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**NATIONAL STANDARD OF THE
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Chemicals -- Test method of mouse heritable translocation

化学品 小鼠可遗传易位试验方法

(English Translation)

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Foreword

This standard is identical with the Organization for Economic Co-operation and Development (OECD) Guide to Testing Chemicals. 485 (1986) "Genotoxicity. small Mouse heritable translocation test "(in English).

This standard made the following editorial changes.

- Increased range of parts;
- Unit of measurement into China's legal units of measurement;
- Removed the introduction.

This standard by the National Standardization Technical Committee of hazardous chemicals management (SAC/TC251) and focal point.

1 Scope

This standard specifies the range of mouse hereditary translocation test, test the basic principles, test methods, test data and reports.

This standard applies to test the ability of the chemical to induce translocation of chromosomes into male offspring that are heritable to offspring.

2 Test the basic principles

The mouse heritable translocation assay was used to detect changes in chromosome structure and number in the mouse offspring germ cells. The test system is used Detection of chromosome translocation of each other, if the progeny are female, but also to detect X chromosome loss. Chromosomal translocations and XO female mice all say Reproductive capacity of mice decreased, according to reproductive capacity selection F1 generation cytogenetic analysis. Some types of translocations (X-chromosomes and c-t type) can cause mice completely infertility. Male Progeny of F1 Generation Male or F1 Generation Female Mice - Metaphase I Metaphase Chromosomal translocation was observed in all cells, but only 39 chromosomes were observed in mitosis of XO female mouse bone marrow cells.

3.1 Test sample

The test substance is dissolved in isotonic saline solution. Water-insoluble test substance can be dissolved or suspended in appropriate excipients, the test substance should be used before Freshly prepared. If excipients are used to solubilize, the excipients should not interfere with the properties of the test substance nor do they produce toxic effects.

3.2 Test animals

For the convenience of feeding and for cytological verification, the mice were selected for the experiment. There are no special requirements for mouse strains. But requires the average of the strains used Nursery pups should be greater than 8, and relatively stable. Should be used healthy, sexually mature animals.

3.3 The number of animals the number of animals depends on the frequency of spontaneous translocations and the minimum induction rate required for positive results. This test is completed by analyzing the male F1 generation, at least 500 F1 male rats per dose level are required. If female F1 generation is included, 300 males and 300 females are required.

3.4 Control

Control data must be sufficient, you can use the parallel control and historical control. A recent available positive result from the same laboratory can replace the test Parallel test of positive control.

3.5 Dose level

The highest dose, which produces minimal toxicity but does not affect reproductive behavior and does not cause death, is usually used as the test dose. In order to build the agent Volume - response relationship, but also need to set up two other low-dose group. For

non-toxic subjects, use the highest dose that can be achieved by exposure.

3.6 Exposure route

Commonly used routes of exposure for oral gavage and intraperitoneal injection, but also other suitable ways. The same way as human exposure Toxicity, the test results obtained on the risk assessment of the most effective.

3.7.1 Handling and mating

There are two methods of exposure, the most commonly used for a method of exposure; can also be used weekly 7d, continuous 35d exposure method. According to the method of exposure indeed Set the number of mating after mating to ensure that each phase of infected sperm cells have the same chance of conception. At the end of mating, the females should be kept in a single cage.

The time of delivery of female mice, the numbers of littermates and the sex of the mice were recorded. In addition to the test requirements, females should be discarded; all male offspring should be kept to weaning.

3.7.2 Translocation heterozygosis test

There are two ways to do this.