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

GB/T 43006-2023

**Leather and fur - Determination of degradability by
micro-organisms**

皮革和毛皮 微生物降解性的测定

(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.20136.2020 "Determination of microbial degradability of leather".

Compared with ISO.20136.2020, this document has many adjustments in structure. A comparison list of structural number changes between the two documents See Appendix A.

Compared with ISO.20136.2020, there are many technical differences between this document and the clauses involved in the outer margin of the page.

Single lines (I) are marked. A list of these technical differences and their causes is provided in Appendix B.

The following editorial changes have been made to this document.

- The name of the standard is modified to "Determination of Microbial Degradability of Leather and Fur";
- Change the unit of CO₂ content from "ppm" to "mg/kg";
- Change "tannery wastewater" and "urban sewage" to "inoculant";
- Change the untitled bar in "6.2 Stock Solution" to column form;
- Deleted the second-level title of "6.3 Minimum Medium";
- Clarified the meaning of y and x in the standard curve equation of the calibration system of Equipment B;
- Deleted the formula numbers for chemical reaction equations and the corresponding relationships between different quantities;
- Changed the letter codes in some formulas;
- Added informative appendix A and appendix B;
- Changed the upper temperature limit during the test process of Method B in Appendix B of ISO.20136.2020;
- Deleted "References".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document describes a test method for the microbial degradability of leather and fur panels.

This document is applicable to the determination of microbial degradability of various types of leather and fur panels.

2 Normative reference documents

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

inoculum

Tannery wastewater containing activated sludge.

Note: If there is no tannery nearby, use urban sewage containing activated sludge from the urban sewage treatment plant as the inoculant.

4 Symbols and abbreviations

The following symbols and abbreviations apply to this document.

atm. standard atmospheric pressure, 101325Pa.

Ba(OH)₂.barium hydroxide.

C. Carbon.

CO₂.carbon dioxide.

GL14.Thread used with H-SAV29/32 Erlenmeyer flask (2000mL).

GL18.Thread used with H-SAVH40/45 Erlenmeyer flask (5000mL).

H-SAV29/32.The inner and outer diameters of the conical flask orifice are 29mm and 32mm respectively.

H-SAVH40/45.The inner diameter and outer diameter of the Erlenmeyer flask orifice are 40mm and 45mm respectively.

IR. Infrared spectrum (Infrared).

Q_{nar}. The molar flow rate of air passing through the system per hour, in moles per hour (mol/h).

Q_{CO_2} . The molar flow rate of CO_2 passing through the system per hour, in moles per hour (mol/h).

5.1 General

Under the action of microorganisms in the inoculant, the collagen in the leather or fur sample is degraded to produce CO_2 . Through elemental analysis and titration the initial carbon content in the sample and the cumulative amount of CO_2 produced during the degradation process are measured using the method (or IR method), and the biodegradation rate is calculated.