

ICS 75.140
CCS E 42

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

SH/T 0404-2008

**Test method for light stability of paraffin wax
(English Translation)**

Issued on: April 23, 2008

Implemented on: October 1, 2008

**Issued by: National Development and Reform Commission of the
People's Republic of China**

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1 Scope

1.1

This Standard specifies the method to determine the light stability of paraffin wax.

It is applicable to paraffin wax, fully refined paraffin wax and semi-refined paraffin wax for food use.

1.2

This Standard may address certain hazardous materials, equipment and operations.

However, it is not intended to advise on all safety issues related thereto. Therefore, before using this Standard, it is the user's responsibility to establish appropriate safety and protection measures, and to develop an applicable management system.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

SH/T 0403, Determination method for paraffin wax colour

3 Method summary

Place the specimen dish filled with molten wax into the constant-temperature chamber.

Irradiate for 45min under the condition of ultraviolet illuminance of

$12.0\text{mW/cm}^2 \pm 0.3\text{mW/cm}^2$ and temperature of $90.0^\circ\text{C} \pm 1.0^\circ\text{C}$. Then measure the color of the specimen. Use color number to indicate the light stability of the paraffin wax.

4.1 Paraffin light stability tester: temperature-illuminance control unit with digital

display, ultraviolet light irradiation heating unit and constant-temperature lighting room.

The ultraviolet illumination control range is $12.0\text{mW/cm}^2 \pm 0.3\text{mW/cm}^2$. The temperature control range is $90.0^\circ\text{C} \pm 1.0^\circ\text{C}$. The irradiation time is 45min. The instrument constant-temperature chamber is made of cast aluminum material. The internal is fillet. Air convection is good and easy for temperature control. The upper light-receiving surface is made of transparent quartz glass plate. The absorption of ultraviolet light at the wavelength of 365nm is small. There is a viewing window at the front of the instrument, which is convenient for observing the irradiation of the specimen.

4.2 Ultraviolet high pressure mercury lamp: Power is 375W. UV wavelength is 365nm.

The lamp effective arc length is 140mm.

NOTE: When the illuminance of the instrument fails to meet the requirements, the lamp tube shall be replaced in time.

4.3 UV light meter: It is used to regularly check whether the illuminance of the light stability tester is within the specified range. It is Type UV-A, with UV-365 probe.

Wavelength range is 320nm-400nm. Peak wavelength is 365nm.

4.4 Quartz glass sheet: The diameter is $55\text{mm} \pm 2\text{mm}$. The thickness is $2.5\text{mm} \pm 0.5\text{mm}$.

4.5 Specimen dish: It is made of ordinary glass. The inner diameter is 40mm. The height is 21mm.

4.6 Beaker: 100mL.

4.7 Oven (or water bath): Can be heated to 85°C and kept constant-temperature.

4.8 AC stabilized power supply: The working voltage is 220V. The power is not less than 1kW. It is used when the voltage is unstable.

4.9 Instruments and equipment specified in SH/T 0403.

5.1 Preheat the clean cuvettes, specimen dishes, and quartz glass sheets to $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$

in an oven (or water bath).

5.2 Put the specimen in the beaker. Heat and melt in an oven (or water bath) at $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$. Use qualitative filter paper to filter.

5.3 Open the lamp chamber of the light stability tester. Wipe off fingerprints and dust on the surface of the lamp with absorbent cotton dipped in alcohol. Wipe off the dust on the surface of the quartz glass plate.

5.4 Prepare according to SH/T 0403.

6.1 Power on the instrument. Press the lighting trigger button. The high-pressure light

is on. Monitor the illumination and temperature.

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