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

GB 15618-2018

Replacing GB 15618-1995

**Soil environmental quality - Risk control standard for soil
contamination of agricultural land (trial)**

土壤环境质量 农用地土壤污染风险管控标准（试行）

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Table of Contents

- 1 Scope
- 2 Normative References
- 3 Terms and Definitions
- 4 Risk Screening Values for Soil Contamination of Agricultural Land
 - 4.1 Basic Items
 - 4.2 Other Items
- 5 Risk Intervention Values for Soil Contamination of
- 6 Application of Risk Screening Values and Risk Intervention
- 7 Monitoring Requirements
 - 7.1 Monitoring Sites and Sample Collection
 - 7.2 Analysis of Soil Contaminants
- 8 Implementation and Supervision

Foreword

In order to implement Environmental Protection Law of the People's Republic of China, protect the soil environment of agricultural land, control the soil contamination risk of agricultural land, and ensure the quality and safety of agricultural products, the normal growth of crops and the ecological environment of soil, this Standard was formulated. This Standard specifies the risk screening values and control values for soil contamination of agricultural land, as well as the monitoring, implementation and supervision requirements. This Standard was released for the first time in 1995. This is the first revision. The main content of this revision.

---The title of the Standard was adjusted from Environmental Quality Standard for Soils to Soil Environmental Quality - Risk Control Standard for Soil Contamination of Agricultural Land (on trial);

---Normative References is updated; terms and definitions are added to the Standard;

---The risk screening values for basic items, such as. cadmium, mercury, arsenic, lead, chromium, copper, nickel and zinc, as well as other items, such as. benzene hexachloride (BHC), dichlorodiphenyl trichloroethane (DDT) and benzo[a]pyrene in the soil of agricultural land are specified;

---The risk intervention values for cadmium, mercury, arsenic, lead and chromium in the soil of agricultural land are specified;

---The monitoring, implementation and supervision requirements are updated. Since the date of implementation of this Standard, Environmental Quality Standard for Soils (GB 15618-1995) shall be abolished. This Standard was formulated by the Department of Soil Environment Management and the Department of Science and Technology Standards of the Ministry of Ecology and Environment of the People's Republic of China. The main drafting organizations of this Standard. Nanjing Institute of Environmental Sciences of the Ministry of Ecology and Environment; Institute of Soil Science of Chinese Academy of Sciences; Institute of Agricultural Resources and Regional Planning of Chinese Academy of Agricultural Sciences; Chinese Research Academy of Environmental Sciences. This Standard was approved by the Ministry of Ecology and Environment on May 17, 2018. This Standard shall be implemented since August 1, 2018. This Standard shall be interpreted by the Ministry of Ecology and Environment. Soil Environmental Quality - Risk Control Standard for Soil Contamination of Agricultural Land

1 Scope

GB 15618 is the standard that governs contaminated farmland in China, and the 2018 edition changed its logic: where GB 15618-1995 set quality limits that land either met or failed, this one sets risk screening values and risk intervention values, so that exceeding the first triggers investigation and safe use measures while exceeding the second triggers a change of use. It covers cadmium, mercury, arsenic, lead, chromium, copper, nickel and zinc, with values that vary with soil pH, plus the pesticide residues, and it defines the monitoring and the implementation. It is short but consequential - it decides whether a field may go on growing food. Issued on 13 July 2018, in force since 1 August 2018. 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 edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This Standard specifies the risk screening values and intervention values for soil contamination of agricultural land, as well as the monitoring, implementation and supervision requirements. This Standard is applicable to the screening and classification of soil contamination risks of arable land. For garden plots and grassplots, this Standard may be taken as a reference.

2 Normative References

The content of this Standard quotes the following documents or their clauses. In terms of references without a specific date, the latest edition applies to this Standard.

GB/T 14550 Soil Quality - Determination of BHC and DDT - Gas Chromatography

GB/T 17136 Soil Quality - Determination of Total Mercury - Cold Atomic Absorption

Spectrophotometry

GB/T 17138 Soil Quality - Determination of Copper, Zinc - Flame Atomic Absorption Spectrophotometry

GB/T 17139 Soil Quality - Determination of Nickel - Flame Atomic Absorption Spectrophotometry

GB/T 17141 Soil Quality - Determination of Lead, Cadmium - Graphite Furnace Atomic Absorption Spectrophotometry

GB/T 21010 Current Land Use Classification

GB/T 22105 Soil Quality - Analysis of Total Mercury, Arsenic and Lead Contents in Soils - Atomic Fluorescence Spectrometry HJ/T 166 Technical Specification for Soil Environmental Monitoring

HJ 491 Soil Quality - Determination of Total Chromium - Flame Atomic Absorption Spectrometry

3 Terms and Definitions

The following terms and definitions are applicable to this Standard.

3.1 Soil Soil refers to the complex of loose porous material layer on the surface of the land, on which, plants can grow, and its related physical and geographical elements.

3.2 Agricultural Land Agricultural land refers to 01 cultivated land (0101 paddy field, 0102 irrigated land, 0103 dry land), 02 garden plot (0201 orchard, 0202 tea garden) and 04 grassland (0401 natural pasture, 0403 artificial pasture) in GB/T 21010.

3.4 Risk Screening Values for Soil Contamination of Agricultural Land For the risk screening values for soil contamination of agricultural land, when the contaminant contents in the soil of agricultural land are equal to or lower than the values, the risks to the quality and safety of agricultural products, and the growth of crops or the ecological environment of the soil are low,

3.5 Risk Intervention Values for Soil Contamination of Agricultural Land For the risk intervention values for soil contamination of agricultural land, when the contaminant contents in the soil of agricultural land exceed the values, there may be high risks of soil contamination of agricultural land, for example, the edible agricultural products fail to comply with the quality and safety standards, and in principle, strict control measures shall be taken.

4.1 Basic Items

4.1.1 The basic items of the risk screening values for soil contamination of agricultural land

are mandatory, including cadmium, mercury, arsenic, lead, chromium, copper, nickel and zinc. The risk screening values are shown in Table 1.

4.2 Other Items

4.2.1 The other items of the risk screening values for soil contamination of agricultural land are optional, including benzene hexachloride (BHC), dichlorodiphenyl trichloroethane (DDT) and benzo[a]pyrene. The risk screening values are shown in Table 2.

5 Risk Intervention Values for Soil Contamination of

Agricultural Land

5.1 The items of the risk intervention values for soil contamination of agricultural land include cadmium, mercury, arsenic, lead and chromium. The risk intervention values are shown in Table 3.

6 Application of Risk Screening Values and Risk Intervention

Values for Soil Contamination of Agricultural Land

6.1 When the contaminant contents in the soil are equal to or lower than the risk screening values specified in Table 1 and Table 2, the risks of soil contamination of agricultural land are low, and they may be ignored under general circumstances;

6.2 When the contents of cadmium, mercury, arsenic, lead and chromium in the soil are higher than the risk screening values specified in Table 1, and equal to or lower than the risk intervention values specified in Table 3, there may be risks of soil contamination, for example, the edible agricultural products fail to comply with the quality and safety standards, and in principle, safe utilization measures shall be taken, such as. agronomic regulation and alternative plantation, etc.

6.3 When the contents of cadmium, mercury, arsenic, lead and chromium in the soil are higher than the risk intervention values specified in Table 3, there may be high risks of soil contamination of agricultural land, for example,

6.4 The classification of soil environmental quality shall take this Standard as the basis, combined with the results of coordinated monitoring of edible agricultural products, and delineated in accordance with the relevant technical regulations.

7.1 Monitoring Sites and Sample Collection

7.1.1 The layout of survey and monitoring sites and sample collection of soil contamination of agricultural land shall comply with the relevant technical regulations of HJ/T 166.