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

SH/T 1499.5-1997

**Pure adipic acid. Determination of content of iron-2, 2'-Bipyridyl
spectrophotometric method
(English Translation)**

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1 Scope

This Specification specifies terms and definitions, classification, technical requirements, inspection methods, inspection rules as well as marks, packaging, transportation and storage requirements of LED displays.

This Specification is applicable to LED display products.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 191, Packaging and storage marks

GB/T 2423.1-2008, Environmental testing - Part 2.Test methods - Tests A.

Cold

GB/T 2423.2-2008, Environmental testing - Part 2.Test methods - Tests B.

Dry heat

GB/T 2423.3-2006, Environmental testing for electric and electronic products

- Part 2.Testing method test Cab. Damp heat Steady state

GB/T 2828.1-2012, Sampling procedures for inspection by attributea - Part

1.Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB 4208-2008, Degrees of protection provided by enclosure (IP code)

GB 4943.1-2011, Information technology equipment -Safety - Part 1.General requirements

GB/T 6388-1986, Transportation package shipping mark

GB/T 6587-2012, General specification for electronic measuring instruments

GB 9254-2008, Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement

GB/T 11463-1989, Reliability test for electronic measuring instruments

GB/T 17618-2015, Information technology equipment - Immunity characteristics - Limits and methods of measurement

3 Terms, definitions and symbols

For the purposes of this document, the following terms and definitions apply.

3.1 LED displays

A device for displaying text, image, video and other information with LED pixels, usually including basic components such as LED panel and display control system; it may also include support system and so on. It may adopt one-piece or split structure.

3.2 LED panel

It is spliced by one or several display modules. It may be controlled by the display control system to complete the screen display.

3.3 display control system

It is usually composed of a video processor, signal conditioning transmitter, signal receiving distributor and related playback control display software and so on. It may also include various signal sources and matrix switchers.

3.4 support system

Supporting equipment for the LED display. It usually includes power supply and distribution system, audio system, temperature regulation system, lightning protection system and security system.

3.5 gray scale

The maximum brightness level of any primary color of the LED display from the darkest to the brightest.

3.6 pixel

The smallest imaging unit of the LED display.

4.1 Use environment

The LED displays are divided into indoor LED displays and outdoor LED displays according to the use environment.

4.2 Display color

The LED displays are divided into single color, multi-color, and full-color LED displays according to the display color.

4.3 Display function

According to the display function, LED displays are divided into text LED display, graphic LED display, video LED display and special application LED display.

4.4 Display dimensions

The LED display can be divided into 2D display and stereo (3D) display according to display dimensions.

4.5 Panel appearance state

The LED displays are divided into planar and non-planar types according to the appearance of panel.

4.6 Pixel pitch

According to the pixel pitch, the LED display is divided into common pitch and small pitch.

5.1.1 Hardware

When designing LED displays, it shall perform designs on safety, electromagnetic compatibility, reliability, maintainability, ease of use, environmental adaptability and energy-saving.

5.1.4 Packaging materials

In packaging design, priority shall be given to materials that meet environmental protection requirements for packaging and cushioning materials.

5.2 Hardware environment

The LED display hardware part includes the LED panel, display control system, auxiliary system and so on. When applicable, the detailed specification shall be explained according

to the classification of the LED display.

5.3 Software environment

For the LED display with different functions, it can be equipped with the display software that can meet its display function requirements.

5.4 Appearance quality

The external surface of the LED display shall have no obvious scratches. The installation of the LED display assembly shall be consistent, without looseness and crack.

5.5 Enclosure protection level

The enclosure protection level of the LED display panel is indicated by F, which shall be specified in the detailed specification. The corresponding classification registration shall be selected from Table 1.

5.6 Assembly accuracy

The assembly accuracy of the LED display shall be specified in the detailed specification. Level up degree level P, dot pitch relative deviation level JX, horizontal relative misalignment level CS and vertical relative misalignment level CC are selected from Table 2 ~ Table 5, respectively.

5.7.1 General rules

The safety performance of the LED display shall meet the requirements of GB 4943.1-2011.

5.8.1 Average power efficiency

At room temperature, the power factor of the LED display power supply is not less than 90%, and the conversion efficiency is not less than 70%.

5.8.2 Luminance adjustment

The outdoor LED display shall have the function of automatically adjusting the luminance with the change of the environmental illumination.

5.10.1 Maximum luminance

The maximum luminance of the LED display assembly and the LED display shall comply with the detailed specification.