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

GB/T 11446.3-2013

Replacing GB/T 11446.3-1997

Generic rules for test methods of electronic grade water

电子级水测试方法通则

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Foreword

The predicated structure of GB/T 11446 is as follows:

- GB/T 11446.1 Electronic Grade Water;
- GB/T 11446.2 (Pending);
- GB/T 11446.3 Generic Rules for Test Methods of Electronic Grade Water;
- GB/T 11446.4 Test Method for Resistivity of Electronic Grade Water;
- GB/T 11446.5 Test Method for Measuring Trace Metals in Electronic Grade Water by Atomic Absorption Spectrophotometry;
- GB/T 11446.6 Test Method for SiO₂ in Electronic Grade Water by Spectrophotometer;
- GB/T 11446.7 Test Method for Trace Anion in Electronic Grade Water by Ion Chromatography;
- GB/T 11446.8 Test Method for Total Organic Carbon in Electronic Grade Water;
- GB/T 11446.9 Test Method for Particles in Electronic Grade Water by Instrument;
- GB/T 11446.10 Test Method for Total Bacterial Count in Electronic Grade Water by Membrane Filters. This Part is Part 3 of GB/T 11446. This Part was drafted as per the rules specified in GB/T 1.1-2009. This Part replaced GB/T 11446.3-1997 Generic Rules for Test Methods of Electronic Grade Water. Compared with GB/T 11446.3-1997, the major changes of this Part are as follows:
 - Add the definitions of "accuracy", "precision" and "limit of detection" in "3 Terms and Definitions" (see Clause 3 of this Edition);
 - 4 Sampling", the requirements for collecting samples for the analysis of non- alkaline trace

metals and particulates; and revise the preparation requirements for sampling bottles (see Clause 4 of this Edition);

1 Scope

GB/T 11446.3-2013 is the Chinese national standard on generic rules for test methods of electronic grade water, in the field of electronics. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 15 August 2014. Classification: ICS 31.030, CCS L90. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Part of GB/T 11446 specifies the sampling, storage and transportation and report format of electronic grade water. This Part applies to EW-I ~ EW-IV electronic grade water.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 11446.1-2013 Electronic Grade Water

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 11446.1-2013 and the following apply.

3.1 Sampling Obtain a representative portion of the substance under test.

3.2 On-line monitoring In the process of high-purity water production, select the appropriate sampling point to measure the water quality index directly by the instrument.

3.3 Concentration The amount of a substance contained in a unit quantity of a sample.

3.4 Sensitivity The ratio of the content change of the tested element in the sample to the change of the tested corresponding signal. electronic grade water; fill it with electronic grade water; put it in a polyethylene bag; and seal the bag during storage. Pour out the water before sampling; and then take sample after repeated washing with the water to be tested. The sampling volume is about 3/5~4/5 of the container volume. After sampling, the

bottle stopper shall be closed quickly. Sampling bottles used for bacterial measurement shall be sterilized by high temperature.

4.4 Before collecting water samples, the water system shall be operated for a period of time (more than 30 min), so that the water in each device and system reaches equilibrium before sampling. Before sampling, all valves shall be opened to drain the stagnant water in all dead corners; and samples shall be taken after being fully rinsed with fresh water. When collecting water samples for particle analysis, it shall be ensured that the water samples are not in contact with the air and that no particles are introduced.

4.5 The quantity of collected water samples shall meet the needs of test and re-inspection. The water sample used for the whole analysis shall be no less than 3L; the water sample used for single-item analysis shall be no less than 0.3L.

4.6 Sampling personnel shall wear medical gloves, masks and hats when sampling; and shall not touch the water sample and the contact part between the bottle stopper and the water sample during operation.

4.7 When collecting samples for non-basic trace metal analysis, acidify the sample to a pH of less than 2 by adding 1mL of HNO₃ (MOS grade) to each 500mL of sample.

4.8 Labels shall be affixed after water samples are collected, indicating the name of the water sample, the name of the sampler, sampling location, time, temperature and other conditions (such as climate conditions), etc.

4.9 Put the bottle into a plastic bag; seal it; and collect parallel samples.

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4.9 of this Edition);

--- Modify the storage temperature conditions in "

5 Storage and Transportation"; and put Generic Rules for Test Methods of Electronic Grade Water

5 Storage and Transportation

5.1 After the water sample is collected, it shall be measured in time; and the transportation and storage time shall be shortened as much as possible. In order to ensure that the water sample is not volatilized or polluted, it shall be sealed for storage; and no air shall be allowed to enter.

5.2 In order to reduce the change of the properties of the water sample during storage due to the instability of the water sample, the water sample stored for more than 24 h shall be kept refrigerated at 4°C. If it is necessary to detect phosphate, nitrate, and sulfate, the sample shall be refrigerated at 4°C immediately after sampling. Avoid direct sunlight.