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

**GB/T 1602-2025**

Replacing GB/T 1602-2001

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**Determination method of melting point and melting range for  
pesticides**

农药熔点及熔程测定方法

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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 1602-2001 "Method for Determination of Melting Point of Pesticides". Compared with GB/T 1602-2001, the main differences are structural adjustments and rewriting. Aside from the logical changes, the main technical changes are as follows:

---The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the.2001 edition);

---The measuring apparatus and calculation formulas for the capillary liquid bath method have been modified (see 4.2,

3.4 in the.2001 edition);

---A schematic diagram of the sample melting stage has been added (see 4.2);

---The capillary melting point apparatus method has been added (see 4.3);

---Differential scanning calorimetry (DSC) has been added (see 4.4). 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: Zhejiang Shijia Technology Co., Ltd., Shenyang Chemical Research Institute Testing Technology Co., Ltd., and Shenyang Chemical Research Institute Co., Ltd. Limited Liability Company, Anhui Huachen Testing Technology Research Institute Co., Ltd., and Hubei Taisheng Chemical Co., Ltd. The main drafters of this document are. Lin Yang, Xu Lijuan, Wang Wenzhuo, Gao Qiang, Qiao Lin, Hu Xiaojing, Li Dong, and Gu Yu. The release history of this document and the document it

replaces is as follows:

---First published as GB/T 1602-1976 in 1976, revised for the first time in 1979, and revised for the second time in 2001;

---This is the third revision. Methods for determining the melting point and melting range of pesticides Warning

---Personnel using this document should have practical experience in laboratory work. This document does not address all safety issues. Those who are responsible have a duty to take appropriate safety and health measures.

## 1 Scope

GB/T 1602-2025 is the Chinese national standard on determination method of melting point and melting range for pesticides, in the field of agriculture. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 65.100, CCS G 23. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes the capillary liquid bath method, capillary melting point apparatus method, and differential scanning calorimetry (DSC) method for determining the melting point and melting range of pesticides. This document applies to the determination of the melting point and melting range of solid pesticide technicals and active ingredients.

## 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. JJG701-2008 Melting Point Tester

## 3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 melting point The temperature at which a sample changes from a solid to a liquid state under ambient atmospheric pressure.

**3.2 melting range** The temperature range from when the sample begins to melt to when it is completely melted under ambient atmospheric pressure.

Note. Also known as melting range or melting distance.

## **4 Test Methods**

**4.1 General Provisions** Unless otherwise specified, all reagents used in this document refer to analytical grade reagents.

### **4.2 Capillary liquid bath method**

**4.2.1 Principle** The sample in the capillary is heated by a liquid bath, gradually increasing the temperature from below its initial melting point to above its final melting point. Visually observe the initial and final melting temperatures to determine the melting point/range of the sample.

#### **4.2.2 Reagents and Materials**

**4.2.2.1 Heat transfer fluid.** A liquid with a boiling point higher than the final melting temperature of the sample being tested, and which is stable, clear, and has low viscosity, should be selected.