

## **INVESTIGATION GUIDELINE**

### **Child Play Lighter Fires**

#### **I. INTRODUCTION**

##### **A. Background Information**

The CPSC standard to require child-resistant cigarette lighters took effect for products manufactured or imported after July 12, 1994. That standard applied to most cigarette lighters on the market but did not cover most refillable lighters or "luxury" lighters. CPSC staff believes that most cigarette lighters now in the hands of consumers were manufactured to meet this standard. The standard is expected to reduce fires primarily among young children, most children under age five.

In 1995, the most recent year for which fire loss estimates are available, there were an estimated 8,200 residential structure fires caused by children playing with lighters. These fires caused 180 deaths, 1,220 injuries, and \$115.7 million in property loss. CPSC needs to evaluate the effectiveness of the standard to determine the factors involved in the remaining child play fires.

A special study will be conducted in FY 1998 to collect data on child play lighter fires. Local fire departments enlisted by CPSC field staff will provide data to CPSC following the instructions provided in Attachment A. The information needed is further described in the Lighter Study Training Video, October 1997, produced for fire department use.

CPSC field staff will monitor incidents reported by the departments, collect additional information as specified below, and transmit lighter samples to headquarters. If fire department documents do not include the information requested, field staff should attempt to obtain needed information from appropriate sources. A Summary of Required Documentation is included on Page 5. The normal pre/post investigation narrative format may be abbreviated to the extent that the needed information is included in the investigation attachments.

##### **B. Product Description**

Fires involving all kinds of flame-producing lighters are included in this data collection-- cigarette, pipe, cigar, and multi-purpose lighters. Study data will be applied to national estimates of lighter fires, based on national fire reporting codes which include all types of lighters.

### **C. Specific Items of Interest**

Items of particular interest are the ages of the children who started the fires, the types of lighters involved, and details of the lighter ignition mechanisms. Because lighter ignition mechanisms are difficult to identify accurately, collection of the lighters involved when the fire starter is under age five is critical to the success of the study.

## **II. INSTRUCTIONS FOR COLLECTING SPECIFIC INFORMATION**

### **A. Synopsis**

Each incident must have a Form 182 cover sheet that includes a synopsis. Provide the age of the fire starter, general type of lighter involved, occurrence of deaths or injuries, item ignited, and sample collection number if appropriate.

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For computerized data retrieval, please use the following words when appropriate, cigarette, pipe, cigar, multi-purpose, mattress, bedding, upholstered furniture.

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### **B. Description of the Incident**

A copy of the Fire Incident Report must be included for every in-scope fire. Be sure the necessary information is specified in the Incident Report, other documents, or the CPSC narrative. In particular, the following information is needed:

Type of Situation (only Structure Fire is in-scope)  
Fixed Property Use (only Residential is in-scope, '400' series codes)  
Form of Heat (only Lighter is in-scope)  
Ignition Factor (only Child Play is in-scope)  
Material(or item) First Ignited (needs to be identified)  
Number of Civilian Deaths  
Number of Civilian Injuries  
Estimated Property Loss (structure and contents)  
Detector Performance

**If the fire starter was age five or older, or could have been a child of this age,** the age should be cited in the Fire Incident Report margin, along with the general type of lighter involved (cigarette, pipe, cigar, multi-purpose). If several children were playing together and you can't tell which one started the fire, the ages of all the children involved should be cited in the Incident Report margin

**If the fire starter was under age five,** also obtain the following from the fire department:

- 1) Child Play Lighter Fire Questionnaire,
- 2) The lighter involved (Collect and transmit sample, or if necessary, photographs, or an explanation for why the sample is missing),
- 3) If a death or injury occurred, include copies of the fire department Casualty Reports (There should be one for each person injured),
- 4) Copies of any other narrative or investigative reports on the incident completed by the fire service.

#### **Information on Item First Ignited**

If the item ignited by the lighter was upholstered furniture, a mattress, or bedding, complete the appropriate data record sheet (Attachment B for ignition of upholstered furniture, Attachment C for ignition of mattresses/bedding). If upholstered furniture was ignited, CPSC is particularly interested in determining where on the furniture the fire first ignited -- seating area, underside, skirt, outer side, or outer back. If a mattress or bedding was ignited, we are particularly interested in determining the specific item that ignited first -- mattress, sheet, blanket, etc. If the mattress ignited first, indicate the initial point of ignition on the mattress. If bedding ignited first, indicate fabric type. This information will probably require contact with the occupants, since fire departments don't usually collect these details.

#### **C. Description of the Injured Person(s), Person(s) Starting Fire, and Product Interaction**

The age and sex of the child who started the fire must be specified, either in the study questionnaire or in the margin of the fire incident report. If multiple children were playing with the product before the fire, specify all their ages and sexes.

Describe and obtain documentation on any deaths and the extent of injuries and treatment from appropriate sources. Information on treatment details is not generally included in fire department reports.

Section B of the Lighter Study questionnaire should describe what the child did after the fire started--e.g, what was done with the lighter, did the child tell anyone. Section B should indicate any history of child play with either this lighter or other lighters or matches and the location and activity of caregiver at time of fire.

#### **D. Description of the Product**

The Lighter Study questionnaire, Section A, lists the product information we wish to obtain. Product features are shown in the Lighter Study Training Video, October 1997.

#### **E. Product Safety Standards**

16 CFR 1210 Safety Standard for Cigarette Lighters, effective for products manufactured or imported after July 12, 1994.

### **III. INSTRUCTIONS FOR PHOTOGRAPHING AND/OR DIAGRAMMING INCIDENT SCENE AND FACTORS RELATED TO THE INCIDENT SEQUENCE**

If the child who started the fire is under age five, photograph the lighter involved, if it cannot be collected by CPSC as a sample. We are particularly interested in documenting the lighter ignition mechanism, any areas showing where a child-resistant mechanism has been removed, and any features that indicate that the lighter might be a novelty lighter. See attached illustration of the level of photographic detail required (Attachment D).

Diagrams are particularly useful for showing the point on a piece of furniture or mattress where ignition started.

### **IV. INSTRUCTIONS FOR OBTAINING SAMPLES AND DOCUMENTS RELATED TO THE INVESTIGATION**

Obtain a copy of the fire incident report in all cases. If the fire starter was under age five, also obtain copies of the fire department casualty reports and any fire department narrative reports, medical records documenting deaths or injuries, and any other police or insurance reports documenting the incident. Collect the lighter involved when the fire starter was under age 5. Include the assignment task number on the sample collection report.

**SUMMARY OF REQUIRED DOCUMENTATION  
LIGHTER EVALUATION STUDY**

**ALL CASES**

Meets in-scope requirements:  
Residential structure fire  
Lighter  
Child Play

**IF FIRE STARTER AGE FIVE OR OVER OR UNKNOWN**

Fire Incident Report  
Number of Injuries and Deaths  
Form 182  
Age of Fire Starter  
Type of Lighter  
Mattress or Upholstered Furniture Data Record Sheet (if applicable)

**IF FIRE STARTER UNDER AGE FIVE**

Fire Incident Report  
Casualty Reports if applicable  
Study Questionnaire  
Form 182  
Number of Deaths and Injuries  
Follow-up on severity if a death or injury occurred  
Item First Ignited  
Mattress or Upholstered Furniture Data Record Sheet (if applicable)  
Sample, photos, or explanation of why missing

Attachment A

Attachment B

Attachment C

Attachment D

## INSTRUCTIONS

### CHILD PLAY LIGHTER FIRES

Special Study for the U.S. Consumer Product Safety Commission (CPSC)

#### Background:

The CPSC standard on child-resistant cigarette lighters became effective for lighters manufactured or imported after July 12, 1994. Under this standard, most children under age five must be unable to operate disposable lighters, inexpensive refillable lighters, and certain novelty cigarette lighters. CPSC needs to determine how effective this standard has been in reducing child play fires. CPSC needs to obtain details of every child play lighter fire seen by your department, including those involving multi-purpose lighters. The critical features of interest are the age of the child who started the fire and the identification of the lighter involved.

#### The Study Includes:

**All** residential structure fires caused by children playing with lighters. Include incidents that meet all the following criteria:

- 1) Situation Found = Structure Fire (Type of Situation=11)
- 2) Fixed Property Use = All Residential (Fixed Property Use=400-499)
- 3) Form of Heat of Ignition = Flame Type Lighter (Form of Heat of Ignition=46)
- 4) Ignition Factor = Child Playing, Misuse of Heat or Material (Ignition Factor=36 or 48)

Include all kinds of lighters — cigarette, cigar, and multipurpose (sometimes called grill or fireplace lighters). Do **not** include fires caused by juvenile arson.

#### How to Report:

**If the fire starter is believed to be age 5 or older, OR** one of the children playing with the lighter was **age 5 or older** and you are not sure which child started the fire:

- Send **only** the Fire Incident Report with age of fire starter (or all ages involved) and type of lighter (cigarette, multi-purpose) in the margin. Do not complete the special study questionnaire.

**If the fire starter is believed to be under age 5 (has not reached 5th birthday),**

- Complete the special study questionnaire, Child Play Lighter Fires.
- Attach copies of the Fire Incident Report, Casualty Reports, and any other narrative or investigative reports on the incident.
- Collect lighter. Place in plastic zipper bag labeled with incident number, date of fire, and city. If CPSC cannot take the lighter, collect and hold for CPSC to photograph identifying information (e.g., brand,) and ignition mechanism.

Send all samples and completed documents to your designated fire department contact for transmittal to the Consumer Product Safety Commission.

## CHILD PLAY LIGHTER FIRES

Special Study for the U.S. Consumer Product Safety Commission (CPSC)

**Instructions: Complete this form only for a residential structure fire caused by a child under age five (has not reached fifth birthday) playing with a lighter. Attach Fire Incident and Casualty Reports.** (For all other child play lighter fires, complete only a Fire Incident Report with age of the fire starter and type of lighter cited in the margin.)

**Circle appropriate responses or fill in the blanks as appropriate.**

City, State \_\_\_\_\_ Incident Number \_\_\_\_\_ Date of Fire \_\_\_\_\_

Child Who Started Fire: Age \_\_\_\_\_ Birthdate(Mo/Yr) \_\_\_\_\_ Sex \_\_\_\_\_

**A. Lighter Description (from observation or, if necessary, from occupant):**

1. Lighter Availability

- a. Collected for CPSC
- b. Inspected by FD/not providing to CPSC. Current Location \_\_\_\_\_
- c. Not inspected by FD/identification only from occupant

2. Brand name/Manufacturer/Importer/Country of Origin: \_\_\_\_\_

3. Type:

- a. Cigarette
- b. Multi-purpose (grill, BBQ, fireplace) **Skip to Section B.**
- c. Other (specify, e.g., pipe lighter) \_\_\_\_\_
- d. Unknown

4. General physical description/shape (e.g., metal flip top, plastic case with metal top, shape of gun, etc.) \_\_\_\_\_

5. Describe **any** decorative features (e.g., picture of a cowboy, hologram of a rose)

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6. Is (was) lighter or packaging labeled as child-resistant? (e.g., pictures or words showing how to operate)

- a. Yes
- b. No
- c. Unknown

7. Do you have any reason to believe the child-resistant feature was disabled before the fire?

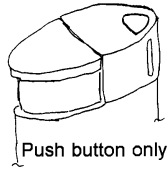
a. Yes, give reason (e.g., tab removed, occupant report) \_\_\_\_\_

b. No

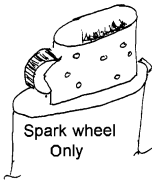
c. Unknown



a .



b .



c .

- e. Push button light
- f. Smooth side wheels
- d. Unknown

#### 8. Ignition mechanism:

General: (circle one)

Specific (circle as many as apply)

- a. Tab, lever, or block under push button
- b. Metal strip over spark wheel
- c. Side wheels spin freely
- d. Push-down & turn spark wheel moves forward to

g. Other (Describe) \_\_\_\_\_

h. Unknown

#### 9. Is lighter refillable (has refill port)?

- a. Yes
- b. No
- c. Unknown

#### 10. Approximate Purchase Price:

- a. Under \$5
- b. \$5 or more
- c. Unknown

### B. Incident Characteristics (from occupant interview):

#### 1. What did the child do after the fire started (sequence of actions)?

\_\_\_\_\_

#### 2. Has this child lit this lighter in the past?

- a. Yes
- b. No
- c. Unknown

#### 3. Has this child been able to light other lighters or matches?

- a. Yes
- b. No
- c. Unknown

#### 4. Was this child playing with other children at time of the fire? If so, cite their ages: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

#### 5. Location and activity of caregiver at the time of the fire:

\_\_\_\_\_

#### 6. Relationship of caregiver to child: \_\_\_\_\_

7. Was the caregiver under the age of 18 at time of fire?

a. Yes, specify age\_\_\_\_\_

b. No

c. Unknown

**Fire Department Contact: Name**\_\_\_\_\_ **Phone No** \_\_\_\_\_

## Attachment A

### Data Recording Sheet for Mattress/Bedding Fires (To be attached to CPSC Form 182, Epidemiologic Investigation Report along with a copy of the Fire Incident Report)

Task Number \_\_\_\_\_

Incident Date \_\_\_\_\_

#### A. MATTRESS DESCRIPTION:

1. Mattress surface type:

- / / Quilted
- / / Smooth
- / / Tufted
- / / Other \_\_\_\_\_
- / / Unknown

2. Material directly under surface ticking:

- / / Polyester fiberfill
- / / Polyurethane foam
- / / Cotton batting
- / / Other \_\_\_\_\_
- / / Unknown

3. Pre- or post-standard construction (estimate to the extent possible):

- / / Pre-standard
- / / Post-standard
- / / Other \_\_\_\_\_
- / / Unknown

4. Purchased:

- / / New
- / / Used. If used, specify how obtained (e.g., garage sale, etc.): \_\_\_\_\_
- / / Unknown

5. Date mattress purchased: \_\_\_\_\_ Mattress age: \_\_\_\_\_

6. Manufacturer/distributor/brand: \_\_\_\_\_

**B. BEDDING:**

7. Bedding items involved in fire:

- / / Mattress pad
- / / Sheet(s)
- / / Blanket(s)
- / / Comforter
- / / Bedspread
- / / Pillow(s)
- / / Dust ruffle
- / / Other \_\_\_\_\_

**C. IGNITION**

8. Ignition source:

- / / Cigarette
- / / Lighter; child-resistant \_\_\_\_ not child-resistant \_\_\_\_ unknown \_\_\_\_
- / / Match; book \_\_\_\_ box \_\_\_\_ unknown \_\_\_\_
- / / Candle
- / / Heater; fuel type \_\_\_\_\_ distance from mattress \_\_\_\_\_
- / / Other \_\_\_\_\_
- / / Unknown

9. Location of mattress ignition (even if bedding was the first item ignited):

- / / Smooth top surface
- / / Tape edge on top of mattress
- / / Quilted or tufted depression on top of mattress
- / / Side of mattress
- / / Underside of mattress
- / / Dust cover on box springs
- / / Other \_\_\_\_\_
- / / Unknown

10. Age of person involved in ignition (if appropriate):

- / / 5 years
- / / 5 -14 years
- / / 15-24 years
- / / 25 - 64 years
- / / 65 + years
- / / Unknown

**E. DETECTION OF FIRE**

11. Detector (smoke, heat, c.o., sprinkler) present?  
/ / Yes; specify type: \_\_\_\_\_  
/ / No  
/ / Unknown
12. Detector went off (alarmed)?  
/ / Yes  
/ / No; possible reasons why not \_\_\_\_\_  
/ / Unknown
13. About how soon was the fire discovered after it started? \_\_\_\_\_

**F. VICTIM(S)**

\_\_\_\_\_ Number of Deaths                      \_\_\_\_\_ Number of Injuries

**G. SOCIO-ECONOMIC DATA**

14. Education level of head of household:  
/ / Less than high school  
/ / High school  
/ / Some college  
/ / Unknown
15. Total household income:  
/ / \$15,000  
/ / \$15,000 - \$34,999  
/ / \$35,000 +  
/ / Unknown
16. Approximate home market value: \_\_\_\_\_  
/ / Rent  
/ / Own  
/ / Unknown

General Description: Provide general description, including all other relevant factors and information in the investigation report.

**Attachment A**

**DATA RECORDING SHEET FOR UPHOLSTERED FURNITURE FIRES**  
**(To be attached to CPSC Form 182, Epidemiologic Investigation Report  
along with a copy of the Fire Incident Report)**

Task Number \_\_\_\_\_ Incident Date \_\_\_\_\_

A. PRODUCT DESCRIPTION: / / Sofa/Couch / / Chair / / Sofa bed / / Other \_\_\_\_\_

1. Was upholstered furniture slipcovered? / / Yes / / No / / Unknown

2. Had it been reupholstered? / / Yes / / No / / Unknown

3. Manufacturer/Distributor/Brand \_\_\_\_\_

4. Purchased: / / New / / Used / / Unknown

If used, specify how obtained (e.g., garage sale, etc.) \_\_\_\_\_

5. Date Furniture Purchased: \_\_\_\_\_ Furniture Age \_\_\_\_\_

6. Standard Certification Labeling; e.g., UFAC or  
California standard: (Copy) \_\_\_\_\_

B. POINT OF FIRE IGNITION ON FURNITURE: Describe where fire started on upholstered furniture.

/ / Skirt / / Seat cushion / / Inside back / / Inside arm

/ / Back / / Side / / Underside / / Crevice

/ / Welt Cord / / Tuft / /

Other \_\_\_\_\_

C. AGE (IN YEARS) OF PERSON INVOLVED IN IGNITION (if appropriate):

/ / LT 5 yrs. old / / 5 - 14 / / 15 - 64 / / 65 +

D. PRODUCT INVOLVED AS HEAT SOURCE AND TYPE (Check):

\_\_\_\_\_ Lighter \_\_\_\_\_ Match \_\_\_\_\_ Candle \_\_\_\_\_ Heater \_\_\_\_\_ Fireplace

\_\_\_\_\_ Other (specify) \_\_\_\_\_

\_\_\_\_\_ Unknown

If lighter, specify type:        / / Child-resistant        / / Not child-resistant        / / Unknown

If match, specify type:        / / Book        / / Box        / / Unknown

If heater, specify fuel source and distance from furniture:

\_\_\_\_\_ Fuel source        \_\_\_\_\_ Distance from furniture

E. DETECTION OF FIRE

7. Detector (smoke, heat, c.o., sprinkler) present?

      / / Yes        / / No        / / Unknown

If yes, specify

type:\_\_\_\_\_

8. Detector went off (alarmed)?

      / / Yes        / / No        / / Unknown

9. If no, do you know any reason why not; e.g., unpowered, fire too small, etc.?

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10. About how soon was the fire discovered after it started?\_\_\_\_\_

F. VICTIM(S)

\_\_\_\_\_ Number of Deaths                      \_\_\_\_\_ Number of Injuries

G. Socio-Economic Data:

11. Education level of head of household:

    / / Less than high school                      / / High school                      / / Some College

12. Total household income:

    / / LT \$15,000                      / / \$15,000 - \$34,999                      / / \$35,000 +

13. Approximate home market value:

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    / / Rent                      / / Own

General Description: Provide general description, including all other relevant factors and information on the investigation form.