
U.S. CONSUMER PRODUCT SAFETY COMMISSION



Office of Compliance

Summary of Fireworks Regulations, 16 C.F.R. Part 1500 & 1507

The U.S. Consumer Product Safety Commission (CPSC) has issued mandatory safety regulations for fireworks devices. The CPSC enforces its fireworks regulations under the Federal Hazardous Substances Act (FHSA), 15 U.S.C. §1261. It is a violation of Federal law to import, distribute or sell fireworks that violate CPSC regulations.

This summary has been developed to familiarize interested parties with the CPSC's fireworks regulations. It does not replace the Commission Statutes or Commission Interpretive Regulations set out in Title 16, Code of Federal Regulations (C.F.R.) Parts 1500 and 1507.

What is the purpose of the fireworks regulations?

These rules aim to prevent injuries and death from hazards from fireworks. The rule requires that:

- (1) Consumer fireworks have warning labels describing the hazard and function of a fireworks device;
- (2) Fireworks sold to consumers for personal use or for use in or around a household must meet certain construction and performance requirements.

The Commission has banned fireworks that do not meet these requirements. The Commission can take legal action and seek penalties against companies or persons that sell, or offer to sell, banned fireworks.

Where can I find the requirements for fireworks?

The labeling requirements are published in the Code of Federal Regulations (C.F.R.) in Title 16, Part 1500.14 and 1500.121.

The specific types of fireworks that are banned are found in the Code of Federal Regulations, Title 16, Part 1500.17 (a)(3), (8), (9) and (11).

The performance and construction requirements are published at Title 16, Part 1507.

What types of fireworks does the CPSC regulate?

- (1) All fireworks devices intended for use by consumers or in and around a household.
- (2) Fireworks that are intended solely for commercial use, such as fireworks used in public displays, are not covered by these regulations. However, any professional or display fireworks device which contains a specific defect that presents a risk to consumers, such as those observing displays, may be subject to the provisions of Section 15 of the Consumer Product Safety Act, 15 U.S.C. §2064.

How do you test a fireworks device to determine if it meets the CPSC's requirements?

The CPSC has a laboratory facility that analyzes each sample of fireworks devices collected by the CPSC's field investigators. Samples are collected on the docks at ports of entry when they are imported, or from manufacturers, distributors and retailers throughout the United States

Once a sample arrives at the laboratory, it is submitted to a set of tests both in a laboratory and at an outdoor firing range. The label is examined to determine if it meets the CPSC's label requirements.

If the fireworks device fails any of the tests, it is a banned hazardous substance under the definition in the Federal Hazardous Substances Act (FHSA, Section 3b) and cannot be sold in the United States.

What are the requirements for pyrotechnic composition?

These requirements are found in the Code of Federal Regulations, Title 16, Part 1500.17(a)(3) and Part 1500.17(a)(8)

Powder content requirements limit the amount of pyrotechnic material present in fireworks devices that is designed to produce an audible effect (often called a "report", this is the "bang" that is produced when a fireworks functions). The limits minimize the risk of injury from fire/flames, fragments, explosions, and damaging sound to users or bystanders. There are two basic limits on powder content:

- (1) 16 CFR 1500.17(a)(8) limits firecrackers and other ground devices, to 50 mg. of pyrotechnic composition (powder) designed to produce an audible effect. Firecrackers that exceed this limit, including illegal devices such as 'cherry bombs', 'M-80's', 'silver salutes' and other large firecrackers are banned. Kits and components intended to produce any banned device also violate the regulations.
- (2) 16 CFR 1500.17(a)(3) limits aerial fireworks devices to 130 mg (2 grains) of pyrotechnic composition intended to product an audible effect. Aerial devices, which are devices that are launched into the air and then function, that have an audible effect larger than 130mg are banned fireworks devices.

This limit applies to many types of fireworks, including but not limited to: rockets; aerial bombs, and firecrackers or other types of reports included in aerial devices such as multi-tube shells and aerial rockets. Kits and components intended to produce any of these are also subject to this limit.
- (3) Fireworks devices distributed to farmers, ranchers, or growers through a wildlife management program administered by the U.S. Department of the Interior or a equivalent state or local program are not subject to the powder content limits. Such devices must be distributed in response to a written application describing the problem that requires their use and there must be no other available or adequate means of control. Such devices must be distributed in a quantity no greater than that needed to control the problem.

What does the regulation say regarding reloadable shell devices?

The rule bans reloadable shell devices with a diameter greater than 1.75 inches. A reloadable shell typically consists of a cardboard or plastic launcher tube and separate aerial shells that the user places inside the tube. These fireworks, that have a shell diameter of over 1.75 inches, cannot be sold to consumers for personal use or for use in or around a household.

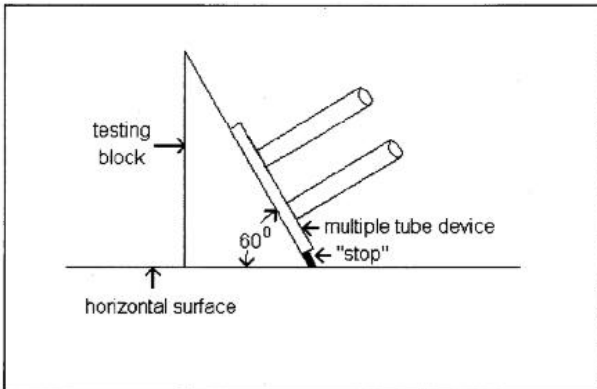
Are there other requirements that fireworks must meet?

Yes. All fireworks device intended or sold to consumers except for firecrackers must meet the performance requirements located at Title 16, Part 1507 of the Code of Federal Regulations.

- Performance requirements ensure that fireworks work properly and safely. Specifically:
 - (1) Fuses must resist side ignition and must burn for at least 3 but not more than 9 seconds.
 - (2) The fuse must support twice the weight of the device to which it is attached or the weight plus 8 ounces, whichever is less;
 - (3) The shortest dimension of the base of a fireworks device that stands upright must be at least 1/3 of the overall height of device or must pass a 12 degree tilt test.
 - (4) Devices must be sealed to prevent leakage of pyrotechnic material at any time.
 - (5) Devices must not exhibit burnout or blowout.
 - (6) Handles and spikes must be securely attached. Handles must be at least 4 inches long, and spikes must be at least 2 inches long and have a blunt tip;
 - (7) Wheels must have drivers securely attached;
 - (8) Toy smoke devices must not burst or produce excessive external flame during operation;
 - (9) Rockets must have sticks which are straight, rigid, and which remain securely attached.
 - (10) Party poppers must not have more than 0.25 grains of pyrotechnic composition, nor have paper or plastic inserts which ignite during operation.

(11) Fireworks must not contain the following chemicals: arsenic sulfide, arsenates, arsenites, boron, chlorates, gallates, gallic acid, magnesium, mercury salts, phosphorous, picrates, picric acid, thiocyanates, titanium, or zirconium. (See 16 CFR §1507.2 for exceptions.)

(12) Large multiple-tube mine and shell devices with any tube measuring 1.5 inches or more in inside diameter must not have a minimum tip angle of less than 60 degrees.



Side view of an apparatus or testing block for testing compliance with the proposed 60-degree tilt angle standard.

60 DEGREE TILT TEST FIXTURE

Fireworks which do not meet these requirements are banned hazardous substances. See 16 CFR §1500.17(a)(9).

What are the labeling requirements for fireworks?

Cautionary labeling warns consumers of the potential dangers associated with fireworks and tells them guidelines for use. These can be found in the Title 16 of the Code of Federal Regulations Parts 1500.14 & Part 1500.83(a)(27)

- (1) Every fireworks device must have:
 - a. A label with a signal word, either WARNING or CAUTION;
 - b. A statement describing the hazard(s) associated with the device, such as "SHOOTS FLAMING BALLS" or "EMITS SHOWERS OR SPARKS";
 - c. And information describing the actions to be followed or avoided in order to store, handle and use the device safely.
- (2) 16 CFR §1500.14(b)(7) includes the specific text for the labels of fountains, California Candles, spike and handle fountains, Roman

candles, rockets with sticks, wheels, illuminating torches, sparklers, mines and shells, whistles without report, toy smoke and flutter devices, helicopter-type rockets, party poppers, and missile-type rockets.

- (3) The signal word and statement of hazard for every label must appear on the principal display panel, usually the front panel of the fireworks device.
- (4) The information contained on the labels must be displayed in a prominent and obvious (conspicuousness) manner. 16 CFR §1500.121 provides information on how to meet this requirement. For example, it addresses type, size, location on the product, and contrast by color, font or type style, etc., for the required cautionary labeling.
- (5) The labeling of a fireworks assortment's outer packaging must state the language in 16 C.F.R. §1500.83(a)(27)(iii). This label is acceptable only if the individual fireworks devices in the assortment have labels in compliance with all other labeling requirements and the assortment contains only consumer fireworks.

Fireworks devices which do not comply with the labeling requirements are misbranded hazardous substances under Section 3(b) of the FHSA.

Does CPSC have any other requirements that apply to fireworks?

Yes. Some fireworks are banned if they look like candy, food, or other banned fireworks devices. Dragon eggs which look like foil wrapped chocolate candy kisses, cracker balls which look like breakfast cereal, and smoke devices that look like cherry bombs or "M-80's" are banned fireworks devices. 16 C.F.R. Parts 1500.17(a)(8) and 1507.9

Where can I find additional Information?

You can obtain the regulations for fireworks found in 16 C.F.R. Parts 1500 and 1507, from the Commission's Web Site at: <http://www.cpsc.gov>. For more information on the requirements for fireworks contact the Consumer Product Safety Commission, Office of Compliance, Washington, D.C. 20207, telephone: (301) 504-0608, e-mail: sect15@cpsc.gov.