

ICS 13.300
CCS A 80



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

GB/T 21851-2008

**Chemicals -- Adsorption / desorption using a batch equilibrium
method**

化学品 批平衡法检测 吸附/解吸附试验

(English Translation)

Issued on: May 12, 2008

Implemented on: September 1, 2008

Issued by: Standardization Administration of China

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Foreword

This standard is equivalent (OECD) Chemicals Test Guidelines adopted Organisation for Economic Co-operation and Development is No. 106 (1998) "Batch equilibrium assay such Attached/desorption test "(in English).

This standard made the following editorial changes.

--- Increased Normative References section, the file referenced from the standard text mentioned.

--- "The Guidelines" be replaced by "of this standard."

--- The units of measurement to our legal units of measurement.

This standard appendix A ~ Appendix G is an informative annex.

This standard is managed by the National Standardization Technical Committee chemicals dangerous (SAC/TC251) and focal points.

1 Scope

This standard specifies the/desorption test to detect a range of chemicals batch adsorption equilibrium method, definitions and units, the test principle, test substances information Test the applicability of the test method, the necessary conditions for the adsorption/desorption tests, test procedures and data reporting.

This standard applies to the use of chemical assay batch equilibrium adsorption/desorption behavior in soil.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including

errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

ISO 10381-6 Soil sampling - Part 1. Sampling Method Design Guide ISO 10390-1 Soil quality - Determination of pH value

3 DEFINITIONS AND UNITS

Definitions and units defined in Chapter 10 and Appendix B, respectively. The soil sample quality standards referred to in the equation refers to the quality of drying.

4 Test principle

Already know the dry weight, and with 0.01mol/L calcium chloride solution to balance the soil sample, a known volume of unlabelled or labeled Remember the test substance, and is known for its concentration 0.01mol/L calcium chloride solution. The mixture was stirred for a certain time. Then divide by centrifugation Suspension from the soil, if desired, the aqueous phase was filtered and analyzed. The amount of test substance adsorbed on the soil sample, is equal to the initial test substance in solution Difference (indirect method) the amount and the amount remaining at the end of the experiment between.

Another option, the amount of adsorption of the test substance to be measured directly (direct method) by soil analysis. Although this makes the analysis process becomes More complicated, involves stepwise soil extraction with appropriate solvent, is recommended in the concentration of the test substance can not be accurately measured was the difference between love Under conditions before using this method. Such as the following. the test substance adsorbed on the surface of the test vessel, the test substance is unstable in the experiment, in a solvent Produced little change in the concentration of weak adsorption solution; and generating strong adsorption can not be accurately determined in a low concentration. If you are using radiolabeled Hutchison was possible because of combustion and liquid scintillation counting phase analysis of the soil without further soil extraction. However, a liquid scintillation counting Species uncertain technology, unable to test chemical and its transformation products to distinguish; therefore only the test substance is stable during the study period Time, this method should be used.

5 Test substance information

Use analytical grade chemicals. We recommend using unlabeled test substance (known in its composition, purity of at least 95%), or has been put to use Radioactive labeled test substance (known to component and radiological purity). If the half-life tracers, decay should be amended.

Before the adsorption/desorption tests, should have the following information about the test

substance.

- a) Solubility in water [OECD105];
- b) vapor pressure [OECD104] and (or) Henry's constant;
- Hydrolysis c) associated with the pH [OECD111];
- d) n-octanol/water partition coefficient [OECD107 and 117];