Terms and Definitions

2.1 Enterobacteriaceae

The oxidase-negative aerobic or facultative anaerobic Gram-negative non-spore-bearing bacillus which can ferment glucose to form acid under given conditions.

2.2 Enumeration of Enterobacteriaceae

According to the method specified in this standard, Enterobacteriaceae in 1 gram or 1 milliliter samples are counted.

2.3 Most probable number; MPN

An indirect enumeration method based on Poisson distribution.

3 Apparatus and Materials

In addition to conventional apparatus for sterilization and incubation in microbiological laboratory, other apparatus and materials are as follows:

3.1 Constant temperature incubator: $36\text{ }^{\circ}\text{C}\pm 1\text{ }^{\circ}\text{C}$.

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

3.3 Water bath: $46\text{ }^{\circ}\text{C}\pm 1\text{ }^{\circ}\text{C}$.

3.4 Balance: with sensitivity of 0.1 g.

3.5 Microscope: 10×~100×.

3.6 Homogenizer.

3.7 Oscillator.

3.8 Sterile pipette: 1-mL (graduated in 0.01 mL division), 10-mL (graduated in 0.1 mL division) or micropipette and tips.

3.9 Sterile conical flask or equivalent: with capacity of 150 mL, 500 mL.

3.10 Sterile culture dish: with diameter of 90 mm.

3.11 Sterile test tubes: 18 mm×180 mm, 15 mm×150 mm.

3.12 pH meter or pH colorimetric tube or precise pH test paper.

4 Culture Mediums and Reagents

4.1 Buffered peptone water (BPW): see B.1.

4.2 Buffered glucose brilliant green bile salt broth (EE broth): see B.2.

4.3 Crystal violet neutral red bile salt glucose agar (VRBGA): see B.3.

4.4 Nutrient agar (NA): see B.4.

4.5 Glucose agar: see B.5.

4.6 Gram staining solution: see B.6.

4.7 Oxidase reagents: see B.7.

4.8 Sterile 1 mol/L NaOH: see B.8.

4.9 Sterile 1 mol/L HCl: see B.9.