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**NATIONAL STANDARD OF THE  
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**Testing methods for industrial wastewater -- Fish acute toxicity**

工业废水的试验方法 鱼类急性毒性试验

**(English Translation)**

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### Foreword

This standard is identical with the Japanese Industrial Standards JISK0102-71:1998 "Test methods of industrial wastewater fish acute toxicity test" (Japanese version).

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

This standard was drafted. Chinese Academy of Inspection and Quarantine, the Ministry of Environment Protection Standards Institute, Liaoning CIQ.

### 1 Scope

This standard specifies the laboratory determination of industrial waste water fish acute toxicity test scope, methodology overview, test preparation, test equipment, specimen the collection and storage, test conditions, test procedure and test results.

This standard applies to the determination of the acute toxicity of industrial waste water fish.

### 2 Methods Summary

By this standard fish median lethal concentration LC50 (Medianlethalconcentration) assess fish acute toxicity test substance.

Feeding trials some time in an aqueous solution of the test substance in fish to 96h as a test cycle, 24h, 48h, 72h and 96h when Hutchison Fish mortality recorded test to determine the concentration of test substance in fish deaths by 50%, with a median lethal concentration 24hLC50, 48hLC50, 72hLC50 and 96hLC50 representation.

**NOTE:** LC50 fish is not an acceptable concentration of no effect, no effect of fish acceptable concentration required by the subacute toxicity, chronic toxicity test was measured. LC50 Value multiplied by an appropriate coefficient can be estimated fish acceptable concentration had no

effect, as is usually 48hLC50 multiplication factor of about 0.1, 96hLC50 Multiplication factor of about 0.01. Test fish species, health status and dilution water quality, water temperature and so will have an impact LC50, and the impact of this quantitative relationship is unclear, so when the waters of the biological effects of emissions on the study can be selected with the discharge waters natural conditions Similar pieces of fish and water dilution test. When comparing different substances toxicity or toxicity studies the causes, the same should be used for the test species and test Experimental conditions. This standard describes the determination of the LC50, the test conditions as close as possible without departing from the discharge waters this purpose.

### 3.1 Test fish

#### 3.1.1

Test fish should meet the following criteria. the size of unity, health, and other readily available. Generally suitable for use as test fish types are.

##### 3.1.1.1

salmon genus (rainbow trout, brook trout, Masu salmon, big mouth, etc.);

##### 3.1.1.2

Class carp (carp, crucian carp, with wide fin fish Zhan?); Type (blue, green Fei, etc.);

Section 3.1.1.3 flowers (flowers, mosquito fish, etc.).

#### 3.1.2

Test Using the same fish size should be roughly the same as the entire length of the largest fish should not exceed 1.5 times the minimum total length of the fish.

#### 3.1.3

Fish should use the full length of 50mm or less (if the test with a larger fish should be used with the corresponding large test tank).

#### 3.1.4

of the same fish used in the test, should be fed under the same conditions. Test fish before starting test shall be holding at least one week in the laboratory (Preferably to 10d or 10d above).

#### 3.1.5

holding period, 1d vote feed once, before the start of the test stop 2d vote feed. Test should be used healthy fish before the test 4d Inside, dead fish and fish if the amount exceeds 10% of the sick, the batch shall not be used.

**Note:** When it comes to the discharge waters, in addition to testing the fish need to meet the basic conditions of 3.1, the need to consider the development of fisheries, ecological protection and environment toxicants Tolerance and other factors.

### 3.2 Dilution water

Dilution water the dilution water that is used in the test substance. At the time of discharge waters research, upstream water discharge site is the desired dilute Release water. If the desired dilution water is difficult to obtain, you can add the necessary chemicals formulated in water to prepare a solution of water should be discharged waters pH value quality, oxygen demand or consumption base, salt content and other indicators about the same. If the dilution water collection contains more suspended matter can be by sedimentation or filtration to remove suspended matter before use.

Without considering the discharge waters, you can use free of special ingredients, pH value of 7 or so high-well water or tap water (except Chlorine out of tap water) as the dilution water. Dilution water should be thoroughly stirred to make it fully dissolved oxygen.