

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HJ 775-2015

**Water quality. Ascarid ova determination. Nature sedimentation
method**

水质 蛔虫卵的测定 沉淀集卵法

(English Translation)

Issued on: December 4, 2015

Implemented on: January 1, 2016

Issued by: Ministry of Ecology and Environment

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Foreword

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 the Prevention and Control of Water Pollution, Protection of human health, regulate the determination of water Ascaris eggs, the development of this standard.

This standard specifies the precipitation and egg collection methods for determination of Ascaris eggs in surface water and wastewater.

This standard is the first release.

Appendix A to Appendix C of this standard are informative.

This standard is organized by the Ministry of Environmental Protection Science and Technology Standards Division.

The main drafting unit of this standard. Changzhou City Environmental Monitoring Center.

The standard verification unit. Shanghai Environmental Monitoring Center, Jiangsu

Province Environmental Monitoring Center, Zhejiang Province Environmental Monitoring Center, Suzhou Environmental Monitoring Center, Xuzhou Environmental Monitoring Center Station and Taizhou Environmental Monitoring Center Station.

This standard is approved by the Ministry of Environmental Protection on December 4, 2015.

This standard has been implemented since January 1, 2016.

This standard is explained by the Ministry of Environmental Protection.

Determination of water quality Ascaris eggs

1 Scope of application

This standard specifies the determination of Ascaris eggs in water sedimentation egg collection method.

This standard is applicable to the determination of Ascaris eggs in surface water and waste water.

When the sampling volume is 10 L, the detection limit of this method is 5/10 L.

2 Normative reference documents

The contents of this standard refer to the following documents or their terms. Those who do not specify the date of the reference file, the effective version of the appropriate for this standard.

Technical specification for surface water and wastewater monitoring

3 Principle of the method

The sedimentation method is mainly determined by sample concentration, impurity separation, microscopic examination and so on. use 60 mesh screen filter to remove the larger impurities in the sample, the use of Ascaris eggs than the water and easy to precipitate the characteristics of overnight precipitation concentrated Shrinkage, siphon method to abandon the supernatant, with the surfactant Tween 80 as a residue and precipitation transfer cleaning agent, the concentrated residue was further concentrated by centrifugation, and the collected concentrate was mixed with acetic acid-sodium acetate buffer to control the pH of the solution, Get the best hydrophilic - lipophilic balance, add ethyl acetate to absorb the fat impurities in the water, so that Ascaris eggs more easily sink. Again away from Concentrating the sample and discarding the upper fat impurity layer and the buffer layer, the obtained egg-containing sediment layer is mixed with saturated sodium nitrate solution, in the count box after standing floating after the microscopic examination, you can measure the number of water samples in Ascaris eggs.

4 Reagents and materials

Unless otherwise stated, analytical pure chemical reagents conforming to national standards were used in the analysis, and the test water was freshly prepared.

Water or deionized water.

4.1

Ethyl acetate ($C_4H_8O_2$).

4.2

acetic acid - sodium acetate buffer. pH = 4.5.

Weigh 15.0 g of sodium acetate trihydrate ($CH_3COONa \cdot 3H_2O$), dissolved in about 800 ml of experimental water, add 3.6 ml Acetic acid (CH_3COOH) to adjust the pH to 4.5, with the experimental water volume to 1000 ml. The shelf life of this solution is 30 d.

4.3

Tween 80 solution. phi ($C_{24}H_{44}O_6$) = 1 per mille.

Remove 1 ml Tween 80 (Tween 80), diluted with experimental water to set the volume of 1000 ml, with the current allocation.

4.4

Saturated sodium nitrate ($NaNO_3$) solution.

($NaNO_3$), which is slightly more than the experimental ambient temperature, is dissolved in 100 g of experimental water, Filter residue with filter paper, temporary with the distribution. The solubility of sodium nitrate at different temperatures is given in Appendix A.

5 Instruments and equipment

Unless otherwise stated, the use of the national standard A-class glass gauge is used for the analysis.

5.1

microscope. objective lens 4 x, 10 x times, eyepiece 10 x times.

5.2

refrigerator. 0 °C ~ 4 °C.

5.3

Horizontal Rotor Centrifuge. with 50 ml screw tip tip centrifuge tube, centrifugal force above 1000 g.

5.4

Whirlpool Mixer.

5.5

Screen. 60 mesh, dia.250 μm .

5.6

stainless steel open straight wall container. 10 L.

5.7

open straight wall cylinder. 1000 ml.

5.8

siphon.

5.9

Wash bottles.

5.10

screw tip tip centrifuge tube. 50 ml.

5.11

disposable Pasteuria. 3 ml, 10 ml.

5.12

Micropipettor. 1000 μl .

5.13

Quantitative Counting Box. 1 ml (mesh), 5 ml (S type) Quantitative Counting Box.

6 Samples

According to HJ/T 91 on the general requirements of the sampling of pollutants, with more than 10 L volume of plastic drum sampling. Sample before sampling (7.1) and precipitate (7.2) at room temperature.

7.1 Filtering

Slightly shake the sample and transfer it to a stainless steel open-wall container (5.6) to 10 L. If the sample contains grass stalks, paper slag and other impurities, need to sample the screen (5.5) filter, and Tween 80 solution (4.3) cleaning screen (5.5) and impurities, the lotion was incorporated into the filtered 10 L sample.