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

GB/T 46060-2025

**Synthetic rubber latex - Examination for microorganisms
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 20851:2017 "Microbiological determination of synthetic rubber latex".

This document has undergone the following structural adjustments compared to ISO 20851:2017.

---9.2 corresponds to 9.2 and Annex B in ISO 20851:2017.

The technical differences between this document and ISO 20851:2017, and the reasons therefor, are as follows.

---The preparation of sterile water has been added (see 5.3) to meet the requirements for latex dilution;

---ISO 123 (see Chapter 7) has been replaced with the normatively referenced GB/T 8290 to conform to my country's regulations on latex sampling;

---The sterilization requirements for sampling equipment have been changed (see Chapter 7) to suit the situation of latex microbial testing in my country;

---Added information on sample dilution [see Chapter 8d)] to facilitate the determination of microbial contamination;

---The tolerance for microbial culture temperature has been changed [see Chapter 8h] to be consistent with incubator requirements;

---The incubation time for microorganisms at 36°C was changed [see Chapter 8h] to meet

the cultivation conditions for different types of microorganisms;

---The soaking time of the test strips and culture tubes in sodium hypochlorite solution has been changed (see Chapter 10) for ease of operation.

The following editorial changes have been made to this document.

---The names and websites of the commercially available product manufacturers for the culture medium test strips in footnote 1 (see 5.1) and footnote 2 (see Appendix A) have been changed;

---An example of the actual microbial count results after dilution has been added (see 9.1).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Rubber and Rubber Products (SAC/TC35).

Introduction

Synthetic rubber latex is susceptible to microbial contamination during storage and transportation. Unless precautions are taken, such as maintaining high humidity, it can easily become contaminated.

pH levels, the addition of disinfectants, and the inspection and cleaning of storage tanks are all crucial; otherwise, these microorganisms may multiply rapidly, eventually producing unpleasant odors and altering the environment.

The chemical and physical properties of latex. It is essential to be able to detect the presence of important microorganisms before these changes occur in the latex.

Determination of microorganisms in synthetic rubber latex Warning---Personnel using this document should have practical experience in a formal laboratory setting. This document does not address all potential safety issues.

Users are responsible for taking appropriate safety and health protection measures and ensuring compliance with relevant national regulations.

Note---Some procedures outlined in this document may involve the use or generation of substances, or the creation of waste, which may cause environmental problems in the local area.

Environmental hazards. After use, refer to appropriate documentation for safe handling and disposal.

1 Scope

This document describes a method for determining the presence and approximate count of aerobic (active aerobic) and facultative anaerobic microorganisms in synthetic rubber latex.

The method.

This document applies to the determination of microorganisms in synthetic rubber latex.

This document is not applicable to the identification of microbial strains.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 8290 Latex Sampling (GB/T 8290-2021, ISO 123:2001, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

colony

A group of microbial cells that have multiplied from a single organism.

4 Principles

The total bacterial count test strip, with culture medium on its surface, is immersed in the latex sample. Microorganisms on both sides of the test strip are cultured at a specified temperature.

For a certain period of time.

After cultivation, the approximate number of microorganisms is determined by comparing the growth density of colonies on the standard template and the test slide.

Approximate counts are expressed as colony forming units per milliliter (CFU/mL).

5 Reagents or materials

Unless otherwise specified, only reagents confirmed to be of analytical grade and distilled water or water of equivalent purity shall be used in the analysis.

5.1

Culture medium test strips. Used to detect the number of active aerobic and facultative anaerobic microorganisms, they are usually stored in culture tubes.

Note: Typical culture medium formulations include.