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

GB/T 27853-2011

**Chemicals -- Aerobic and anaerobic transformation in aquatic
sediment systems test**

化学品 水-沉积物系统中好氧厌氧转化试验

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

The Standards and Organisation for Economic Co-operation and Development (OECD) guidelines for testing of chemicals No.308 (2002 Nian) "Water - Sediment System Aerobic and anaerobic conversion "the same (in English) of technical content.

This standard configuration and do the following editorial changes.

- The units of measurement to our legal units of measurement;
- Consistent with the existing standard series, the standard name will be changed to "Chemicals Water - Sediment System Aerobic and Anaerobic transformation test";
- Remove informative part of the original OECDNo.308 (2002 Nian) Introductions;
- The original "test substance" section on the physical and chemical properties are given six reference test methods. Five of the eight indicators tested party Our method has the

corresponding national standards. GB/T 21845 "Chemicals Water solubility test", GB/T 21851 "Batch Chemicals Detection adsorption equilibrium method/desorption test ", GB/T 21852" Chemical Distribution coefficient (n-octanol - water) high performance liquid chromatography Spectroscopy experiment ", GB/T 21853" Chemical Distribution coefficient (n-octanol - water) test shake-flask method ", GB/T 21855" Chemical Test and pH hydrolysis product-related ", GB/T 22052" Determination of the liquid vapor pressure and temperature with the isoteniscope Degree of relationship and the initial decomposition temperature method ", GB/T 22228" vapor pressure of the liquid and solid industrial chemicals in Determination of the steam within the range 10-1Pa to 105Pa static method ", GB/T 22229" solid and liquid industrial chemicals Pressure within the range of measurement 10-3Pa to 1Pa vapor pressure balance method. " These eight criteria of the OECD chemical testing Guidelines No.104 "vapor pressure", OECD guidelines for testing of chemicals No.112 "water dissociation constant" together as this standard Normative references.

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

This standard was drafted. Chemical Registration Center of the Ministry of Environmental Protection, Nanjing Institute of Environmental Sciences Department of Environmental Protection, the Shanghai Testing Center, Shanghai Academy of Environmental Sciences, Shenyang Research Institute of Chemical Safety Evaluation Center, China Chemical Technology Development Center.

Introduction

By directly using chemicals, spray drift, runoff, sewer drainage, waste disposal and industrial, urban or agricultural effluent and atmospheric deposition Drop, etc. into shallow or deep surface waters. The Test Guideline describes a method for evaluating organic compounds in water - sediment systems Laboratory test methods aerobic and anaerobic transformation. Applied directly to water bodies or through these channels into the aquatic environment of chemicals should be conducted these studies.

Natural water - sediment system of the upper water phase is generally aerobic, and surface sediments may be may also be anaerobic, but deep Layer of sediment is usually anaerobic. This article covers the aerobic and anaerobic test all of the above possible. Aerobic test simulates the sediment layer Aerobic water body portion, the lower portion of the gradient layer aerobic anaerobic sediment layer. Anaerobic test simulates a completely anaerobic water - sediment system.

If the environmental conditions are significant deviations, for example, using a full sediment column or in sediments exposed to the test substance, apply Other methods [9] to carry out tests.

Chemicals water - sediment system Aerobic Anaerobic transformation test

1 Scope

This standard specifies the chemical water - sediment system terms and definitions Aerobic and Anaerobic transformation test, the test substance information, test principle, the Senate Substance, test method than the overview, test procedures, quality assurance and quality control, data and reports.

This standard applies to low-volatile or non-volatile, water-soluble or water-soluble, all chemicals can be accurately measured (including Radioactive labels or radioactive label).

This standard applies to the evaluation of the chemical conversion of freshwater and sediments, also applies to estuarine/marine systems.

This standard does not apply to water having a volatile and under the experimental conditions can not be kept in water and/or sediments chemicals.

This standard does not apply to simulate the water (such as rivers) and open waters.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 21845 Chemicals water solubility test GB/T 21851 detect chemical adsorption batch equilibrium method/desorption test GB/T 21852 Chemical Distribution coefficient (n-octanol - water) high performance liquid chromatography test GB/T 21853 Chemical Distribution coefficient (n-octanol - water) shake flask method test GB/T 21855 chemicals and pH-related hydrolysis test the vapor pressure of the liquid and the temperature dependence of the initial decomposition temperature and a method GB/T 22052 measurement isoteniscope the vapor pressure of GB/T 22228 industrial solid and liquid chemicals in the measuring range 10-1Pa to 105Pa static method GB/T 22229 Industrial chemicals Determination of vapor pressure of solids and liquids within range 1Pa 10-3Pa to vapor pressure level Heng Law OECD Guidelines for the Testing of Chemicals No.104 vapor pressure (VapourPressure) OECD Guidelines for the Testing of Chemicals No.112 water dissociation constant (DissociationConstantsinWater)

3 Terms and Definitions

The following terms and definitions apply to this document.

Test substance any substance, including the parent substance or relevant transformation products.

Conversion products transformation products by the test substance by biotic and abiotic transformation generated all substances, including CO₂ and bound residues in the product.

Bound residues After extracting still by the parent substance or in the form of metabolites present in the soil, plant and animal compounds. Extraction Method