

ICS 13.060
CCS Z 12

HJ

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

HJ 494-2009

Replacing GB/T 12998-1991

**Water quality. Guidance on sampling techniques
(English Translation)**

Issued on: September 27, 2009

Implemented on: November 1, 2009

Issued by: Ministry of Ecology and Environment

Table of Contents

Foreword

1 Scope of application

2 Normative references

3 Water sample type

3.1 Overview

3.2 Instant water sample

3.3 Cycle water sample (discontinuous)

3.4 Continuous water sample

3.5 Mixed water samples

3.6 Comprehensive water sample

3.7 Large volume of water sample

3.8 Average sewage sample

4 Sampling type

4.1 Sampling of open rivers

4.2 Sampling of closed pipes

4.3 Sampling of reservoirs and lakes

Foreword

To implement the "Environmental Protection Law of the People's Republic of China" and the "Water Pollution Control Law of the People's Republic of China", strengthen the regulation of water quality sampling and guidance, the development of this standard.

This standard specifies quality control, water quality analysis, sampling techniques for bottom sediments and sludge, and is applicable to open rivers.

Closed pipelines, reservoirs and lakes, bottom sediments, groundwater and sewage sampling.

This standard has revised the "Water Quality Sampling Technical Guidance" (GB 12998-91). This standard was first published in 1991.

The standard drafting unit is the China National Environmental Monitoring Center. This is the first revision.

The main revisions are as follows.

-- The water sample type is supplemented with the contents of the instantaneous water

sample and the integrated water sample, and the two types of water samples of the large volume water sample and the average sewage sample are added.

-- Sampling types supplemented closed pipelines, reservoirs and lakes, as well as groundwater sampling content, adding to the sampling method for wastewater.

-- Instantaneous non-automatic sampling equipment adds sampling equipment for dissolved gases (or volatile substances), adding automatic sampling equipment Regulations.

-- Added precautions for sampling equipment.

-- Increased the avoidance of sampling contamination.

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.

Sampling Technical Guidance (GB 12998-91) is 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 technical guidance

1 Scope of application

This standard specifies the quality assurance control, water quality characteristics analysis, bottom sediment and sludge sampling technical guidance, is to ensure water quality Designed like a norm.

This standard applies to the sampling of open rivers, closed pipelines, reservoirs and lakes, bottom sediments, surface water, groundwater and sewage.

This standard is the basic principle guide for sampling technology and does not include detailed sampling steps.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB 12999-91 Technical regulations for the preservation and management of water sampling samples

3.1 Overview

In order to account for water quality, certain parameters of water, such as inorganic matter, dissolved ore, are to be determined at specified times, locations or at specific time intervals.

The concentration of substances or chemicals, dissolved gases, dissolved organics, suspended solids, and bottom deposits. Certain parameters should be determined in the field as much as possible to get accurate results.

Due to the different collection, processing steps and equipment of biological and chemical samples, should be collected separately.

Sampling techniques should be determined on a case-by-case basis. In some cases, samples need to be collected instantaneously at some point, and in some cases complex sampling equipment is used.

Sampling. Static water bodies and flowing water bodies are sampled differently and should be distinguished. Both instantaneous and mixed sampling are suitable for static water bodies for mixed water bodies, mixed sampling is more suitable for static water bodies; periodic sampling and continuous sampling are suitable for flowing water bodies.

3.2 Instant water sample

Samples that are randomly collected from a water body are called transient water samples. For a water body with a relatively stable composition, or a component of a water body is quite long the time and considerable spatial extent have not changed much, and the acquisition of transient samples is well represented. When the composition of a water body changes over time, Instantaneous sampling is performed at appropriate intervals and analyzed separately to determine the degree, frequency and period of change in water quality. When the body of water when the composition changes spatially, it is necessary to sample at each corresponding part. Instantaneous water samples, whether at the surface, at a specified depth, or at the bottom, are usually it can be collected manually or automatically. Automatic sampling is a series of transient samples based on a predetermined time or flow interval, one the samples collected under normal conditions only represent the water quality at the time of sampling and at the sampling point.

Instant sampling is available for the following situations.

- a) When the flow rate is not fixed and the measured parameters are not constant (if mixed samples are used, they will be masked by the interaction between individual samples) the difference between)
- b) discontinuous flow of water, such as water discharged in batches;
- c) when the water or wastewater characteristics are relatively stable;
- d) need to investigate possible contaminants, or to determine when the contaminants appear;
- e) when data on the highest, lowest or change in contaminants is required;
- f) when it is necessary to determine the change law of water quality based on the data in a short period of time;
- g) when it is necessary to measure the spatial variation of parameters, such as the variation of a parameter in different sections (or depths) of water flow or open water condition;
- h) before developing a larger sampling plan;
- i) Determination of certain unstable parameters such as dissolved gases, residual chlorine, soluble sulfides, microorganisms, oils, organics and pH.

3.3.1 Collecting periodic samples at fixed time intervals (depending on time)

The sample is automatically started and stopped at a specified time interval by a timing device. Usually samples are taken during a fixed period of time, one will A fixed volume of sample is injected into one or more containers.

The size of the time interval depends on the parameter to be tested.

When manually collecting samples, collect periodic samples as described above.

3.3.2 Collecting periodic samples at fixed emission intervals (depending on volume)

When the water quality parameters change, the sampling method is not affected by the discharge flow rate, and such samples are attributed to the flow ratio sample.

For example, for a unit volume of liquid flow (eg, 10 000 L), the amount of sample taken is fixed regardless of time.

3.3.3 Collecting periodic samples at fixed emissions intervals (depending on flow)

When the water quality parameters change, the sampling method is not affected by the discharge flow rate, and the water sample can be collected by this method. At fixed time intervals, Different volumes of water are taken and the volume collected depends on the