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SN

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

SN/T 1731.8-2006

**Safety performance test for pyrotechnic composition used for
export fireworks and firecrackers. Part 8: Igniting temperature**

出口烟花爆竹用烟火药剂安全性能检验方法 第8部分：着火温度测定

(English Translation)

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Foreword

SN/T 1731 "Test method for safety performance of pyrotechnics for export of fireworks and firecrackers" is divided into.

- Part 1. General;
- Part 2. Determination of thermal stability at 75 ° C;
- Part 3. Determination of the explosion point;
- Part 4. Qualitative analysis of banned restricted drugs;
- Part 5. Determination of impact sensitivity;
- Part 6. Determination of friction sensitivity;
- Part 7. Determination of hygroscopicity;
- Part 8. Determination of ignition temperature;
- Part 9. Determination of flame sensitivity;
- Part 10. Determination of static spark sensitivity.

This part is the eighth part of SN/T 1731.

This part is proposed and managed by the National Certification and Accreditation Administration.

This section drafted by. Jiangxi Entry-Exit Inspection and Quarantine Bureau of the People's Republic of China.

1 Scope

This part of SN/T 1731 specifies the test method for the ignition temperature test of pyrotechnics for exporting fireworks and firecrackers.

This section applies to the inspection of the ignition temperature of pyrotechnics used in exporting fireworks and firecrackers.

2.1 Test conditions

- a) sample content. 0.002g ~ 0.010g;
- b) Inert reference substance α -Al₂O₃.

2.2 Instruments and materials

2.2.1

Alumina crucible. 0.06 mL.

2.2.2

Temperature calibration substance. Indium (purity of 99.999% or more).

2.2.3

Al₂O₃ (α -Al₂O₃). High-purity alumina is fired at 1200 °C for 1 h and treated as α -Al₂O₃.

2.2.4

Micro-poor balance WCT-2A instrument or equivalent thermal analyzer.

2.2.5

Analytical balance. The sensitivity is 0.0001g.

2.3.1 Temperature calibration

2.3.1.1

Calibration conditions.

- a) heating rate. 10 °C/min;
- b) Reference material. α -Al₂O₃ 10mg;
- c) thermal weight range TG. 50mg;
- d) differential heat path DTA. $\pm 50\mu\text{V}$;
- e) Maximum temperature rise. 160 °C.

2.3.1.2 Calibration steps

- a) After warming up, adjust the range according to the provisions of 2.3.1.1.
- b) Add about 10mg of α -Al₂O₃ powder to the reference crucible, add about 50mg of indium (2.2.2) to the sample crucible, install it, open the temperature was raised and the TG and DTA curves were tested.
- c) Stop the test after the temperature rises to the melting curve (phase change) of the thermal analysis curve.
- d) When the absorption peak temperature of indium is between $154.0\text{ }^{\circ}\text{C} \pm 4.0\text{ }^{\circ}\text{C}$, the instrument is qualified. Otherwise, you should contact the manufacturer or phase the relevant units are adjusted and can be used after passing the test.

2.3.2 Test procedure

2.3.2.1

Test conditions.

- a) heating rate. $10\text{ }^{\circ}\text{C/min}$;
- b) Reference material. α -Al₂O₃ 10mg;
- c) thermal weight TG. 10 mg;
- d) differential heat path DTA. $\pm 250\mu\text{V}$;