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**INDUSTRY STANDARD OF THE
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Replacing GB/T 12997-1991

**Water quality. Technical regulation on the design of sampling
programmes**

水质 采样方案设计技术规定

(English Translation)

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Foreword

To protect the environment and protect the human body in order to implement the Environmental Protection Law of the People's Republic of China and the Law of the People's Republic of China on Water Pollution Prevention and Control Health, strengthen the specification and guidance of water quality sampling, and develop this standard.

This standard specifies the quality control, quality characterization, sampling technical requirements for the collection of various water bodies including wastewater, bottom sediments and sludge.

Principles for the identification of pollutants in sampling schemes.

The technical content of this standard is based on ISO 5667-1-2006 "Water Quality Sampling Part 1. Sampling Scheme Design Guide" Rong.

This standard revise the "Technical Regulations for the Design of Water Quality Sampling Schemes" (GB 12997-91). The original standard drafting unit is the China Ring.

The Environmental Monitoring Station, this time is the first revision.

The main revisions are as follows.

-- Modify the sampling point location, sampling frequency and sampling time according to the actual needs of environmental monitoring work in China.

And additions.

The national environmental protection standard "Water quality approved and issued by the former National Environmental Protection Agency on January 25, 1991 since the implementation of this standard.

The Technical Regulations for Sampling Scheme Design (GB 12997-91) shall be abolished.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard was drafted. China Environmental Monitoring Station, Liaoning Provincial Environmental Monitoring Center Station.

This standard was approved by the Ministry of Environmental Protection on September 27, 2009.

This standard has been implemented since November 1, 2009.

This standard is explained by the Ministry of Environmental Protection.

Water quality sampling plan design technical regulations

1 Scope of application

This standard specifies the quality control, quality characterization, sampling technical requirements, pollution of sampling of various water bodies including bottom sediments and sludge.

The principle of identifying the sampling scheme.

This standard applies to the sampling scheme design of various water bodies including bottom sediments and sludge.

2 Determination of sampling target

The primary purpose of sampling and testing is to determine the physical, chemical, biological, and radiological parameters associated with it. Characterizing water bodies, bottom sediments and the quality of the sludge, take the necessary measures to prevent the sample from changing during the interval between collection and analysis. Determine the sampling location and sampling time Machine, sampling frequency, sampling duration, sample processing and analysis requirements are primarily dependent on the sampling target.

The sampling targets can be divided into the following three types.

- (1) Quality control testing it is up to the management to determine the need for short-term process calibration.
- (2) Quality characteristics detection Used to indicate quality, most of which are part of a research project to achieve long-term quality control objectives or to indicate trends.
- (3) Identification of pollution sources the goal of the sampling scheme can be changed from quality characteristic detection to quality control detection, for example, when the nitrate concentration is close to the limit, it needs to be improved.

The frequency of the sample can be changed from a longer-term quality characterization to a short-term quality control scheme.

In order to study the concentration levels, load distributions and biological types of physical or chemical parameters in water bodies, it is common to study the changes in these parameters.

Inter-, flow, factory process, climatic conditions, etc. The specific research content and sampling requirements have the following aspects.

- a) Determine the suitability of water for a particular use. Such as testing whether well water can be used for cooling, boiler feed water, process water or drinking water.
- b) Study the effects of pollutants (including accidental spills) on the receiving water. In addition to increasing pollution load, pollutants are also introduced.

Cause other reactions, such as chemical precipitation or gas generation.

- c) Evaluation of the performance and management of water, sewage, and industrial wastewater treatment plants. Such as evaluating the fluctuations and long-term changes in the load entering the wastewater treatment plant to determine the treatment efficiency at each stage of the treatment process, to provide quality data for the purified water, to control the concentration of the water purification agent used;

Substances that can damage corporate structures or equipment.

- d) study the impact of estuary freshwater runoff and seawater on the estuary environment, providing mixed types and changes in tidal and freshwater flows causing salty Information on the situation of light stratification.
- e) Determination of product loss during industrial production. These data are needed to assess the material balance of the whole plant and measure the discharge of wastewater.
- f) Determine the quality of boiler water, steam condensate and other return water. Evaluate whether the water can be used for the intended purpose.
- g) Adjust the operation of the industrial cooling water system to make the best use of water, at the same time, minimize the scale and reduce the corrosion to a minimum.
- h) Study the effects of atmospheric pollutants on storm water quality. It provides valuable information for studying air quality, and it can also point out some questions.

Whether the problem will occur, such as whether there is a problem with the exposed electrical contacts.

- i) Evaluate the impact of ground material inputs on water quality. These substances come from the natural environment or from synthetics (such as fertilizers, pesticides, etc.).
- j) Evaluate the effects of accumulation and release of bottom deposits on aquatic organisms in or under water sediments.
- k) Study the effects of river regulation on the natural waterways from the mutual transfer of rivers between different rivers. Such as various qualities during river regulation the proportion of water bodies is constantly changing, resulting in fluctuations in river water quality.
- l) Evaluate changes in water quality in the water distribution system. There are many factors that cause these changes. pollution, water diversion from new sources, biological Growth, scale deposition, and dissolution of metals.

In some cases, the environmental conditions are fairly stable and the required data can be obtained from a simple sampling scheme. However most monitoring the quality characteristics of the points are constantly changing, so continuous sampling is required to obtain an ideal evaluation. Although continuous sampling is not only generation the price is too high and it is not realistic in many cases.

3 Safety precautions during sampling

3.1

When sampling in water and bottom sediments, there are various conditions that are harmful to human health and health. In order to protect the human body from Injury, take measures to avoid inhaling toxic gases and prevent the absorption of toxic substances through the mouth and skin.