

§ 1210.3

(f) *Surrogate lighter* means a device that: approximates the appearance, size, shape, and weight of, and is identical in all other factors that affect child resistance (including operation and the force(s) required for operation), within reasonable manufacturing tolerances, to, a lighter intended for use by consumers; has no fuel; does not produce a flame; and produces an audible or visual signal that will be clearly discernible when the surrogate lighter is activated in each manner that would normally produce a flame in a production lighter. (This definition does not require a lighter to be modified with electronics or the like to produce a signal. Manufacturers may use a lighter without fuel as a surrogate lighter if a distinct signal such as a "click" can be heard clearly when the mechanism is operated in each manner that would produce a flame in a production lighter and if a flame cannot be produced in a production lighter without the signal. *But see* §1210.4(f)(1).)

(g) *Model* means one or more cigarette lighters from the same manufacturer or importer that do not differ in design or other characteristics in any manner that may affect child-resistance. Lighter characteristics that may affect child-resistance include, but are not limited to, size, shape, case material, and ignition mechanism (including child-resistant features).

[58 FR 37584, July 12, 1993, as amended at 69 FR 19763, Apr. 14, 2004]

§ 1210.3 Requirements for cigarette lighters.

(a) A lighter subject to this part 1210 shall be resistant to successful operation by at least 85 percent of the child-test panel when tested in the manner prescribed by § 1210.4.

(b) The mechanism or system of a lighter subject to this part 1210 that makes the product resist successful operation by children must:

- (1) Reset itself automatically after each operation of the ignition mechanism of the lighter,
- (2) Not impair safe operation of the lighter when used in a normal and convenient manner,
- (3) Be effective for the reasonably expected life of the lighter, and

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(4) Not be easily overridden or deactivated.

§ 1210.4 Test protocol.

(a) *Child test panel.* (1) The test to determine if a lighter is resistant to successful operation by children uses a panel of children to test a surrogate lighter representing the production lighter intended for use. Written informed consent shall be obtained from a parent or legal guardian of a child before the child participates in the test.

(2) The test shall be conducted using at least one, but no more than two, 100-child test panels in accordance with the provisions of §1210.4(f).

(3) The children for the test panel shall live within the United States.

(4) The age and sex distribution of each 100-child panel shall be:

- (i) 30 +or- 2 children (20 +or- 1 males; 10 +or- 1 females) 42 through 44 months old;
- (ii) 40 +or- 2 children (26 +or- 1 males; 14 +or- 1 females) 45 through 48 months old;
- (iii) 30 +or- 2 children (20 +or- 1 males; 10 +or- 1 females) 49 through 51 months old.

NOTE: To calculate a child's age in months:

1. Subtract the child's birth date from the test date.

	Month	Day	Year
Test Date	8	3	94
Birth Date	6	23	90
Difference	2	-20	4

2. Multiply the difference in years by 12 months.

4 years × 12 months = 48 months.

3. Add the difference in months.

48 months + 2 months = 50 months.

4. If the difference in days is greater than 15 (e.g. 16, 17), add 1 month.

If the difference in days is less than -15 (e.g., -16, -17) subtract 1 month.

50 months - 1 month = 49 months.

If the difference in days is between -15 and 15 (e.g., -15, -14, ... 14, 15), do *not* add or subtract 1 month.

(5) No child with a permanent or temporary illness, injury, or handicap that would interfere with the child's ability to operate the surrogate lighter shall be selected for participation.

(6) Two children at a time shall participate in testing of surrogate lighters. Extra children whose results will not be counted in the test may be used if necessary to provide the required partner for test subjects, if the extra children are within the required age range and a parent or guardian of each such child has signed a consent form.

(7) No child shall participate in more than one test panel or test more than one surrogate lighter. No child shall participate in both child-resistant package testing and surrogate lighter testing on the same day.

(b) *Test sites, environment, and adult testers.* (1) Surrogate lighters shall be tested within the United States at 5 or more test sites throughout the geographical area for each 100-child panel if the sites are the customary nursery schools or day care centers of the participating children. No more than 20 children shall be tested at each site. In the alternative, surrogate lighters may be tested within the United States at one or more central locations, provided the participating children are drawn from a variety of locations within the geographical area.

(2) Testing of surrogate lighters shall be conducted in a room that is familiar to the children on the test panel (for example, a room the children frequent at their customary nursery school or day care center). If the testing is conducted in a room that initially is unfamiliar to the children (for example, a room at a central location), the tester shall allow at least 5 minutes for the children to become accustomed to the new environment before starting the test. The area in which the testing is conducted shall be well-lighted and isolated from distractions. The children shall be allowed freedom of movement to work with their surrogate lighters, as long as the tester can watch both children at the same time. Two children at a time shall participate in testing of surrogate lighters. The children shall be seated side by side in chairs approximately 6 inches apart, across a table from the tester. The table shall be normal table height for the children, so that they can sit up at the table with their legs underneath and so that their arms will be at a comfortable

height when on top of the table. The children's chairs shall be "child-size."

(3) Each tester shall be at least 18 years old. Five or 6 adult testers shall be used for each 100-child test panel. Each tester shall test an approximately equal number of children from a 100-child test panel (20 +or- 2 children each for 5 testers and 17 +or- 2 children each for 6 testers).

NOTE: When a test is initiated with five testers and one tester drops out, a sixth tester may be added to complete the testing. When a test is initiated with six testers and one tester drops out, the test shall be completed using the five remaining testers. When a tester drops out, the requirement for each tester to test an approximately equal number of children does not apply to that tester. When testing is initiated with five testers, no tester shall test more than 19 children until it is certain that the test can be completed with five testers.

(c) *Surrogate lighters.* (1) Six surrogate lighters shall be used for each 100-child panel. The six lighters shall represent the range of forces required for operation of lighters intended for use. All surrogate lighters shall be the same color. The surrogate lighters shall be labeled with sequential numbers beginning with the number one. The same six surrogate lighters shall be used for the entire 100-child panel. The surrogate lighters may be used in more than one 100-child panel test. The surrogate lighters shall not be damaged or jarred during storage or transportation. The surrogate lighters shall not be exposed to extreme heat or cold. The surrogate lighters shall be tested at room temperature. No surrogate lighter shall be left unattended.

(2) Each surrogate lighter shall be tested by an approximately equal number of children in a 100-child test panel (17 +or- 2 children).

NOTE: If a surrogate lighter is permanently damaged, testing shall continue with the remaining lighters. When a lighter is dropped out, the requirement that each lighter be tested by an approximately equal number of children does not apply to that lighter.

(3) Before each 100-child panel is tested, each surrogate lighter shall be examined to verify that it approximates the appearance, size, shape, and weight of a production lighter intended for use.

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(4) Before and after each 100-child panel is tested, force measurements shall be taken on all operating components that could affect child resistance to verify that they are within reasonable operating tolerances for a production lighter intended for use.

(5) Before and after testing surrogate lighters with each child, each surrogate lighter shall be operated outside the presence of any child participating in the test to verify that the lighters produce a signal. If the surrogate lighter will not produce a signal before the test, it shall be repaired before it is used in testing. If the surrogate lighter does not produce a signal when it is operated after the test, the results for the preceding test with that lighter shall be eliminated. The lighter shall be repaired and tested with another eligible child (as one of a pair of children) to complete the test panel.

(d) *Encouragement.* (1) Prior to the test, the tester shall talk to the children in a normal and friendly tone to make them feel at ease and to gain their confidence.

(2) The tester shall tell the children that he or she needs their help for a special job. The children shall not be promised a reward of any kind for participating, and shall not be told that the test is a game or contest or that it is fun.

(3) The tester shall not discourage a child from attempting to operate the surrogate lighter at any time unless a child is in danger of hurting himself or another child. The tester shall not discuss the dangers of lighters or matches with the children to be tested prior to the end of the 10-minute test.

(4) Whenever a child has stopped attempting to operate the surrogate lighter for a period of approximately one minute, the tester shall encourage the child to try by saying "keep trying for just a little longer."

(5) Whenever a child says that his or her parent, grandparent, guardian, etc., said never to touch lighters, say "that's right — never touch a real lighter — but your [parent, etc.] said it was OK for you to try to make a noise with this special lighter because it can't hurt you."

(6) The children in a pair being tested may encourage each other to operate

the surrogate lighter and may tell or show each other how to operate it. (This interaction is *not* considered to be disruption as described in paragraph (e)(2) below.) However, neither child shall be allowed to operate the other child's lighter. If one child takes the other child's surrogate lighter, that surrogate lighter shall be immediately returned to the proper child. If this occurs, the tester shall say "No. He(she) has to try to do it himself(herself)."

(e) *Children who refuse to participate.*

(1) If a child becomes upset or afraid, and cannot be reassured before the test starts, select another eligible child for participation in that pair.

(2) If a child disrupts the participation of another child for more than one minute during the test, the test shall be stopped and both children eliminated from the results. An explanation shall be recorded on the data collection record. These two children should be replaced with other eligible children to complete the test panel.

(3) If a child is not disruptive but refuses to attempt to operate the surrogate lighter throughout the entire test period, that child shall be eliminated from the test results and an explanation shall be recorded on the data collection record. The child shall be replaced with another eligible child (as one of a pair of children) to complete the test panel.

(f) *Test procedure.* (1) To begin the test, the tester shall say "I have a special lighter that will not make a flame. It makes a noise like this." Except where doing so would block the child's view of a visual signal, the adult tester shall place a 8½ by 11 inch sheet of cardboard or other rigid opaque material upright on the table in front of the surrogate lighter, so that the surrogate lighter cannot be seen by the child, and shall operate the surrogate lighter once to produce its signal. The tester shall say "Your parents [or other guardian, if applicable] said it is OK for you to try to make that noise with your lighter." The tester shall place a surrogate lighter in each child's hand and say "now *you* try to make a noise with your lighter. Keep trying until I tell you to stop."

(2) The adult tester shall observe the children for 5 minutes to determine if

either or both of the children can successfully operate the surrogate lighter by producing one signal of any duration. If a child achieves a spark without defeating the child-resistant feature, say "that's a spark — it won't hurt you — try to make the noise with your lighter." If any child successfully operates the surrogate lighter during this period, the surrogate lighter shall be taken from that child and the child shall not be asked to try to operate the lighter again. The tester shall ask the successful child to remain until the other child is finished.

(3) If either or both of the children are unable to successfully operate the surrogate lighter during the 5-minute period specified in §1210.4(f)(2), the adult tester shall demonstrate the operation of the surrogate lighter. To conduct the demonstration, secure the children's full attention by saying "Okay, give me your lighters now." Take the lighters and place them on the table in front of you out of the children's reach. Then say, "I'll show you how to make the noise with your lighters. First I'll show you with (child's name)'s lighter and then I'll show you with (child's name)'s lighter." Pick up the first child's lighter. Hold the lighter approximately two feet in front of the children at their eye level. Hold the lighter in a vertical position in one hand with the child-resistant feature exposed (not covered by fingers, thumb, etc.) Orient the child-resistant mechanism on the lighter toward the children. (This may require a change in your orientation to the children such as sitting sideways in the chair to allow a normal hand position for holding the lighter while assuring that both children have a clear view of the mechanism. You may also need to reposition your chair so your hand is centered between the children.) Say "now watch the lighter." Look at each child to verify that they are looking at the lighter. Operate the lighter one time in a normal manner according to the manufacturer's instructions. Do not exaggerate operating movements. Do not verbally describe the lighter's operation. Place the first child's lighter back on the table in front of you and pick up the second child's lighter. Say, "Okay, now watch this lighter." Re-

peat the demonstration as described above using the second child's lighter.

NOTE: Testers shall be trained to conduct the demonstration in a uniform manner, including the words spoken to the children, the way the lighter is held and operated, and how the tester's hand and body is oriented to the children. All testers must be able to operate the surrogate lighters using only appropriate operating movements in accordance with the manufacturer's instructions. If any of these requirements are not met during the demonstration for any pair of children, the results for that pair of children shall be eliminated from the test. Another pair of eligible children shall be used to complete the test panel.

(4) Each child who fails to successfully operate the surrogate lighter in the first 5 minutes is then given another 5 minutes in which to attempt the successful operation of the surrogate lighter. After the demonstrations give their original lighters back to the children by placing a lighter in each child's hand. Say "Okay, now you try to make the noise with your lighters - keep trying until I tell you to stop." If any child successfully operates the surrogate lighter during this period, the surrogate lighter shall be taken from that child and the child shall not be asked to try to operate the lighter again. The tester shall ask the successful child to remain until the other child is finished.

(5) At the end of the second 5-minute test period, take the surrogate lighter from any child who has not successfully operated it.

(6) After the test is over, ask the children to stand next to you. Look at the children's faces and say: "These are special lighters that don't make fire. Real lighters can burn you. Will you both promise me that you'll never try to work a real lighter?" Wait for an affirmative response from each child; then thank the children for helping.

(7) Escort the children out of the room used for testing.

(8) After a child has participated in the testing of a surrogate lighter, and on the same day, provide written notice of that fact to the child's parent or guardian. This notification may be in the form of a letter provided to the school to be given to the parents or

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guardian of each child. The notification shall state that the child participated, shall ask the parent or guardian to warn the child not to play with lighters, and shall remind the parent or guardian to keep all lighters and matches, whether child resistant or not, out of the reach of children. For children who operated the surrogate lighter, the notification shall state that the child was able to operate the child-resistant lighter. For children who do not defeat the child-resistant feature, the notification shall state that, although the child did not defeat the child-resistant feature, the child may be able to do so in the future.

(g) *Data collection and recording.* Except for recording the times required for the children to activate the signal, recording of data should be avoided while the children are trying to operate the lighters, so that the tester's full attention is on the children during the test period. If actual testing is videotaped, the camera shall be stationary and shall be operated remotely in order to avoid distracting the children. Any photographs shall be taken *after* actual testing and shall simulate actual test procedure(s) (for example, the demonstration). The following data shall be collected and recorded for each child in the 100-child test panel:

- (1) Sex (male or female).
- (2) Date of birth (month, day, year).
- (3) Age (in months, to the nearest month, as specified in § 1210.4(a)(4)).
- (4) The number of the lighter tested by that child.
- (5) Date of participation in the test (month, day, year).
- (6) Location where the test was given (city, state, country, and the name of the site or an unique number or letter code that identifies the test site).
- (7) The name of the tester who conducted the test.
- (8) The elapsed time (to the nearest second) at which the child achieved any operation of the surrogate signal in the first 5-minute test period.
- (9) The elapsed time (to the nearest second) at which the child achieved any operation of the surrogate signal in the second 5-minute test period.
- (10) For a single pair of children from each 100-child test panel, photograph(s) or video tape to show how the lighter

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was held in the tester's hand, and the orientation of the tester's body and hand to the children, during the demonstration.

(h) *Evaluation of test results and acceptance criterion.* To determine whether a surrogate lighter resists operation by at least 85 percent of the children, sequential panels of 100 children each, up to a maximum of 2 panels, shall be tested as prescribed below.

(1) If no more than 10 children in the first 100-child test panel successfully operated the surrogate lighter, the lighter represented by the surrogate lighter shall be considered to be resistant to successful operation by at least 85 percent of the child test panel, and no further testing is conducted. If 11 through 18 children in the first 100-child test panel successfully operate the surrogate lighter, the test results are inconclusive, and the surrogate lighter shall be tested with a second 100-child test panel in accordance with this § 1210.4. If 19 or more of the children in the first 100-child test panel successfully operated the surrogate lighter, the lighter represented by the surrogate shall be considered not resistant to successful operation by at least 85 percent of the child test panel, and no further testing is conducted.

(2) If additional testing of the surrogate lighter is required by § 1210.4(h)(1), conduct the test specified by this § 1210.4 using a second 100-child test panel and record the results. If a total of no more than 30 of the children in the combined first and second 100-child test panels successfully operated the surrogate lighter, the lighter represented by the surrogate lighter shall be considered resistant to successful operation by at least 85 percent of the child test panel, and no further testing is performed. If a total of 31 or more children in the combined first and second 100-child test panels successfully operate the surrogate lighter, the lighter represented by the surrogate lighter shall be considered not resistant to successful operation by 85 percent of the child test panel, and no further testing is conducted.

TABLE 1—EVALUATION OF TEST RESULTS—
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Test panel	Cumulative Number of Children	Successful Lighter Operations		
		Pass	Continue	Fail
1	100	0-10	11-18	19 or more
1	200	11-30	—	31 or more

§ 1210.5 Findings.

Section 9(f) of the Consumer Product Safety Act, 15 U.S.C. 2058(f), requires the Commission to make findings concerning the following topics and to include the findings in the rule.

(a) *The degree and nature of the risk of injury the rule is designed to eliminate or reduce.* The standard is designed to reduce the risk of death and injury from accidental fires started by children playing with lighters. From 1988 to 1990, an estimated 160 deaths per year resulted from such fires. About 150 of these deaths, plus nearly 1,100 injuries and nearly \$70 million in property damage, resulted from fires started by children under the age of 5. Fire-related injuries include thermal burns — many of high severity — as well as anoxia and other, less serious injuries. The annual cost of such fires to the public is estimated at about \$385 million (in 1990 dollars). Fires started by young children (under age 5) are those which the standard would be most effective at reducing.

(b) *The approximate number of consumer products, or types or classes thereof, subject to the rule.* The standard covers certain flame-producing devices, commonly known as lighters, which are primarily intended for use in lighting cigarettes and other smoking materials. Lighters may be gas- or liquid-fueled, mechanical or electric, and of various physical configurations. Over 600 million lighters are sold annually to consumers in the U.S.; over 100 million are estimated to be in use at any given time. Over 95 percent of all lighters sold are pocket-sized disposable butane models; of the remaining 5 percent, most are pocket refillable butane models. A small proportion of refillables is comprised of pocket liquid-fuel models; still smaller proportions are represented by table lighters and by “novelty” lighters, that is,

those having the physical appearance of other specific objects. Approximately 600 million pocket butane disposables (nonrefillable), 15-20 million pocket butane refillables, 5-10 million pocket liquid-fuel refillables, and 1-3 million novelty and other lighters were sold to consumers in 1991. The standard covers disposable lighters, including inexpensive butane refillables, and novelty lighters. Roughly 30 million households have at least one lighter; ownership of more than one lighter is typical, especially among smoking households.

(c) *The need of the public for the consumer products subject to the rule, and the probable effect of the rule on the utility, cost, or availability of such products to meet such need.* Consumers use lighters primarily to light smoking materials. Most other lighting needs that could be filled by matches may also be filled by lighters. Disposable butane lighters are, chiefly by virtue of their low price and convenience, the closest available substitutes for matches. Although matches are found in far more households, lighters have steadily replaced matches since the 1960’s as the primary light source among American consumers. The standard generally requires that lighters not be operable by most children under 52 months of age. This would likely be achieved by modifying products to incorporate additional-action switches, levers, or buttons, thereby increasing the difficulty of product activation. Depending on the method of compliance chosen by manufacturers, there could be some adverse effect on the utility of lighters. This may occur to the extent that operation of the products by adult users is made more difficult by the incorporation of child-resistant features. This may lead some consumers to switch to matches, at least temporarily, which could reduce the expected level of safety provided by the standard. In addition, some “novelty” lighters will probably be discontinued, due to the technical difficulty of incorporating child-resistant features or designs. Some loss of utility derived from those products by collectors or other users