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

GB/T 22232-2008

**Test method for the thermal stability of chemicals by differential
scanning calorimetry**

化学物质的热稳定性测定 差示扫描量热法

(English Translation)

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Foreword

This standard is equivalent to using ASTM E537-2002 "Standard Test Method for Thermal Stability chemicals differential scanning calorimetry Determination" (In English).

This standard is managed by the National Standardization Technical Committee chemicals dangerous (SAC/TC251) and focal points.

Participated in the drafting of this standard. the Chemical Institute of Standardization, Jiangxi Entry-Exit Inspection and Quarantine of Guangdong.

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This standard is the first release.

ASTM Foreword

ASTM E-27 Committee is currently engaged in the development of potentially dangerous chemicals measured approach to this potential is usually estimated by Use CHETAH7.0 program to calculate the maximum energy of chemicals or mixtures of chemicals derived reaction.

Note: The complete assessment of the potential hazards of chemical substances must be tested methods or CHETAH this project did not consider some practical considerations into account.

The committee adopted the "potential danger" refers to materials under different environmental conditions the degree of sensitivity or ignition energy release.

The primary purpose of this test method is to detect chemicals enthalpy (enthalpy) changes in the estimated ignition temperature and enthalpy (heat). Differential scanning calorimetry Advantages of using a small amount of sample, a few milligrams of sample can be detected.

Determination of the thermal stability of chemical substances Differential scanning calorimetry

1 Scope

This standard applies to the determination of a sample with a minimum amount of material change in enthalpy, change estimate occurs at a temperature, and by differential scanning the amount of heat or pressure differential scanning calorimetry method to determine their enthalpy (heat).

This test method can be solid, liquid or slurry samples were measured.

This test method may be inert at an absolute pressure range of 100Pa ~ 7MPa, the temperature range of 300K ~ 800K (27 °C ~ 527 °C) or Reactive gas is carried out.

This standard uses SI units.

There is no equivalent to the ISO standard this detection method.

This standard relates to other hazardous materials, operations and equipment. This standard does not claim to solve all the associated security issues. The establishment of appropriate Safety and health practices and determine the applicability of regulatory limitations prior to use of this standard is the user's responsibility. Specific safety precautions See Chapter 8.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

Standard Terminology Relating to GB/T 22233 potentially dangerous chemicals ASTM E473 terms related to thermal analysis Room ASTM E691 test method to determine the accuracy of laboratory research guide ASTM E967 differential scanning calorimetry and differential thermal analysis Temperature Calibration Guide ASTM E968 differential scanning calorimetry hot stream alignment guide Test methods ASTM E1860 thermal analyzer calibration elapsed time

NOTE: ASTM standard Yearbook, Vol 14.02.

3 Terms and Definitions

ASTM E473, GB/T 22233 and established the following terms and definitions apply to this standard.

Differential recording format (see Figures 1 and 2 and the scanning calorimeter kind of heat flux for the vertical axis, temperature or time abscissa the ASTM E473 term).

Part of a single process generates heat curve. Common and established baseline deviation, maximum deviation and reconstruction baseline to describe, heavy Built baseline are not necessarily the same as before and peak (see Figure 1).

Note: The temperature scanning may be the case, as shown in FIG. 2 immediately after an endothermic or exothermic connections. These competing reactions Type, it is difficult and sometimes impossible to locate the real peak and starting temperature.