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

GB/T 33031-2025

Replacing GB/T 33031-2016

**Determination method of attrition resistance analysis for
pesticides**

农药耐磨性测定方法

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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 replaces GB/T 33031-2016 "Test Method for Abrasion Resistance of Water-Dispersible Pesticide Granules" and is consistent with GB/T 33031-2016. Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The scope of application of this document has been expanded (see Chapter 1, Chapter 1 of the 2016 edition);

---The requirement to add an equal amount of glass beads to pesticide formulations such as granules has been added (see 4.3.3);

---The steps for weighing samples after sieving have been simplified (see 4.3.4,

2.3 in the 2016 edition). 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 Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Pesticide Standardization (SAC/TC133). This document was drafted by: Jiangsu Longdeng Chemical Co., Ltd., Jiangsu Dongbao Agrochemical Co., Ltd., and Zhejiang Shijia Technology Co., Ltd. Company, Zhejiang Xin'an Chemical Group Co., Ltd., Hubei Taisheng Chemical Co., Ltd., Anhui Huachen Testing Technology Research Institute Co., Ltd., Jiangxi Bangpu Pharmaceutical & Chemical Co., Ltd., and Shenyang Shenhua Institute of Chemical Technology Testing Co., Ltd. The main drafters of this document are: Li Na, Feng Xiuzhen, Liu Hongbin, Xu Lijuan, Yao Eryan, Yang Haifeng, Wang Xiaoming, Wang Tianjun, Yang Huaping, and Yan Cong. Xi Wang, Zhao Qi, and Wang Qiong. The release history of this document and the document it replaces is as follows:

---First published in 2016 as GB/T 33031-2016;

---This is the first revision. Methods for testing the abrasion resistance of pesticides
Warning. This document should be used by personnel with practical experience in laboratory work. This document does not address all safety issues. It is our responsibility to take appropriate safety and health measures.

1 Scope

GB/T 33031-2025 is the Chinese national standard covering how well a granular pesticide survives handling - the tumbling or air jet that abrades the granules, the fines generated and measured afterwards, and the limit, because the dust is both a loss of product and an inhalation hazard for the person applying it. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 33031-2016.

This document describes the principles, instruments and consumables, test procedures, and data processing of the method for determining the abrasion resistance of pesticide formulations. This document applies to granules, water-dispersible granules, emulsion granules, soluble granules, and baits, tablets, and water-dispersible tablets with a diameter less than 1 cm. Determination of abrasion resistance of soluble tablets.

2 Normative references

This document has no normative references.

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Principles First, fine particles and dust generated during sample storage and transportation are removed using a test sieve. The decision to add [the necessary additives] depends on the formulation type. Glass beads are used to drive the sample through a cascaded wave motion via a rotating device, generating friction that wears down the sample surface. Then, a 125µm test... The sieve separates the fine particles and dust generated, and the abrasion resistance is expressed as the percentage of the portion larger than 125 µm in the sample.

5 Instruments and Consumables

5.1 Balance. accurate to 0.01g.

5.2 Glass bottle. 500mL, with cap, outer diameter about 8.0cm, height about 15cm.

5.3 Glass beads. Diameter 4.0mm ± 0.2mm.

5.4 Glass rod. with rubber head.

5.6 A rotating device with at least two rotating wheels (see Figure 1).

5.7 Test sieve. 125 μ m, approximately 20cm in diameter.

5.8 Screen cover and receiving tray.

5.9 Coarse mesh sieve.

5.10 Soft-bristled brush.

5.11 Standard vibrating screen, manual screening is also possible.

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