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

GB/T 47287-2026

Replacing GB/T 15814.2-1995

**Determination of the density of pyrotechnic compositions for
fireworks**

烟花爆竹用烟火药密度测定

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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 15814.2-1995 "Determination of Density of Fireworks and Firecrackers". Compared with GB/T 15814.2-1995, except for the density... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The definition of charge density has been changed (see 3.3,.1995 edition 3.3);
- b) Increased requirements for nitrogen (see 4.2);
- c) A method for determining the true density of a reagent using a hydrometer has been added (see 6.2);
- d) The parameters of some instruments and equipment have been changed (see 5.6~5.9, 4.1.3 of the.1995 edition);
- e) The procedure for determining the true density using the density bottle method has been modified (see 6.1.3,

4.1.5 of the.1995 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 China National Light Industry Council. This document is under the jurisdiction of the National Technical Committee on Standardization of Fireworks and Firecrackers (SAC/TC149). This document was drafted by: Shaanxi Institute of Applied Physics and Chemistry and Pucheng Longteng Fireworks and Firecrackers Manufacturing Co., Ltd. The main drafters of this document are. Zhang Xiaoming, Zhang Ying, Liu Weidong, and Feng Jiansheng. The release history of this document and the document it replaces is as follows:

---First published in.1995 as GB/T 15814.2-1995;

---This is the first revision. Density determination of pyrotechnic powder for fireworks and firecrackers

1 Scope

GB/T 47287-2026 is the Chinese national standard covering the density of a pressed pyrotechnic charge - the property that governs how fast it burns, and therefore whether a device performs as designed or as an explosion. It replaces GB/T 15814.2-1995 and has been in force since 1 September 2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 15814.2-1995. The document is under the responsibility of the China National Light Industry Council. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the reagents, instruments, and equipment for determining the density (actual density, bulk density, and charge density) of pyrotechnic powder used in fireworks and firecrackers. The testing method is described. This document applies to the testing of the density of pyrotechnic powder used in fireworks and firecrackers.

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 611 General Method for Determination of Density of Chemical Reagents

GB/T 6284 General Method for Determination of Moisture in Chemical Products - Loss on Drying Method

GB/T 8170 Data rounding rules and the representation and determination of limit values

GB 10631 Safety and Quality of Fireworks and Firecrackers

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 real density The ratio of the mass of pyrotechnic powder to its volume (excluding pore volume).

3.2 bulk density Under specific conditions, the mass of pyrotechnic powder per unit volume

(including pore volume).

3.3 loading density The ratio of the mass of a shaped pyrotechnic charge block (or pellet) to its volume (including pore volume).

4 Reagents

4.1 Liquid paraffin (hereinafter referred to as medium). The density (ρ_0) should be 0.835 g/cm³~

0.841 g/cm³.

4.2 Nitrogen. The purity should be no less than 99.99%.

5 Instruments and Equipment

5.1 Balance. accuracy 0.0001g.

5.2 Balance. accuracy 0.01g.