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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 19594-2026

Replacing GB 19594-2015

Fireworks - Display shells

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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 primarily replaces GB 19594-2015 "Fireworks and Firecrackers," whose mandatory clauses

have been integrated into GB 10631 "Fireworks." Compared with GB 19594-2015, the main technical changes in "Safety and Quality of Firecrackers" are as follows, apart from structural adjustments and editorial modifications.

a) The terms and definitions of "projectile body," "extinguishing agent," and "cluster munition" have been changed, and "firework shell," "propellant cartridge," "chamber explosion," and "explosion altitude" have been deleted. Terms and definitions such as "radius" and "projectile diameter" have been added, along with terms and definitions such as "underwater fireworks shell," "light shell," and "tandem shell" (see page 3). Chapter 3 (2015 edition);

b) Design and process quality requirements have been added (see Chapters 4 and 6);

c) Product categories have been changed (see Chapter 5, Chapter 4 of the.2015 edition);

d) The product requirements have been changed (see Chapter 7, Chapter 5 of the.2015 edition);

e) The quantitative requirements for the paper used in fireworks shells (see 8.2) and the burning speed tests for the fuse (timed detonator) have been added (see 8.3). 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: Hunan Provincial Fireworks and Firecrackers Product Safety and Quality Inspection Center, Dongxin Fireworks Group Co., Ltd., and Liuyang Yihelong. Fireworks Group Co., Ltd., Zhejiang Xingyao Fireworks Co., Ltd., Liuyang Jinyi Fireworks Co., Ltd., Liuyang Zhongzhou Fireworks Group Co., Ltd. Hunan Jingtai Fireworks Co., Ltd., Hunan Qingtai Fireworks Manufacturing Co., Ltd., Liuyang Guandu Fireworks Group Co., Ltd., Liuyang Century Red Fireworks Manufacturing and Sales Co., Ltd., Liuyang Jiteng Fireworks Group Co., Ltd. The main drafters of this document are. Huang Chaxiang, Ou Daihong, Zhu Yuping, Gong Wengen, Liu Zhi, Zhang Jiyun, Jiao Zengming, Wu Yanbo, Liu Yongzhang, and Zhang Yunyou. Yan Songhua. The release history of this document and the document it replaces is as follows:

---First published as GB 19594-2004 in.2004, and revised for the first time in.2015;

---This is the second revision. Fireworks and firecrackers

1 Scope

GB/T 19594-2026 is the Chinese national standard covering the professional display shell - fired from a mortar and bursting hundreds of metres up, with its lift charge, its time fuse, its break and the safety distances and mortar requirements it is used with. The prefix changes: GB 19594-2015 was mandatory and this revision is issued as a recommended GB/T. In

force since 1 June 2026. It was issued on 27 February 2026 and has been in force since 1 June 2026, replacing GB 19594-2015. 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 design, classification, process quality, requirements, inspection rules, transportation and storage requirements for aerial fireworks, and describes the corresponding inspection procedures. method. This document applies to the manufacturing and acceptance of aerial shells.

4 Design

4.1 Product design shall comply with the requirements of GB 10631 and this document.

4.2 A design should be prepared before product manufacturing. The design should include the product's shape and structure, safety requirements, combustion effects, and chemical formulation, but is not limited to... For packaging, printing, and logo design, a product design book (including design drawings) should be prepared.

4.3 Product design should take into account the venues, buildings, and auxiliary facilities involved in the setting off of the fireworks.

4.4 The raw and auxiliary materials involved in the product design shall meet the following requirements.

a) Chemical raw materials used in the product, such as potassium perchlorate, potassium nitrate, sulfur, charcoal, aluminum powder, alloy powder, etc., should comply with national and industry standards. Standard requirements.

b) Yellow cardboard is recommended for pressing cartridge cases, and the paper basis weight should be 830 g/m^2. If other types of paper are used with kraft paper, the basis weight should be... It meets the relevant technical requirements.

c) The burning rate of the fuse must be 10 mm/s (unless otherwise specified in the design) and must meet the relevant standards; ignition sources such as fast-acting fuses must also be present. The wires should meet the corresponding technical requirements.

d) The launch time (fuse burning time) and effect extinction time should be designed.

e) The black powder used for firing should be selected according to the size of the projectile, preferably in the 0.4mm~2.24mm specification (i.e., No. 1~). Granular black powder (No. 3).

f) Soft filling materials such as rice husks and cottonseeds should be used as the carrier for the opened drug packaging.

g) Based on the different oxidizing agents, the opened medicines are divided into potassium perchlorate type, potassium nitrate type and mixed type (containing potassium perchlorate and potassium nitrate, etc.).

h) Potassium perchlorate-type open-package medications that are compatible with sulfur or metal powders must be individually packaged.

i) Depending on the designed ignition effect, different explosive charges (strong or weak) are used, see Appendix A.

5 Categories

5.1 According to their structural shape, the products are divided into spherical fireworks shells and cylindrical fireworks shells. Among them, cylindrical fireworks shells are further divided into two types. one is made using a pressed (semi-pressed) method. One method for making cartridge cases is cylindrical, while another method is rolling.

5.2 According to the firing environment, the products are divided into high-altitude fireworks shells and underwater fireworks shells.

5.3 Based on the intensity of the light emitted, the products are divided into daytime fireworks shells and nighttime fireworks shells.

5.4 Based on the strength of the opening, the products are divided into strong-explosive and weak-explosive types, see Appendix A.

5.5 The products are classified into No. 3 to No. 12 according to the inner diameter of the fireworks launch tube. See Table 1 for the specific classification.

5.6 Based on the different combustion effects of the products, they are divided into several types, see Appendix A.

6 Process Quality

6.1 Process Flow It should comply with GB 11652.

6.2 Production of Scaffold Shells

6.2.1 Pods (balls) should preferably be made of cardboard and should not be made of sharp plastics, metals, or other materials. Press-molded pods (balls) should be tight and compact. In fact, the specifications and dimensions should meet the corresponding technical requirements.

6.2.2 The paint on the cartridge case should be applied evenly, and nitrocellulose varnish is recommended.

6.2.3 When drilling the cartridge case, the hole diameter must match the outer diameter of