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

SN/T 4155-2015

**Chemicals--Sediment-water chironomid life-cycle toxicity test
using spiked water or spiked sediment**

化学品 用加标水或加标沉积物的沉积物-水摇蚊生命周期毒性试验

(English Translation)

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Foreword

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

This standard and the United Nations Organization for Economic Co-operation and Development (OECD) Chemical Test Method No.233 (2010) "Sediment -Life cycle toxicity test - with the standard water or spiked sediment "(English version) of the technical content of the same.

This standard has the following structure and editorial changes.

- the addition of the "scope" chapter;
- change the introduction to the introduction;
- the addition of the "normative reference" chapter;
- replace Appendix 1 with terms and definitions;
- adjust the order of the appendix;
- delete the OECD reference section.

This standard is proposed and approved by the National Certification and Accreditation Administration Committee.

The drafting of this standard. the People's Republic of China Tianjin Entry-Exit Inspection and Quarantine Bureau, the People's Republic of China Ningbo immigration inspection Epidemic situation.

Introduction

This standard is used to assess the impact of chemicals on the whole life cycle exposure of freshwater wilting chrysanthemums, covering the first generation (P Generation) and the

second generation (F1 generation). Is the existing OECD test method 219 or 218 using spiked-water exposure or spiked sediment extend. Existing Chironomus riparius and Chironomus dilutus (formerly known as C. tentans) Toxicity Test Program in Europe and North America is growing rapidly. There are other records of chironomids, such as Chironomus yoshimatsui. C. riparius and C. yoshi-matsui intact exposure period is about 44 days, C. dilutus is about 100 days.

This standard gives an exposure scheme for water and sediments. The appropriate exposure regimen depends on the intended application of the test. Contact with water, The spikes of the water column are used to simulate the initial peak concentration of the insecticide spray and cover the surface water. Spark is also used for other types of exposure (Including chemical spills), but can not be used to detect the accumulation process in sediments that remain longer than the test period. In this case, when runoff when the pesticide enters the main way of water, the design of spiked sediments may be more appropriate. If you are interested in other exposure programs, test the design is easy to adjust. For example, if the test substance distributed between the aqueous phase and the sediment layer is not taken into account and the absorption of the deposit is minimized, it is possible to consider the use of artificial sediments (eg quartz sand).

The organic matter where the sediment required for the test is located may be present in the sediment for a long time. Sediment where the organism is possible Exposed through many ways. The relative importance of each exposure pathway and time contributes to the overall toxic effect, depending on the physical Learning characteristics. For highly adsorbents or substances that can be covalently bound to sediments, ingestion of contaminated food may be the most important route path. In order not to underestimate the toxicity of high lipophilic substances, it may be desirable to add food to the sediments prior to administration of the test substance. So it can package Including all exposure and life stages.

The total number of adults (including the first generation and the second generation), the developmental speed (including the first generation and the second generation) at the end of the test, the sex ratio of surviving adult individuals (including the first and second generation), the number of each female's egg string (only the first generation) and the fertility of the egg string Force (only the first generation).

It is strongly recommended to prepare sediments. The preparation of sedimentary facies has many advantages over natural sediments.

- reduce the test variability because it forms a repeatable "standardized matrix" and does not need to look for unclean clean Sediments - can start the test at any time, and will not encounter seasonal differences, and do not need to pretreatment of sediments;
- the amount required to collect enough daily tests to reduce costs;

The preparation of sediments can be classified by toxicity studies by studying toxicity data.

Of or relating to spiked or spiked Life - cycle Toxicity Test of Sediment - Water Chironomus

1 Scope

This standard specifies the terms and definitions of the chemicals for the use of spiked water or spiked sediment sediments - water chironomus life cycle toxicity test.

Inspection methods, test methods, test designs, test procedures, observation, analytical methods, data and reports.

This standard applies to the chemical test of the sediment - water chironomus life cycle toxicity test.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 27858-2011 Chemical sediments - Water system Chironomus toxicity test GB/T 27859-2011 Chemical Sediment - Water System Chironomus Toxicity Test

3 Terms and definitions

The following terms and definitions apply to this document.

Preparation of sediments Mixtures used to simulate the physical components of natural sediments, also known as regenerated sediments, artificial sediments or synthetic sediments.

Overlying water overlying water the water in the test vessel is above the sediment.

Interstitial water

Sediment and soil particles between the water.

Spiked water

Test water has been added to the test substance.

4.1 Test principle

4.1.1

Place the first instar larvae into the sediments-water system and expose them to a range of test substance concentrations.

4.1.2

Test begins by adding an instar larvae (first generation) to a beaker containing a spiked sediment test or alternately after the larvae the substance is added to the water.

4.1.3

Cholera eclosion, assess the survival of chironomids began to emerge the time, all the emergence of sex ratio.