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

GB/T 13255.3-2009

Replacing GB/T 13255.3-1991

**Test methods of caprolactam for industrial use -- Part 3:
Determination of permanganate absorption number --
Spectrometric method**

工业用己内酰胺试验方法 第3部分：高锰酸钾吸收值的测定 分光光度法
(English Translation)

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Foreword

GB/T 13255 "Industrial caprolactam test method" is divided into eight sections.

--- Part 1. Industrial spectrophotometry with a 50% aqueous solution measured chromaticity caprolactam;

--- Part 2. Industrial caprolactam crystallization point of measurement;

--- Part 3. Determination of caprolactam for industrial use of potassium permanganate absorbance spectrophotometry;

--- Part 4. Caprolactam for industrial use after distillation of volatile alkali content of titration;

--- Part 5. Industrial caprolactam 290nm wavelength measured absorbance;

Caprolactam industry measurement of acidity or alkalinity;. --- Part 6

--- Part 7. Determination of caprolactam industry with iron content;

--- Part 8. Determination of caprolactam for industrial use cyclohexanone oxime content.

This section GB/T 13255 Part 3.

The partial modification of international standards ISO 8660:2002 "Plastics - Determination

--- had lactams potassium permanganate absorption spectrophotometer value ---Law degree. " this section according to ISO 8660:2002 redrafted. This section lists the reg number in Appendix A and ISO 8660:2002 reg Control list numbered.

Taking into account China's national conditions, this part adopting ISO 8660:2002 time made some editorial changes, this portion of the ISO 8660.

The main technical differences in 2002 is as follows.

--- Change the potassium permanganate Standard Solution representation (ISO 8660:2002 version 2.1,4.10,7.2; this section Chapter 3, 5.9,7.2);

- Canceled twice distilled water (ISO 8660:2002 version 4.4);
- Change the mode of preparation pH7.0 buffer solution (ISO 8660:2002 version 4.6; this section 5.7);
- Adjustment for PAN water purity requirements (ISO 8660:2002 version 7.2; this section 5.8);
- Canceled using helium (ISO 8660:2002 version 4.11);
- Canceled as a sample solution of caprolactam (ISO 8660:2002 version 7.3).

This Part replaces GB/T 13255.3-1991 "Determination of permanganate absorption number of caprolactam industry spectrophotometry." this section compared with the GB/T 13255.3-1991 The main changes are as follows.

- Increasing the absorption of potassium permanganate value (PAN) of the definition (see Chapter 3);
- "Free of oxides water" renamed "PAN water", and change its preparation and requirements (1991 Version 4.1; 5.8 edition);
- Adjustment precision weighing (1991 Version 6.2; 7.2 edition);
- Adjust the water used for sample preparation (1991 Version 6.2; 7.2 edition);
- Adjust the water used in the blank test (1991 Version 6.3; 7.3 edition);
- Added "Report" (see Chapter 9).

Appendix A of this section is an informative annex.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee on Organic Chemistry Club (SAC/TC63/SC2) centralized.

This section is drafted. Juhua Corporation nylon plant.

1 Scope

GB/T 13255 provisions of this section was determined by spectrophotometry caprolactam for industrial use potassium permanganate absorbance (PAN).

2 Normative references

The following documents contain provisions which, through reference GB/T 13255 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to

use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

Preparation of GB/T 601-2002 Chemical Reagent standard titration solution GB/T 603-2002 Chemical Reagent Test Methods Preparations with (ISO 6353-1. 1982, NEQ) GB/T 6682-2008 analytical laboratory use specifications and test methods (ISO 3696. 1987, MOD) GB/T 8170 repair value expressed about the rules and limit values and judgment

3 Terms and Definitions

The following terms and definitions apply to this standard.

Ba 15KMnO added 3% (mass fraction) of caprolactam neutral buffer solution () 4 = 0.01mol/L of potassium permanganate standard Titration solution was allowed to stand at 25 °C 10min, at a wavelength of 420nm at the optical drive absorption cell 5cm measuring absorbance of the solution, the absorbance the difference between the absorbance of the blank test value multiplied by 100/3 obtained.

4 Principle of the method

A volume of standard potassium permanganate titration solution was added to the neutral sample solution, (25.0 ± 0.5) °C reaction 10min, to at a wavelength of 420nm, absorbance was measured using a spectrophotometer.

5 Reagents

Except as otherwise provided in this section, the reagents and analytical reagent water are by and comply with GB/T 6682-2008 stipulated three Grade water.

Analysis in the standard titration solution, preparations and products, did not indicate when the other requirements, according to GB/T 601-2002, GB/T 603-2002 Preparation of the provisions.

5.1

potassium dihydrogen phosphate.

5.2

dibasic sodium phosphate.

5.3

potassium permanganate.

5.4

hydrochloric acid.

5.5

sulfuric acid.

5.6

oxalic acid.