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

GB/T 28648-2012

**Chemicals -- Acute inhalation toxicity testing -- Acute toxic
class method**

化学品 急性吸入毒性试验 急性毒性分类法

(English Translation)

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Table of Contents

Foreword

Introduction

1 Scope

3.1 Method Description

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.436 (2009) "Acute Inhalation Toxicity Test. Acute Toxicity Classification "(in English) is consistent technical content.

This standard configuration and do the following editorial changes.

--- Increasing the range a chapter;

--- The OECDNo.436 original in the "Introduction" and "initial consideration" as the introduction of this standard;

--- Change the unit of measure of legal units of measurement.

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

This standard was drafted. Chinese Center for Disease Prevention and Control of Occupational Health and Poison Control, Guangdong CIQ, in China Technology Development Center Industry Economy, Chinese Academy of Inspection and Quarantine.

Introduction

OECD guidelines for testing of chemicals needs with the development of science and technology, needs and animal welfare considerations and regulations change Regularly revised. The initial acute inhalation toxicity test guidelines (OECD403) promulgated in 1981 and carried over after repair Order [1]. Since the promulgation and implementation of the acute oral toxicity classification (Testguideline423, TG423) in 2001 [5] before considering the preparation of the corresponding Acute inhalation toxicity classification (Acutetoxicclass, ATC) [2-4]. Acute inhalation toxicity Classification (ATC) data review Assessment shows that the method is ideally suited for [6] on the toxicity grading and product labeling chemicals regulations. Acute inhalation toxicity test classification Test Guidelines provide

that continuous steps be tested in accordance with a predetermined concentration so as to provide the test substance toxicity category and estimate the scope of the LC50;

Mortality is the key to the end of this test, but the animal is in excruciating pain, stress or are on the verge of death in the case of Reduce animal suffering of the animals should be humanely euthanized. The animals were sacrificed on the end of humanity in the OECD guidance document 19 in [7] made a number of provisions.

It can be 39 [8] "on the acute inhalation toxicity test" to find the OECD guidance document to conduct this test and guide explained.

Definition of terms used in this standard are listed in the No. 39 OECD within the guidance document [8].

This standard information obtained hazardous properties of the test substance, and in accordance with the United Nations Global Chemicals Management Harmonized System of Classification and Labelling (the United Nations (UN) Globally Harmonized System of Classification and Labeling of Chemicals, GHS) of chemicals Acute toxicity grading standards [9]. In need of acute inhalation LC50 point estimate and concentrations - analyze the reaction when, according to OECD403 [1] is more appropriate. More tests need to select the guide can be found in the OECD Guidance Document No. 39 [8] paper to. This standard is not specific for testing poorly soluble isomers, or fibrous materials, or nanomaterials made.

Before the test in accordance with this standard all the information about the test substance, including those that support does not require additional testing has been Some test report, in order to minimize the number of animals used in the tests. For those who can help choose the most appropriate animal species, strain, Try any vitro and in vivo; sex, and the best way to expose the exposure concentration and other information, such as specific traits, chemical structure, physical and chemical properties the intended use and the potential human exposure;; test result structure - activity data and toxicological data on structurally related chemicals with; this standard Quasi provisions. Not corrosive or severe irritant to cause severe pain and stress concentration tested (see guidance document No. 39) [8].

Chemical Acute inhalation toxicity Acute toxicity test Taxonomy

1 Scope

This standard specifies the principles of testing chemicals with acute toxicity category acute inhalation toxicity test methods, test methods, data and reports.

This standard applies to chemicals Acute inhalation toxicity Acute toxicity classification.

Test Principle 2

This test uses Step by Step method to observe the test animals exposed for 4h to obtain meet the acute inhalation toxicity test substance Ratings information classification. For management purposes but also use other special exposure time (instead of 4h) tests. Each test uses every step Gender three animals were determined at a concentration of exposure test. According to animal death and/or near-death state, sometimes only 2-step test procedure it can test substance for acute inhalation toxicity category judge. If there is evidence of some kind of animal than the other gender-sensitized animals Higher sensibility, you can only use gender sensitive animal testing. In front of the test results determine the next step of the operation of test operation.

- a) without the need for the next test;
- b) for each sex three animals; or
- c) using only six other sensitive animals. The method is that each test concentration group uses six other sensitive animals, male or female, to Category toxicity limit the scope of the estimated value of the lower concentrations tested.

Should be humanely killed on the verge of death, the pain is unbearable and lasting suffering severe animal, according to the results of the test system deaths meter. Of animals dying, severe pain made humane death criteria, as well as methods to predict inevitable confirmation of death in OECD mean Guidance document No. 19 within "the identification, evaluation and application of humane endpoints" [7].

Test Method 3

3.1.1 Selection of animal species

Use healthy young, commonly used in laboratory animal species tested. Preferred rats, such as the use of other animals should be demonstrated that State the reasons and basis.

3.1.2 Prepare animals

Females should be nulliparous and non-pregnant. To ensure that every step of the test rats aged 8 weeks when exposed to 12 weeks; should not weigh on A step of the same mice age, within 20% of the same sex as the average weight of the animal. Random selection principle, and make a mark for each animal.

Before the test for at least keeping 5d in the cage to accommodate laboratory rearing conditions. Before the test, the test needs to be a short-term device Habilitation to reduce because of new equipment into the environment caused by stress.

3.1.3 Feeding Conditions

After the front end and experimental animals exposed exposure, room temperature should be at $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$. Relative humidity of 30% to 70%, but the test exposure period Very

difficult to time with water as a carrier.