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

GA/T 536.2-2005

**Grading and test method on fire hazard for flammable and
explosive hazmats -- Part 2: Test method of grading for
flammable solids**

易燃易爆危险品 火灾危险性分级及试验方法 第2部分：易燃固体分级试验方法
(English Translation)

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Foreword

GA/T 536 "Classification and Test Methods for Fire Hazard of Flammable and Explosive Dangerous Goods" is divided into 6 parts.

- Part 1. Classification of fire hazards for inflammable and explosive dangerous goods;
- Part 2. Test method for flammable solids classification;
- Part 3. Test methods for the classification of substances that are susceptible to spontaneous combustion;
- Part 4. Test method for grading of flammable substances in contact with water;
- Part 5. Method for the classification of solid oxidizing substances;
- Part 6. Method for the classification of liquid oxidizing substances.

This part is the second part of GA/T 536.

This section mainly refers to the United Nations Committee of Experts on the Transport of Dangerous Goods, Recommendations on the Transport of Dangerous Goods - Manual of Tests and Criteria.

(Revised 3) The technical content of Part III 33.2.1 is formulated, and its structure and writing rules are in accordance with GB/T 1.1-2000.

Provisions.

This part was proposed by the Fire Department of the Ministry of Public Security of the People's Republic this part is under the jurisdiction of the First Technical Committee of the National Fire Protection Standardization Technical Committee (SAC/TC113/SC1).

This section is responsible for drafting the unit. Tianjin Fire Research Institute of the

Ministry of Public Security.

Participated in the drafting of this section. Hebei Provincial Public Security Department Fire Bureau.

1 Scope

This part of GA/T 536 specifies the classification test method for flammable solids.

This section applies to flammable solids that require a fire hazard classification.

This section does not apply to self-reactive substances and solid desensitized explosives.

2 Instruments and apparatus

- a) Make molds and accessories for stacking test samples, see Figure 1;
- b) ignition source, the fuel is usually butane, and gas or natural gas can also be used;
- c) Inorganic insulation board (impermeable, thermal conductivity at 0 ° C is not higher than 0.23W/m · K);
- d) stopwatch (minimum division is not more than 0.1s);
- e) ruler (minimum division is not more than 1mm);
- f) Dropper.

3 Test conditions

The temperature is (20 ± 5) ° C and the humidity is (50 ± 10) % RH.

4.1 Preliminary screening test

4.1.1

Loosely load the test sample in the form of granules, powder or paste into the mold and free the mold from a height of 20 mm from the hard surface.

Next, after three times of piercing, the mold is turned over, and the test sample is buckled on the inorganic heat insulation board to make a 250 mm wide, 20 mm wide, and 10 mm high cross section.

It is a stack of triangles.

4.1.2

Burn the end of the test sample with the flame of the ignition source (flame diameter 5mm ~ 8mm) until it ignites.

- a) If the test sample stack is not ignited within 2 min (metal or metal alloy powder for 20

min) test time, or after ignition If the flame spreads along the stack < 200mm, the substance is not a flammable solid;

b) If the test sample stack is ignited within 2 min (metal or metal alloy powder in 20 min) test time, and the flame along If the stacking distance is $\geq 200\text{mm}$, the following burning rate test should be continued.

4.2 Burning rate test

4.2.1

Reprocess a stack of test specimens through the preliminary screening test on the inorganic insulation board (method same as 4.1.1).

4.2.2

Make a groove of 3m deep and 5mm in diameter on the ridge at 210mm~220mm, and add 1mL of humectant dropwise.

Make sure that the cross section of the stack is completely wet (this part of the test does not apply to metal or metal alloy powders).

Note: Wetting agents do not contain flammable solvents, and active substances in humectants should not exceed 1%.

4.2.3

ignite one end of the stack with the above flame, and measure the flame to spread 100mm after the flame spreads along the stack to 80mm.

The time required and record the time the flame passes through the wet section.

4.2.4

For metal or metal alloy powders, record the time that the flame spreads to the full length of the stack after ignition.

4.2.5

Repeat the test five times and take the average of the six tests as the burning rate of the test sample.