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

SN/T 3879-2014

**Safety requirements and test methods for child-resistance for
lighters**

打火机防止儿童开启安全要求及测试方法

(English Translation)

Issued on: January 13, 2014

Implemented on: August 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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1 Scope

This standard specifies the safety requirements and test methods for child-resistant opening devices of lighters.

This standard is suitable for testing the anti-child opening performance of lighters.

This standard does not apply to novelty lighters.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

ISO 9994 Lighters - Safety specification

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Lighter

A manually operated ignition device, which is filled with no more than 10 g of fuel.

The fuel is composed of butane or other flammable or liquid hydrocarbons. It is usually used to ignite cigarettes, pipes, etc.; it can also be used to ignite paper, oil ropes, candles, lanterns or other flammable materials.

Note: Lighters cannot be used as candles, flashlights or other long-lasting burning devices.

3.2

Resistant compression lighter

A lighter with a weighted spring attached to the piezoelectric push button. The pressing force required to open it is much greater than that of ordinary lighters; it is difficult for children under 51 months to open it. It can be regarded as a lighter that prevents children from opening it.

3.3

Novelty lighter

A lighter, including a case or other accessories combined with it, which is likely to attract children under the age of 51 months, usually has entertainment sound effects or animation effects. Novelty lighters use a variety of fuels, including butane and liquid fuel. Novelty lighters include, but are not limited to, the following: lighters and lighter cases that resemble cartoon characters, toys, guns, watches, telephones, musical instruments, vehicles, human bodies or human body parts, animals, food or beverages, or emitting musical notes, having flashing lights, movable parts or other features that provide certain entertainment, but do not include logos, trademarks, decals, pictures or wrapped colored papers printed on the lighter.

3.4

Surrogate lighter

A device that has the same appearance, dimensions, weight, operation as a real lighter. The device is not supplied with fuel and cannot produce a flame, but can produce a clear visual or audible signal when successfully operated.

Note: A real lighter can be used as a surrogate lighter, but the lighter shall be drained of fuel.

4 Safety requirements

4.1

Lighters shall comply with the requirements of ISO 9994.

4.2 For lighters that prevent children from opening by increasing the operating force

(resistant compression lighters), there is no requirement that a child test team be used to test their safety, BUT they shall meet the following technical parameter requirements:

- a) Push-button lighter: 42 N (pressing force);
- b) Lever lighter: 40 N (pressing force);

c) Incline lighter: 20 N (rebound force);

d) Grinding wheel lighter: The spark occurrence rate shall not be greater than 40%.

4.3 Lighters that are operated to prevent children from being opened shall be tested by a child test team; the lighter shall be able to prevent 85% of children from opening. See Chapter 5 for specific test methods.

months;

- If the date difference exceeds 15 (such as 16, 17), add 1 month;

- If the date difference is less than -15 (such as -16, -17), then subtract one month, for example: 50 months - 1 month = 49 months;

- If the date difference is between -15 ~ 15 (such as -15, -14...14, 15), it will neither add nor reduce one month.

5.1.4 Children with long-term illness, temporary illness, injury, or any other condition

that may affect the test results are not allowed to participate in the test.

5.1.5 Two children participate in the test of surrogate lighters at the same time.

5.1.6 Each child may not participate in more than one test group, or test more than one surrogate lighters. Children cannot participate in other child-resistant packaging tests on the same day.

5.2.1 Test location

5.2.1.1

Surrogate lighters need to be tested within the territory of the People's Republic of China.

5.2.1.2

Each test group is tested at 5 or more locations. The testing location can be a nursery, kindergarten or full-time care center where the children participating in the test are located. No more than 20 children will be tested at each testing location.

5.2.1.3

If the children in the test group come from different areas, they will be concentrated in one or more testing locations.

5.2.2 Test environment

Surrogate lighters shall be tested in the following environments:

- a) In a room that is familiar to the child (for example, a room in a nursery or kindergarten

where the child often attends);

b) In places that may be unfamiliar to children, testers shall allow children at least 5 minutes to familiarize themselves with the new environment before starting the test;

c) The environment of the test area shall be bright and away from entertainment facilities;

d) Two children shall sit side by side on chairs approximately 15 cm apart and a table away from the tester. Children are free to play with their surrogate lighters as long as the testers could see them at the same time. Test tables and chairs shall be child- friendly, so that they can have their feet on the floor and their arms resting comfortably on the table.

5.2.3 Testers

Testers are required to be over 18 years old and familiar with the language of the testing location. They shall receive unified training, including demonstrating actions and using words for children. Each test group requires 5 or 6 testers, with each tester testing approximately the same number of children.

5.3 Surrogate lighters

5.3.1

All surrogate lighters must have the same color; the force required to open them shall be consistent with the officially sold product.

5.3.2

Each test group shall ensure that 6 intact surrogate lighters are used for testing.

The surrogate lighters shall not be exposed to excessive heat or cold during the test.

Surrogate lighters can be used with multiple test groups.

5.3.3

Each surrogate lighter is tested on the same number of children within the test group, approximately (17 ± 2) children. If the surrogate lighter is damaged during testing, proceed with the remaining surrogate lighter.

5.3.4

Before testing begins, each surrogate lighter is inspected to confirm that it has the same appearance, size, shape, weight as the officially marketed product.

5.3.5

Before and after the test, the force required to turn on each surrogate lighter shall be checked, to confirm that it is within a reasonable range and will not affect the test results of normal operation by children.