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

SN/T 2552.9-2010

**Microbiological examination method for milk and milk products
hygiene. Part 9: Detection of *Klebsiella* spp.
(English Translation)**

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Foreword

SN/T 2552 "Milk and dairy products Hygienic science test methods" is divided into thirteen sections.

- Part 1. Guidance on sampling;
- Part 2. Preparation of test sample dilution;
- Part 3. yeast, mold colony count;
- Part 4. Psychrophile microbial colony counts;
- Part 5. Salmonella testing;
- Part 6. Citrobacter inspection;
- Part 7. Enterobacter cloacae inspection;
- Part 8. Proteus mirabilis and inspection;
- Part 9. Klebsiella test;
- Part 10. Enterobacter sakazakii immunofluorescence test;
- Part 11. Bacillus cereus Isolation and counting;
- Part 12. monocytogenes Listeria detection and counting;
- Part 13. Pseudomonas Isolation and counting.

This section is part 9 SN/T 2552's.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This section drafted by. China Inspection and Quarantine Science Research Institute, Tianjin, People's Republic of China Exit Inspection and Quarantine.

Introduction

Klebsiella (Klebsiella) is a genus of the family Enterobacteriaceae. According to Bergey bacterial classification, will be divided into five Klebsiella Species. Klebsiella pneumoniae (K.pneumoniae), acid-producing Klebsiella/K. oxytoca Klebsiella (K.oxytoca), Klebsiella raw plant Bacteria (K.planticola), native Klebsiella (K.terrigena) Reconciliation ornithine Klebsiella (K.ornithinolytica). among them Klebsiella pneumoniae is divided into three subspecies. Klebsiella pneumoniae subspecies (K.subsp.pneumoniae), Klebsiella pneumoniae Smelly nose subspecies (K.subsp.azaenae) and Klebsiella pneumoniae rhinoscleroma subspecies (K.subsp.rhinoscleromatis), in order to facilitate, learning He used the title Klebsiella pneumoniae, Klebsiella and smelly nose rhinoscleroma Klebsiella. Since the plant Klebsiella, native Klebsiella Ornithine reconciliation bacteria Klebsiella has no health significance, therefore, Klebsiella defined in this section includes only Klebsiella pneumoniae lung Yan subspecies, Klebsiella pneumoniae subspecies smelly nose, Klebsiella pneumoniae subsp rhinoscleroma and acid-producing Klebsiella.

Klebsiella pneumoniae is one of the most important opportunistic pathogen. Humans, particularly immunocompromised population, easily lead to pneumonia, liver abscess, brain Meningitis, myelitis, sepsis, colitis and food poisoning and other diseases. FAO/WHO in 2004 in Geneva, "infant formula milk Powder Enterobacter sakazakii and other microorganisms, "the joint meeting of the Klebsiella as pathogens in powdered infant formula, requires Member States to real Implement effective control measures to protect the infant formula feeding infant safety. Infant formula contaminated Klebsiella pneumoniae According to the survey report shows Klebsiella and lower levels of acid-producing Klebsiella pneumoniae Klebsiella content 0.19CFU/100g ~ 46.22CFU/100g, the degree of acid-producing Klebsiella bacteria contamination 0.36CFU/100g ~ 1.47CFU/100g, to this end, the qualitative determination of sample volume determined to 3 x 100g, quantitative detection of sample volume determined to 333g, to detect a small content of the sample target bacteria as possible.

Milk and dairy hygiene microbiology test methods Part 9. Klebsiella test

1 Scope

This section SN/T 2552 provisions of the milk powder Klebsiella (Klebsiella pneumoniae, Klebsiella acid production) test method.

This section applies to milk powder Klebsiella (Klebsiella pneumoniae, Klebsiella acid production) tests, other milk and dairy products can participate According to use.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member, undated references, the latest edition (including any amendments) applies to this document.

SN/T 2552.1 milk and dairy hygiene microbiology test methods - Part 1. Guidance on sampling
SN/T 2552.2 milk and dairy hygiene Microbiological test method - Part 2. Preparation of test sample dilution

3 Terms and definitions

The following terms and definitions apply to this document.

Klebsiella *Klebsiella* spp.

Latin name *Klebsiella* *Klebsiella*, a belongs to the family Enterobacteriaceae, in line with the definition of the family Enterobacteriaceae, a capsule, no flagella Gram Gram-negative bacilli ball size (0.5µm ~ 0.8µm) x (1µm ~ 2µm), alone, in pairs or short chains arranged. Inositol fermentation or Adon Alcohol, does not produce H₂S and ornithine decarboxylase.

4 Media and reagents

4.1

Enterobacteriaceae enrichment broth (EE broth). See Appendix A A.1 chapter.

4.2

MacConkey inositol Adon alcohol carbenicillin agar (MIAC). See Appendix A, Section A.2 chapter.

4.3

oxidase test reagent. See Appendix A A.3 chapter.

4.4

nutrient agar (NA). See Appendix A Chapter A.4.

4.5

Dynamic Test Kits. See Appendix A, Section A.5 chapter.

4.6

indole test media and reagents. see Appendix A A.6 chapter.

Unless otherwise specified, the reagents were of analytical grade, water is distilled water.

5 Equipment and Materials

5.1

water bath. $45\text{ }^{\circ}\text{C} \pm 0.2\text{ }^{\circ}\text{C}$.

Thermometer 5.2. $1\text{ }^{\circ}\text{C} \sim 55\text{ }^{\circ}\text{C}$, sub-scale $0.1\text{ }^{\circ}\text{C}$.

5.3

Incubator. $36\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$.