



U.S. Department  
of Transportation

Pipeline and Hazardous  
Materials Safety  
Administration

1200 New Jersey Avenue, SE  
Washington, DC 20590

SEP 10 2018

George Tasick  
Breeze Executive, Ltd.  
113 Crystal Springs Drive  
Cranberry Township, PA 16066

Reference No. 18-0058

Dear Mr. Tasick:

This letter is in response to your April 4, 2018, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the American Pyrotechnics Association (APA) Standard 87-1 as incorporated by reference in § 171.7. Specifically, you ask if there is a 200-g limit for the total pyrotechnic composition of a “firecracker string.”

The answer is no. In accordance with Section 3.1.3.1 of APA Standard 87-1, a firecracker is described as a small, paper-wrapped or cardboard tube containing not more than 50 mg of explosive composition. APA Standard 87-1 does not prescribe a maximum total pyrotechnic composition for strings of firecrackers.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen  
Chief, Standards Development Branch  
Standards and Rulemaking Division

Ciccone  
Fireworks  
18-0058

## **January, Ikeya CTR (PHMSA)**

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**From:** Maxey, Vallary (PHMSA)  
**Sent:** Thursday, April 12, 2018 9:32 AM  
**To:** January, Ikeya CTR (PHMSA)  
**Cc:** Singh, Harpreet (PHMSA); Andrews, Steven (PHMSA); Relerford, Darral (PHMSA); Fink, William (PHMSA); Gasser, Neal (PHMSA); Qureshi, Mona (PHMSA); Tarr, Richard (PHMSA)  
**Subject:** FW: Regarding 200g limit on firecracker strings ...

Date: April 12, 2018

Ikeya January,

I spoke with Steven Andrews and he requested I forward this email to you for distribution and follow up by the Standards Office, PHH10.

The request is for an interpretation regarding the 200g limit on firecracker strings under the American Pyrotechnic Association (APA) Standard 87-1.

We held a conference call on April 4<sup>th</sup> with our Firework Certification Agencies (FCA) and this request is a follow up question to that call. We would like to provide an expedited response back to all 11 FCAs participating in the program. Thank you for your help in this matter and please let me know if you have any questions.

*Regards,*

*Vallary S. Maxey  
U.S. Department of Transportation/PHMSA  
Approvals and Permits  
1200 New Jersey Avenue, SE  
Washington, DC 20590  
email: vallary.maxey@dot.gov  
ph: 202-366-4511*

**From:** Bartrum, Zeudi CTR (PHMSA) **On Behalf Of** FIREWORKS (PHMSA)  
**Sent:** Thursday, April 05, 2018 8:46 AM  
**To:** Relerford, Darral (PHMSA) <Darral.Relerford@dot.gov>; Maxey, Vallary (PHMSA) <Vallary.Maxey@dot.gov>  
**Subject:** FW: Regarding 200g limit on firecracker strings ...

FYA

**From:** George Tasick [<mailto:george@breezex.hk>]  
**Sent:** Wednesday, April 04, 2018 12:44 PM  
**To:** FIREWORKS (PHMSA) <[FIREWORKS@dot.gov](mailto:FIREWORKS@dot.gov)>  
**Subject:** Regarding 200g limit on firecracker strings ...

To whom it may concern on the annual FCA conference call,

I just wanted to follow up on the 200g limit on firecracker strings interpretation.

I understand the situation and will follow your interpretation in the future. I also understand that this situation will have more clarity once the new APA 87-1 is adopted and referenced in the CFR.

That said, I would like to cite this situation as a communication issue between PHMSA, the FCAs and the industry.

It was said in the meeting that the 2017 PowerPoint presentation mentioned this 200g limit on firecracker strings. However, PowerPoint presentations are generally considered "visual aids" or "internal documents", not "official communications". (Especially when said information is listed in the "Discussion/Open Forum/Q&A" section of the PowerPoint presentation.)

In my opinion, examples of official communications would be PHMSA memos, like the "Guidance and Criteria for Fireworks Novelty Devices" or the "Clarification on Fireworks Policy Regarding Approvals or Certifications for Firework Series/Specialty Fireworks Devices" that was published in the federal register. With the ultimate "official communication" being written into or referenced by the CFR.

All such documents I am familiar with, and keep on file to be referenced as needed.

(It was also said in the meeting that the 200g limit on firecracker strings was referenced in the 1998 edition of APA 87-1, however that edition was superseded by the 2001 version, which does not specifically set a 200g limit on firecracker strings.)

As PHMSA's interpretation of a 200g limit of firecracker strings was not officially published (in my opinion), it makes it hard for me as an FCA to follow the interpretation, or even know to ask if an interpretation exists. In other words, it opens up an opportunity for error that wouldn't exist if PHMSA's interpretation were officially published.

Furthermore, without an officially published communication from PHMSA, I now have to inform my Chinese FCA customers that there is an unpublished PHMSA interpretation that places a 200g limitation on firecracker strings ... which only further increases the lack of understanding.

While it was said in the meeting that the 16,000 strips of firecrackers sold in every fireworks store in the US may have been lab tested and approved by PHMSA, it's more likely that the majority of these items are shipping on old EX numbers from before PHMSA was following APA 87-1 as strictly as they are now. This too adds to the confusion.

Again, I now understand the ruling and will follow it ... and I understand that the new APA 87-1 will clarify this issue ... but for the sake of communication, any such interpretations should be made public by more official means so that no interpretation is needed on the part of the FCAs or the industry.

Thanks,

George Tasick  
Breeze Executive, Ltd.

chemical composition including lift charges of any multiple tube devices may not exceed 200 g. (See section 3.5) The maximum quantity of lift charge in any one tube of a mine or shell device shall not exceed 20 g, and the maximum quantity of break or bursting charge in any component shall not exceed 25% of the total weight of chemical composition in the component.

Note: Shells that are offered for transportation without a launching tube may not be approved as Fireworks, 1.4G, UN0336 under the provisions of this Standard, except as provided in section 3.1.2.6 for kits. Aerial shells without launching tubes may be approved for transportation as Fireworks, 1.3G, UN0335. (See section 4.1.1)

\* 3.1.2.6 Aerial Shell Kit, Reloadable Tube A package (kit) containing a cardboard, high-density polyethylene (HDPE), or equivalent launching tube and not more than 12 small aerial shells. (see 4.1.1) Each aerial shell is limited to a maximum of 60 g of total chemical composition (lift charge, burst charge, and visible/audible effect composition,) and the maximum diameter of each shell shall not exceed 1.75 inches. In addition, the maximum quantity of lift charge in any shell shall not exceed 20 g, and the maximum quantity of break or bursting charge in any shell shall not exceed 25% of the total weight of chemical composition in the shell. The total chemical composition of all the shells in a kit, including lift charge, shall not exceed 400 g for approval under the provisions of this Standard. The user lowers a shell into the launching tube, at the time of firing, with the fuse extending out of the top of the tube. After firing, the tube is then reloaded with another shell for the next firing. All launching tubes must be capable of firing twice the number of shells in the kit without failure of the tube. Each package of 12 shells must comply with all warning label requirements of CPSC.

44.5mm

44.5mm  
44.45

\* 3.1.3 Audible Ground Devices

\* 3.1.3.1 Firecracker Small, paper-wrapped or cardboard tube containing not more than 50 mg of explosive composition, those used in aerial devices may contain not more than 130 mg of explosive composition per report. Upon ignition, noise and a flash of light are produced.

Note: Firecrackers are not subject to the requirements of fuse in section 3.5.1 and chemicals in section 3.6.1. 3.7.1

\* 3.1.3.2 Chaser Paper or cardboard tube venting out the fuse end of the tube containing not more than 20 g of chemical composition. The device travels along the ground upon ignition. A whistling effect, or other noise, is often produced. Explosive composition may be included to produce a report but may not exceed 50 mg.

Chaser - 2 norm; any # up to 50 mg and 20g. physio wgt limit total.

snake-like ash that expands in length as the pellet burns. Chemical compositions vary, but typically contain ammonium perchlorate, nitrated pitch, asphaltum, and similar carbonaceous materials. These devices are limited to a maximum of 25 pellets per inner package in order to be transported as not regulated devices.

\* **3.2.5 Wire Sparklers, Dipped Sticks** These devices consist of a metal wire or wood dowel that has been coated with pyrotechnic composition. Upon ignition of the tip of the device, a shower of sparks is produced. Sparklers may contain up to 100 g of composition per item. Sparklers typically use barium nitrate as the oxidizer, with aluminum and dextrine as fuels. Iron filings produce the spark effect. Color-producing sparklers use potassium perchlorate as an oxidizer. Any sparkler containing a chlorate or perchlorate oxidizer is limited to a maximum of 5 g of composition per article. Sparklers must be packaged in inner packagings that contain 8 devices or less to be transported as not regulated devices.

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\* **3.3 Toy Caps** Toy plastic or paper caps for toy pistols in sheets, strips, rolls, or individual caps, containing not more than an average of 0.25 grains (16 mg) of explosive composition per cap. Toy caps are described as Toy Caps NA0337 and classed as 1.4S. Toy caps shall only be approved for transportation using the procedure specified in Title 49 CFR, § 173.56(b).

\* **3.4 Other Devices** The Approvals Branch at DOT should be contacted regarding the requirements and procedures for approval of any device that is a unique shape or design, or any device that produces unique pyrotechnic or explosive effects, or combinations of effects not enumerated in Chapter 3 of this Standard.

\* **3.5 Multiple Tube Fireworks Devices and Pyrotechnic Articles**

\* **3.5.1** Multiple tube devices contain more than one cardboard tube. The ignition of one external fuse causes all of the tubes to function in sequence. The tubes are either individually attached to a wood or plastic base, or are dense-packed and are held together by glue, wire, string, or other means that securely holds the tubes together during operation.

\* **3.5.2** Multiple tube devices are normally limited to a maximum of 200 g of total pyrotechnic composition for approval as Fireworks, UN0336, 1.4G or Article, Pyrotechnic, UN0431, 1.4G under this Standard. (See 3.5.4 for exceptions.) The weight of chemical composition per tube is limited to the weight limit for the specific type of device in the tube. (See section 3.1 for the weight limits per tube, based on type of effect.)

\* **3.5.3** The connecting fuses on multiple tube devices must be fused in sequence so that the tubes fire sequentially rather than all at once.