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

GB/T 7531-2008

Determination of ignition residue for organic chemical products

有机化工产品灼烧残渣的测定

(English Translation)

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Foreword

The degree of consistency between this Standard and 5.15 (GM15) of ISO 6353.1.1982, Reagents for chemical analysis - Part 1.General test methods, NEQ, is non-equivalent.

This Standard replaces GB/T 7531-1987, Determination of ash content for organic chemical products.

Compared with GB/T 7531-1987, the major changes of this Standard are as follows.

- Change the standard from "Determination of ash content for organic chemical products" to "Determination of ignition residue for organic chemical products" (cover of version 1987, cover of this version);
- Add the normative references (see Chapter 2 of this Standard);
- Change the volume of the crucible from (50 ~ 100) mL to (30 ~ 100) mL (3.3 of version 1987, 6.3 of this version).
- Modify the weighing mass from "it shall be based the acquisition of 5 mg ~

3 mg of residue" (5.3 of version 1987, 7.3 of this version);

-- Modify the allowable difference between two parallel determination results (Chapter 6 of version 1987, Chapter 7 of this version).

This Standard was proposed by China Petroleum and Chemical Industry Federation.

This Standard shall be under the jurisdiction of Organic Branch, National Standardization Technical Committee of Chemical (SAC/TC 63/SC 2).

The drafting organizations of this Standard. Jinan IFT Science & Technology Co., Ltd., Chemical Technology Academy of Shandong Province.

Organizations that participate in the drafting of this Standard. Hubei Yihua Chemical Industry Co., Ltd.

The drafters of this Standard. Han Shuxia, Zhang Guiqin, Li Shihui, Zou Benlian.

This Standard was first published in March 1987.

Determination of ignition residue
for organic chemical products

Warning. This standard does not mention all safety issues that are related to the use of the standard. It is the responsibility of the user to take appropriate safety and protective measures and to ensure compliance with the relevant national regulations.

1 Scope

This Standard specifies the general method for the direct determination of ignition residues for organic chemical products.

This Standard applies to the determination of ignition residue content for organic chemical products.

2 Normative references

The terms in the following documents become the terms of this Part by reference to this Part. For dated references, all subsequent amendments (not

including errata content) or revisions do not apply to this Part. However, parties to agreements that are based on this Part are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this Part.

GB/T 603-2002, Chemical reagent. Preparations of reagent solutions for use in test methods (ISO 6353-1.1982, NEQ)

3 General provisions

Unless otherwise stated, use only reagents that are identified as analytical reagent in the analysis

4 Method summary

For the residues after carbonization and high-temperature ignition, use a balance to weigh the mass of the ignition residue.

6.2 High temperature furnace. controllable temperature of (500 ~ 1000)°C, temperature control accuracy of (±25)°C.

6.3 Crucible. porcelain crucible, quartz crucible, platinum crucible in a volume of (30 ~ 100) mL.

7.1 Use hydrochloric acid to treat the crucible. For the porcelain crucible, soak for 24 h or boil for 0.5 h; for the quartz crucible and the platinum crucible, soak for 2 h. Wash and dry.

7.4 Place the crucible that contains the sample on the electric furnace and heat slowly until the sample is fully carbonized. Move the crucible into a high temperature furnace and operate as in 6.2.

7.5 For samples that are difficult to burn, add (0.5 ~ 1.0) mL of nitric acid to the carbonized crucible to wet the carbide; heat it on the electric furnace until the brown smoke disappears; then, move it into the high temperature furnace and operate as in 6.2.

7.6 In the same test, the same dryer shall be used. Place in crucibles of the same quantity in constant mass every time. The empty crucible and the crucible with the residue have the same cooling time.

7.7 The burning temperature shall be selected from the following temperatures according to different products. 650°C, 750°C, 850°C.

8 Result calculation

The mass fraction w of the ignition residue, whose value is expressed in %, is calculated as follows.

9 Allowable difference

When the mass fraction of the ignition residue w is $\geq 0.01\%$, the absolute difference between the two parallel determination results is not more than 10% of the arithmetic mean of the two measured values;

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