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

GB/T 21622-2008

**Dangerous goods - Sustained combustibility test for flammable
liquids**

危险品 易燃液体持续燃烧试验方法

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Appendix A (Informative) Sustained combustibility test device

Foreword

This Standard corresponds to the United Nations' Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria (Rev. 4), and its degree of consistency is not equivalent. The relevant technical content of this Standard is completely consistent with the above-mentioned manual, and the standard text is edited, in format, according to GB/T 1.1-2000.

Appendix A of this Standard is an informative appendix.

This Standard shall be under the jurisdiction of National Technical Committee 251 on Dangerous Chemicals Management of Standardization Administration of China (SAC/TC 251).

The organization responsible for the drafting of this Standard: Jiangsu Entry-Exit Inspection and Quarantine Association.

Organizations participating in the drafting of this Standard: Zhonghua Chemical Standardization Institute, Beijing Entry-Exit Inspection and Quarantine Bureau, Changzhou Import and Export Industry and Consumer Goods Safety Testing Center.

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This is the first formulation of this Standard.

1 Scope

This Standard specifies the equipment, operating procedure and evaluation of results of the sustained combustibility test for dangerous flammable liquids.

This Standard applies to dangerous liquids whose flash point is not higher than 60.5 °C in the closed cup test or not higher than 65.5 °C in the open cup test. This Standard also applies to liquids submitted for transport in the condition where the temperature is equal to or higher than their flash point AND substances – transported or submitted for transport in a liquid state – which emit flammable vapors at a temperature equal to or lower than the maximum transport temperature.

2 Method principle

2.1 Heat the sample tank to the specified temperature; put a specified amount of test substance into the sample tank; apply a standard flame under the specified conditions; then, remove it; observe whether there is sustained combustibility for the test substance.

2.2 Sustained combustibility: If any of the following conditions occurs in any one of the two heating times or at one of the two heating temperatures, it shall be considered as sustained

combustibility: a) When the test flame is in the “off” position, the sample is ignited and continues to burn; b) When the test flame stays in the test position for 15 s, the sample is ignited and continues to burn for more than 15 s after the test flame returns to the “off” position. Intermittent sparking shall not be interpreted as sustained combustibility.

3 Equipment

- a) Sustained combustibility test device (see Appendix A).
- b) Syringe, 5 mL, minimum scale 0.1 mL.

4 Operating procedure

4.1 Turn on the heating device of the sustained combustibility tester, heat the sample tank to the test temperature ($60.5\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ or $75\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$); keep the test temperature constant for 5 minutes. If the atmospheric pressure during the test is different from the standard atmospheric pressure, the test temperature shall be adjusted as follows: every time the pressure is 4 KPa higher or lower, the test temperature shall be raised or lowered by $1.0\text{ }^{\circ}\text{C}$. 4.2 When the gas nozzle leaves the test position (that is, it is in the “off” position), ignite the butane. Adjust the size of the flame so that its length is 8 mm ~ 9 mm and its width is about 5 mm. 4.3 Stir the sample to make it evenly mixed. Use a syringe to draw $2\text{ mL} \pm 0.1\text{ mL}$ of sample;

5 Evaluation of results

Depending on the observed phenomena and the associated definitions, classify the substance as either non-sustained combustibility or sustained combustibility.