

ICS 37.040.99

CCS G 84



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

GB/T 30908-2014

Photography -- Processing wastes -- Determination of boron

摄影 加工废液 硼的测定

(English Translation)

Issued on: July 8, 2014

Implemented on: December 1, 2014

Issued by: Standardization Administration of China

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses redrafted law revision using ISO 6849:1996 "photographic processing waste liquid boron determination" (in English).

This standard and ISO 6849:1996 and its main technical differences for the following reasons.

--- According to Ministry of Environmental Protection of water quality sampling specifications, sampling and sample preparation for the content made additional modifications. increased Sampling methods, considerations and sample preservation and so on.

Reference standard literature listed, since most have new versions. either merged or abolished, so this standard to refer to these standards when using the latest version. Specific changes are as follows.

--- "ISO 385-1. 1984, ISO 385-2. 1984, ISO 385-3. 1984" to "ISO 385:2005".

--- "ISO 648. 1977" to "GB/T 12808-1991".

--- "ISO 835-1. 1981, ISO 835-2. 1981, ISO 835-3. 1981, ISO 835-4. 1981," to "ISO 835:2007".

--- "ISO 1042. 1983" to "GB/T 12806-1991".

--- "ISO 4788. 1980" to "ISO 4788:2005".

--- "ISO 5725-1:1994" to "GB/T 6379.1-2004".

For ease of use, this standard made the following editorial changes.

--- Principle, add 2 Article title. Method 3.1 A, 3.2 Method B;

--- The 8.3.1,8.3.2,8.3.3 letter of each paragraph to read items listed;

--- Delete data Appendix A, reservations by reference.

The standard proposed by China Petroleum and Chemical Industry Association.

The photosensitive material standard by the National Standardization Technical Committee (SAC/TC102) centralized.

This standard was drafted. China Lucky Group Limited.

1 Scope

This standard specifies two methods for the determination of boron in photographic processing waste.

Method A is mannitol borate complex method, determination of boron mannitol borate complex (a strongly acidic than boric acid) titration method Salt, the scope of the boron content is higher than 0.1mg/L. In the 0.1mg/L ~ 5mg/L range, with lead acid phosphate precipitate removed.

In 1mg/L ~ 100mg/L range, the sample was diluted 25-fold if the concentration of phosphorus is less than 500mg/L, you can go phosphorus interference.

Method B is methylene blue spectrophotometric method for boron concentration in the range of 0.1mg/L ~ 1.0mg/L.

This standard applies to photographic processing waste liquid analysis of boron emissions.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 20432.1-2006 Photographic grade chemicals - Test methods - Part 1. General (ISO 10349-1:2002, IDT) Conservation and management of technical regulations HJ493 water quality samples HJ494 water sampling technical guidance Technical regulation for design HJ495 water sampling program ISO 6353-1. 1982 Reagents for chemical analysis - Part 1. General test methods (Reagentsforchemicalanalysis-Part 1. Generaltestmethods) ISO 6353-2. 1983 Reagents for chemical analysis - Part 2. Specification of the first series (Reagentsforchemicalanalysis-Part 2. Specifications-Firstseries) ISO 6353-3. 1987 Reagents for chemical analysis - Part 3. Specification of the second series (Reagentsforchemicalanalysis-Part 3. Specifications-Secondseries) Principle 3 Principle 3.1 Method A Mannitol borate complex, sodium acetate pH balance. Sample acidified with sulfuric acid, boil remove carbon dioxide. Cool to at room temperature, was added sodium hydroxide to adjust the pH to 7. Join mannitol and boric acid complex is formed, a solution of 0.02mol/L sodium hydroxide to pH 7 recall. Titration samples and blanks within the specified time, so that the interference of atmospheric carbon dioxide is minimized. This method does not apply to ammonia Gas, acetic acid or hydrochloric acid gas vapor present

in the case, since these changes may be absorbed by the sample pH.

3.2 Method B

Methylene blue spectrophotometric method, adding sulfuric acid, hydrofluoric acid, forming a tetrafluoroborate ion (BF_4^-), and then add the methylene blue, with 1,2-dichloroethane extract complex. Measure the absorbance of the extract in the vicinity of a wavelength of 660nm.