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

SN/T 1731.3-2006

**Safety performance test for pyrotechnic composition used for
export fireworks and firecrackers. Part 3: Deflagration
temperature**

出口烟花爆竹用烟火药剂安全性能检验方法 第3部分：爆发点测定

(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 third 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 fire-fighting agent explosion point test for exporting fireworks and firecrackers.

This section applies to the determination of the explosive point of pyrotechnics used in exporting fireworks and firecrackers.

2 Principle of the method

The time during which the pyrotechnic composition receives heat at a specified medium temperature, and the time from the start of the treatment to the ignition is called the rupture period of the drug burst.

This medium temperature is the point of explosion of the agent during this lag period.

Within a certain temperature range, the logarithm of the lag period $\tau(s)$ is linear with the reciprocal of the corresponding burst point $T(K)$. Its off See the formula (1).

$$\ln \tau = A/T + B \quad (1)$$

In the formula.

τ ---burst lag period, in seconds (s);

T ---burst temperature, the unit is Kelvin temperature (K);

A, B --- a constant related to the drug.

This section uses the medium temperature of the 5s lag period as the burst point of the medicament.

3 Reagents and materials

3.1

Requirements for each component of the explosion point tester.

--- Temperature controller. The temperature control range is from room temperature to 600 °C, and the temperature control accuracy is ± 1 °C.

--- Thermometer. The accuracy is not less than ± 1 °C, and it can be composed of thermocouple and secondary instrument with corresponding precision.

---Timer. The accuracy is not less than 0.01s. The above three items can also automatically control the recorder with the corresponding precision time temperature.

---Heating furnace. The metal bath heated by the electric resistance wire can be made of Wood alloy or an alloy having a melting point of not higher than 150 °C. Temperature measuring hole the center distance from the sample hole is not more than 20mm, and the

inner diameter of the bath is mm85mm and the depth is 120mm.

3.2

No. 8 flat bottom aluminum (or copper) detonator shell.

3.3

Brass plug. The surface of the copper plug should be smooth, free of rust, deformation and obvious scratches.

3.4

Balance. The division value is 0.001g.

3.5

Vacuum drying oven or electric constant temperature water oven.

3.6

Detonator shell clamp.

3.7

Teguer.

3.8

Small hydraulic press. 0MPa~2.5MPa, pressure gauge graduation value 0.05MPa.

3.9

Weighing paper.

4.1 Test preparation

4.1.1

Samples larger than 3 mm shall be pulverized and tested with samples of less than 3 mm.