



Natural Resources    Ressources naturelles  
Canada                    Canada

# Consumer and Display Fireworks Criteria

Authorization, Sampling, Composition,  
General and Detailed Requirements for 7.2.1 and 7.2.2

September 1, 2004

Canada

# Consumer and Display Fireworks Criteria

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## 1. INTRODUCTION

### **1.1 Purpose**

This document has been prepared as a guide to industry and the public. It is believed to describe acceptably safe requirements for the design and performance of fireworks.

Some companies experience difficulties in having their products added to the List of Authorized Explosives. Often, this occurs because companies do not completely understand the process or the intent of the legislation. This document also explains the process.

### **1.2 Application**

This document applies to fireworks used in commercial (non-military) applications. The fireworks class has two divisions: Division 1 and Division 2. Division 1 comprises fireworks compositions, i.e., pyrotechnic compositions; Division 2 comprises manufactured fireworks and has five subdivisions. Specifically, this document covers general and detailed requirements for consumer fireworks (Canadian Class 7, Division 2, Subdivision 1, abbreviated as 7.2.1) and display fireworks (7.2.2). Other fireworks classes (7.1, 7.2.3, 7.2.4 and 7.2.5) are not covered by this document.

#### **1.2.1 Subdivision 1 (7.2.1)**

Subdivision 1 comprises low-hazard fireworks (consumer fireworks) generally used for recreation, such as fountains, wheels, Roman candles, sparklers, Christmas crackers, volcanoes, mines, snakes and toy pistol caps.

These fireworks are for use outdoors. They carry minimum risk outside a 5-metre radius when used according to instructions. However, they are not toys and should only be used by adults. In spite of all warnings, children do sometimes gain access to and misuse fireworks. Consequently, these criteria attempt to define fireworks that minimize risk, even with misuse. The quantity of composition is limited and certain types of fireworks are refused authorization.

#### **1.2.2 Subdivision 2 (7.2.2)**

Subdivision 2 comprises high-hazard display fireworks used for recreation such as display shells, barrages, batteries, fountains, exhibition candles, flares, set-pieces, maroons, wheels, bouquets and firecrackers. These may only be purchased by personnel with a valid fireworks certificate.

### **1.3 Authorization Process**

#### **1.3.1 Introduction**

The federal *Explosives Act* and associated regulations control explosives and pyrotechnics in the interest of public and worker safety. In order to legally manufacture, store, possess, transport fireworks in, or import fireworks into Canada, the articles must be added to the List of Authorized Explosives. This is termed “authorization.” The Act provides for a Chief Inspector of Explosives

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who, by regulation, is required to authorize an explosive or pyrotechnic on request if he is satisfied regarding its safety.

The authorization process comprises the following steps:

- a) Submission of the application form (Appendix C) by the manufacturer: this application will include the information requested on the application form (e.g., drawings and specifications); any required test documentation may originate from the manufacturer, a commercial test agency, and national competent authority test agencies such as Canada's own test agency, CERL (the Canadian Explosives Research Laboratory);
- b) Review of the supplied information to the Explosives Regulatory Division (ERD): authorization of the explosive may be granted at this stage; in some cases, supplementary documentation, data and/or testing may be required;
- c) In addition to requesting any needed supplementary documentation and test data, when testing is required, ERD will determine which articles from a submission will be tested; ERD and CERL will then develop a Test Plan to provide the additional data, e.g., chemical analysis, UN testing;
- d) The Test Plan will specify sample requirements and provide estimates for cost and completion date;
- e) The manufacturer will decide whether or not to proceed with the Test Plan;
- f) Testing and reporting in accordance with the Test Plan: please note that the authorization process may not proceed until payment of applicable fees is received;
- g) Following review of the data, including the submitted documentation and the laboratory report for the Test Plan by ERD and CERL, ERD will decide whether to accept or reject the authorization request;
- h) Confirmation of the authorization decision will be sent by letter from ERD to the requester;
- i) If acceptable, explosives are added to the List of Authorized Explosives;
- j) At any time thereafter, sampling and testing of explosives may be carried out to confirm their suitability for continuing authorization.

It is important to emphasize that the drawings and specifications become the binding legal documents supporting authorization. No changes may be made to the authorized article without prior approval from ERD and without a corresponding approved change to the authorized drawing.

### **1.3.2 Criteria for Authorization**

The detailed criteria are provided later in this document. This section describes the intent. What ERD evaluates during the authorization process is whether the fireworks meet Canadian standards and whether the company is able to reproducibly meet its own drawings and specifications. It is imperative that the firework meets the manufacturer's drawings and specifications. First, the drawing represents what will be authorized; secondly, it provides an indication of quality control

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exercised within the company and is therefore an indication of continuing safety of the article in question.

### **1.3.3 Caution**

The document cannot define with certainty what is authorizable and what is not. The final decision always rests with the Chief Inspector. It remains possible that a new design of a firework may meet the criteria yet be unsafe.

### **1.3.4 Continuing Acceptability**

#### ***1.3.4.1 Production Evaluation***

After initial testing, production will be evaluated.

Companies located in Canada will be audited to determine what manufacturing controls are used to ensure that a product consistently meets the drawings, specifications and requirements.

Companies located outside of Canada will have initial shipments sampled and tested at the requester's expense. The choice to sample and the size of the sample will depend on the nature of the firework and may vary from none for known manufacturers to the first 10 shipments for previously unknown companies. The choice to sample and the reason for the choice will be communicated to the company.

#### ***1.3.4.2 Continuing Authorization***

In addition, samples may be withdrawn from the field at any time and subjected to testing. This is termed "continuing authorization" and this cost is borne by the Canadian government.

All samples must be faithful to the authorized drawings. Failure to meet these drawings is cause for removal of the authorization.

### **1.3.5 Loss of Authorization**

The following are grounds for removing a product from the List of Authorized Explosives:

- i) discovery of a change<sup>1,2</sup> to the product or packaging as declared in the original authorization;
- ii) six months after any amendment of regulations if such amendment affects any stipulations of the original authorization, unless provisions are made to sell off existing stock, the explosives will be removed from the list;

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<sup>1</sup> The original documentation submitted for authorization may specify substitutions or changes and fall within the scope of the original approval.

<sup>2</sup> A new authorization application is required whenever any new change occurs that was not part of the original approval. Documentation and testing will be reviewed on a case-by-case basis.

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- iii) upon investigation of an accident or incident where the investigation shows the product design to be the cause;
- iv) discovery of failing to report an accident or serious incident attributable to the articles if the failure was known to the manufacturer.

### **1.3.6 Classification for Transport**

In addition to authorization, fireworks must be classified for transport, that is, be assigned a UN number and hazard classification (1.1G, 1.2G, 1.3G, 1.4G or 1.4S).

This is done either by testing, by analogy to existing products, or, in the case of imported articles, by accepting a Letter of Competent Authority from the country in question. Testing is carried out when the article is unusual or when a lower hazard classification is sought than would otherwise be granted.

Such testing is not to be confused with the authorization process. Classification exists in most countries, but the equivalent of authorization does not. As a result, some companies submitting articles for authorization do not understand why samples for testing are required and state that they have already been tested. That testing was, however, for classification for transport and not for authorization.

The description of these tests can be found in the UN book ST/SG/AC.10/11 (Revision 4 or latest revision), *Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria*.

#### ***1.3.6.1 Default Classification***

Testing in support of transport classification is the preferred approach. However, it is recognized that all fireworks may not be tested. A Working Group within the UN Committee for the Transportation of Dangerous Goods approved, in July 2004, a default classification for the transport of fireworks that have not been tested. This default classification will gradually be implemented by ERD to allow the industry some time for adjustments to their packaging methods or means of transport.

For the duration of the transition period, ERD will maintain the current classification for already authorized and classified articles i.e.:

- the default classification of all report shells will be 1.1G;
- 7.2.1 Consumer Fireworks will remain classified as 1.4G;
- 7.2.2 Display Fireworks, with the exception of report shells, will be classified as 1.3G.

All new requests for authorization and classification will be based on UN criteria described in the *Manual of Tests and Criteria* noted above and the new UN Default Fireworks Classification table.



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Note that mixed loads within a package of any class with 1.1 corresponds to Division 1.1.

When a company prefers a more favourable classification, it has the option of testing. Similarly, if ERD believes that the default position is inappropriate, it will require testing before a transport classification is granted.

## 2. REQUEST FOR AUTHORIZATION

### **2.1 Submission**

The following describes what must be present in the submission and how it will be judged. The submission is a legal declaration to the Government of Canada in order to obtain authorization. It is the first indication of the care a company exercises in achieving a product of acceptable quality. Poor submissions do affect perception.

Every submission must be accompanied by the form “Application for Authorization” in Appendix C, properly completed. The review process does not start until all information has been submitted.

#### **2.1.1 List of Articles**

A list of all the articles in the submission by name, effect, calibre, and colour, preferably with an identifying part number, is required. If more than one colour is associated with a given name or part number, list all the colours that are being submitted for each name or part number. Different colours, being different chemicals, are considered separate articles.

When combinations are possible, list the colours (not the combinations) that would be used.

*(For example, if red, blue and green stars are used with red and white pistils, the list would present: Colour for stars: red, blue, green; Colour for pistils: red, white. This covers the following combinations: red stars and red pistils, red with white, blue with red, blue with white, green with red, green with white, or six combinations. However, only four colours are involved.)*

For submissions containing many articles ( $\geq 10$ ), an electronic copy of the list products and part numbers must be supplied (in Microsoft Excel). Please do not include any borders or special characters in the list. Part numbers and product names should be in two separate columns. Below is an example of the format that should be used for the list:

| Part number | Name of product |
|-------------|-----------------|
| 1           | Sparkler 1      |
| 2           | Sparkler 2      |

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### **2.1.2 Drawing of the Article**

A drawing for each article is required. If the same construction is used for different sizes or colours, then one drawing may be used to represent the fireworks. Drawings must be legible or they will not be considered. Two copies are required.

The drawing must include: dimensions, charge weights of all explosive components, gross weight of the article, construction materials, and tolerances for charge weights and dimensions. In the case of mines, cakes, barrages, etc., the charge weight of all explosive components in each different tube must be clearly indicated.

Each submission must contain all the pertinent information; references to previous submissions are unacceptable.

### **2.1.3 Composition**

The compositions of all explosive components must be given. This can be provided on the drawing(s) or a reference may be made on the drawing(s) to a table of compositions.

Compositions must list all ingredients used and must give the percentages used and the tolerances for each. The ingredients must be listed by their chemical names as much as possible. Generic names may be used only when the ingredient is best known by the generic name.

### **2.1.4 Packaging, Labeling, Instructions**

Drawings of packaging must be submitted and accompanied by certification testing documents. Examples of labeling and instructions for safety or for use must be presented in both English and French.

### **2.1.5 Description of Intended Use**

A short description of the intended use of the firework is required; specify if it is a fountain, a Roman candle, a sound shell, a nautical shell, etc. The terminology used in the appendices must be referred to and used.

### **2.1.6 Reliability Statement**

A summary of the testing and/or use of articles used during/for development work and/or commercialization to demonstrate the reliability of the firework is required.

### **2.1.7 Transport Classification**

A Letter of Competent Authority classifying the firework is required. If the classification does not meet the default (refer to Section 1.3.6.1, e.g., sound shell of any size 1.1G), it must be supported by submission of test results. If a Letter of Competent Authority is not available, the default will apply.

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### 2.1.8 Outsourcing

If some components of the fireworks are purchased from another source, this must be indicated on the drawing and a reference to that source must be given. For example, if a fuse is purchased, a reference must be made to the type of fuse and from whom it is purchased; the composition must also be given. ERD will decide whether a separate testing scheme for the outsourced material will be required.

## 3. CLASSIFICATION AND AUTHORIZATION REQUIREMENTS

This section describes the basis under which products will be given a classification and authorization.

### 3.1 Products Not Authorized in Canada

Certain articles or certain chemicals considered to be unsafe will not be authorized.

#### 3.1.1 Articles

The articles that will not be authorized include those:

- intended for indoor use, except toy pistol caps and Christmas crackers meeting these criteria;
- designed to be hand-held, except sparklers and hand-held fountains meeting these criteria;
- self-propelled from the ground and rising in the air with unpredictable flight paths or moving erratically;
- judged excessively violent;
- not properly labeled;
- having a history of injuries.

The following are examples of such firework articles:

Auto-Foolers: Articles designed as a burglar alarm. When wired to the ignition system of a car, they operate with a loud screeching whistle followed by copious amounts of thick smoke, with or without an explosion. These articles can cause fires within the engine compartment.

Cigarette Loads: Small charges designed for insertion into the end of a cigarette or a cigar. When the heat from the embers reaches the charge, it explodes, ejects sparks, gives off obnoxious fumes, or creates “snow.”

Dancing Crackers: These are small charges designed to snap and crackle when stepped on. They are usually dropped on a dance floor.

Exploding or Smoking Golf Balls: These are designed to look like golf balls. When impacted they either explode or emit copious amounts of colored smoke generated by a pyrotechnic reaction.

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Party Poppers: Small articles designed to eject streamers and/or small party favours. They are functioned by pulling a tape or string. Some are shaped and coloured so that they resemble champagne bottles and are called champagne poppers.

Table Bombs: Articles that are designed to sit on a flat surface and, upon ignition, eject streamers and/or party favours.

Tear Gas Pens and Launchers: These can resemble a pen and may contain a mechanism activated by an explosive. They are supposedly for protection against muggers, but may be used as an offensive weapon or as a practical joke.

Throw Downs (also called Snap Caps): Small objects designed to explode when thrown against a hard surface or stepped on.

Trick Matches: These resemble ordinary book matches or boxed matches, but are designed to produce various effects when lit, including explosion, sparking, foul odour, “snow,” etc.

Stink or Smoke Bombs: These articles are designed to resemble other fireworks articles, most often cherry bombs or salutes. When functioned they release a stench or coloured smoke, or both.

Firecrackers: These have been the source of many injuries and may only be authorized in classification 7.2.2 or as secondary effects.

Table or Bottle Rockets: Small tubes or "rockets" with propelling charges that are secured to a stick. When lit they rise out of the neck of the bottle, a pipe or from a table top.

Helicopters (or similar items such as “planes,” “whiz-bangs” or “missiles”): These are articles that are designed to rise in the air while spinning, often in an erratic way. Some helicopters function as soon as the article is ignited while others are first projected.

Ammunition for Tie-Clips, Cufflinks, Key Chain Pistols, etc.: This ammunition is a violent type of blank ammunition for use in novelty items. It is often designed to resemble toy pistol cap amorces in metallic cups.

Cherry Bombs, M-80 and Silver Salutes, Flash Crackers: These are very violent firecrackers that often contain excessive charge weights and/or unacceptable fireworks compositions.

Rockets (as opposed to model rockets): These have unpredictable paths and, in the case of rockets with a stick, they have been the cause of injuries when the guiding stick fell back to earth.

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Parachute Shells: Night-time parachute shells are not allowed due to their unpredictable paths. Daytime parachute shells displaying logos, banners and the like may be considered.

### **3.1.2 Chemicals Normally Precluding Authorization**

The following chemicals are not allowed:

- Arsenic compounds - poisons;
- boron - readily oxidizable;
- chlorates with sulphur, sulphides, ammonium salts, elemental metals (such as magnesium or aluminum) or copper or copper salts - such mixtures are friction sensitive and liable to spontaneous combustion;
- chromium and chromium compounds;
- gallates or gallic acid - incompatible with many chemicals;
- lead and lead compounds or salts - poisons;
- mercury compounds - poisons;
- phosphorus, except for red phosphorus in toy pistol caps;
- picric acid and picrates - incompatible with many chemicals;
- thiocyanates, except for snakes - explosively oxidizable;
- zirconium - explosively oxidizable.

### **3.2 Chemical Stability**

Stability is a chief consideration for authorization. Although all samples are tested for stability, it is recognized that all articles submitted for authorization cannot be sampled. The following chemicals are recognized as components of stable fireworks and samples may not necessarily be requested to prove stability of all articles. Samples will be required for any other chemicals or if unusual combinations of any chemicals are presented.

#### **3.2.1 Standard Chemicals in Fireworks**

Aluminum, ammonium perchlorate, antimony, antimony sulphide, barium carbonate, barium nitrate, barium sulphate, boric acid, calcium carbonate, calcium sulphate, carbon or charcoal, copper metal, copper oxide, dextrine, hexamethylenetetramine, iron and iron alloys (ferro-titanium), iron oxide, magnalium, magnesium, magnesium carbonate, magnesium sulphate, nitrocellulose-based lacquers, red phosphorus (toy pistol caps only), potassium or sodium benzoate, potassium hydrogen phthalate, potassium nitrate, potassium perchlorate, potassium sulphate, sodium bicarbonate, sodium nitrate, sodium salicylate, sodium sulphate, strontium carbonate, strontium nitrate, strontium sulphate, sulphur and titanium (mesh >100).

Organic compounds such as lactose; shellac; red gum; chlorinated paraffin and PVC, consisting of some combination of carbon with hydrogen, oxygen and/or chlorine; and nitrogen may be present if it accounts for less than 10% m/m of the compound.

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### **3.3 Tolerances**

#### **3.3.1 Chemical**

Tolerances for chemicals must be less than  $\pm 20\%$  of the percentage for any component that is less than 25% of the composition and  $\pm 10\%$  of the percentage for any component present in more than 25%.

*(For example, if the amount is 30% then 10% of 30 is 3% and the tolerance is  $30 \pm 3\%$ ; if the amount is 15%, then 20% of 15 is 3% and the tolerance is  $15 \pm 3\%$ . Companies may use more stringent tolerances.)*

All declared ingredients must be present. Ingredients not declared must not be present.

#### **3.3.2 Physical**

Tolerances on physical characteristics may be set by the company. They must be such so as not to interfere with proper function and must not be greater than  $\pm 25\%$  of the nominal tolerances.

#### **3.3.3 Dimensions**

When maximum or minimum sizes are specified in this document, that number must be the extreme of the tolerance range.

*(For example, if the maximum diameter of a pre-loaded mortar [consumer firework] is 22 mm, then this number must be considered when giving tolerances. A diameter given as  $22 \text{ mm} \pm 10\%$  is not acceptable since it implies that diameters larger than 22 mm may be found.)*

The dimensional tolerances for shells to be inserted into a mortar must meet the following when compared to the mortar (mortar sizes are given as ID for Schedule 40 steel pipe).

|  |       |
|--|-------|
| minimum difference:                                    | 5 mm  |
| maximum difference: 3" and smaller (76 mm and smaller) | 8 mm  |
| 4 to 6 inches (102 to 155 mm)                          | 12 mm |
| >6 inches (>155 mm)                                    | 15 mm |

#### **3.3.4 Charge Weights**

If maximum charge weights are specified in this document, they represent the maximum of the tolerance range. Otherwise, the following applies to charge weights:

|                        |            |
|------------------------|------------|
| below 10 g:            | $\pm 25\%$ |
| equal to or over 10 g: | $\pm 10\%$ |

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### **3.4 Packaging**

The minimum acceptable shipping package, weight limitations and tests for physical integrity are defined in the *Transportation of Dangerous Goods Act* and its regulations, which in turn refer to the National Standard of Canada CAN/CGSB 43.151-97, *Packaging of Explosives (Class 1) for Transportation*.

#### **3.4.1 Packaging for Samples**

The sample is to be shipped in its intended packaging with the appropriate labeling and instructions. Improper packaging will result in the failure of the submission. Packaging must comply with the specification set out in the National Standard of Canada CAN/CGSB 43.151-97, *Packaging of Explosives (Class 1) for Transportation*.

### **3.5 Marking and Labeling**

Packages must be labeled and marked in accordance with the *Transportation of Dangerous Goods Act* and its regulations. The Act and regulations include the following, to be shown on the exterior of every package:

- shipping name, product identification number, classification number and the dangerous goods label;
- the name of the manufacturer of the packaging, or identifying mark, and markings to indicate the packaging complies with the requirements for construction and testing.

The UN name must be in either English or French. All other markings must be in both English and French, clear, legible, and with equal prominence given to the two languages.

The packaging must also show the name of the manufacturer or distributor of the contents of the package.

Every firework must carry, if physically practical:

- the name and address of the manufacturer or authorized distributor;
- the authorized brand or trade name of the firework;
- a logotype or code that identifies the manufacturer, unless the manufacturer has already been identified; and
- precautions or instructions for the safe handling and use of the firework. This must include the expected height for the effects and the separation distance for spectators (this separation distance will have to be at least twice the height of the effects). Or, if marking on the firework is not practical, the markings must be carried on every inner packaging or, in the absence of inner packaging, on every shipping container. Clear, see-through wrappers are not considered to be inner packaging.

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As part of the labeling requirements, 7.2.1 fireworks must include instructions on acceptable conditions for storage once purchased and brought home.

When fireworks too small to carry all markings are to be retailed outside factory packaging, they must carry the most important safety messages appropriate to their mode of functioning and satisfactory to the Chief Inspector of Explosives.

Markings for instruction or safety must be in both English and French, clear, legible, and with equal prominence given to the two languages.

Packages of assortments, also called family kits or blister packs, should carry the trade names of the contained fireworks.

Individual labels of firework items need not be word for word as detailed in the criteria but, if not, must be approved by the Chief Inspector of Explosives.

### **3.6 Sampling and Acceptance Criteria**

Not all articles are tested. Large submissions are sampled and acceptance of the submission depends on the behaviour of the sample. New articles similar to existing articles from established and known companies may be authorized by analogies to existing products.

The choice to sample rests with the inspector and depends on previous experience, on the history of complaints, on the availability of articles from the same company to use as analogies, or on the lapse of time since articles from the company were last tested.

The description of sampling below represents minimum sampling. Inspectors may decide on more samples when they believe this would better evaluate a submission.

The section on general and specific requirements identifies some characteristics with the “C” letter, meaning critical. More stringent acceptance criteria are used for “C” characteristics.

#### **3.6.1 Chemical Analyses**

Chemicals must meet the declaration within the tolerances set by the company; these tolerances must be as tight as the minimum standards described in Section 3.3.1.

Because analytical techniques do not always analyze exactly the components in a composition, the declaration will be modified to show the information in a manner similar to what the analyses will detect.

*(For example, if the declaration included both aluminum and magnalium, the analyses would look for the aluminum and magnesium total.)*



## Consumer and Display Fireworks Criteria

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In the case of certain, more difficult analyses, analytical error will be taken into account. However, finding any of the following is considered to be a gross discrepancy and reason for rejection:

- detection of more than 0.5% of a component not present in the declaration;
- non-detection of a component present in the declaration;
- finding >200% for components present under 25%; finding >150% for other components;
- finding <50% of components present over 10% in the declaration.

### **3.7 Consumer Fireworks**

#### **3.7.1 Sampling of the Submission**

##### ***3.7.1.1 One or Two Articles***

It is common with consumer fireworks to submit individual articles one at a time. Each such article will be evaluated on its merits. Twenty-four (24) units per article are required to evaluate its acceptability: 2 for thermal stability, 2 for disassembly (charge masses and chemical analysis), 6 for abuse (1-m drop), 10 for function and 4 as spares.

Acceptance or rejection of the article(s) is based on the criteria presented in paragraph 3.8.2.

##### ***3.7.1.2 More Than Two Articles or Families of Articles***

When more than two articles are submitted, the submission may be divided into families (types of articles as defined in Appendix A) based on construction and effect. Differing colours within a family are considered to be variations of the family, although listed as individual items in the List of Authorized Explosives. Each such family may be represented by a sample. Each set of five colour variations is represented by a separate sample.

*(For example, if a mine family has 14 different colour variations [ $14/5 = 2.8 = 3$ ], only 3 members of the family, each with 24 units, will be chosen to represent that family.)*

#### **3.7.2 Acceptance Criteria**

##### ***3.7.2.1 For Each Article***

- 10 units are functioned:  
10/10 must pass the characteristics marked “C”; 8/10 must pass all other characteristics.
- 6 units are subjected to abuse testing:  
3/3 must pass characteristics marked “C”; 3/3 must pass all other characteristics.
- 4 units are disassembled and measured, the chemicals are analyzed, and stability tests are run.  
The physical measurements, chemicals and stability must meet the declaration and requirements.

Failure in these requirements constitutes failure of the article.

## **Consumer and Display Fireworks Criteria**

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### ***3.7.2.2 Authorization of Submission***

For a submission where an applicant has elected to have one or multiple articles authorized on an individual basis, the authorization of each article will be as described in the previous section (3.7.2.1).

For a submission that includes one or more family of articles, the authorization of families of articles will be based on the following:

- each family of articles will be treated individually, i.e., if one or additional families from a submission successfully pass testing at CERL, and an additional family from the same submission fails testing, only the failed family will not be authorized;
- for a family of articles to be authorized, all articles that were selected for testing from that family must successfully pass testing with success as per the requirements of Section 3.7.2.1.

Note: For a large submission it is important for the applicant, when submitting a submission, to distinguish and communicate what the various families of articles are.

### **3.7.3 Sparklers and Toy Pistol Caps**

#### ***3.7.3.1 Sampling***

##### **Toy Pistol Caps**

At least 400 caps in consumer packaging.

*(For example, 8 packages of 50 caps per package.)*

##### **Sparklers**

At least 50 sparklers for each size in consumer packaging.

*(For example, 9 packages of 6 sparklers per package.)*

#### ***3.7.3.2 Acceptance Criteria***

No failures are allowed in characteristics marked “C”; one failure maximum is allowed in other characteristics.

### **3.8 Display Fireworks**

#### **3.8.1 Definition of a Separate Article**

For the purpose of determining how many designs of articles are in a submission and therefore the number of samples to be selected, the following is used: a separate article is one of a different effect, construction or colour. Different calibres using the same construction do not constitute separate articles.

## Consumer and Display Fireworks Criteria

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### **3.8.2 Sampling of the Submission**

The number of separate articles in a submission is used to determine the number of articles chosen to represent the submission. The following applies (MIL-STD-105):

| Number of articles submitted for authorization | Number of articles to be sampled    |   |                   | Acceptance                 |
|--|-------------------------------------|---|-------------------|----------------------------|
|  | Companies with no past difficulties | Known companies with some past difficulties | Unknown companies | Maximum number of failures |
| 2 to 8   | 2                                   | 2   | 3                 | 0                          |
| 9 to 15  | 2                                   | 3   | 5                 | 0                          |
| 16 to 25                                       | 3                                   | 5   | 8                 | 0                          |
| 26 to 50                                       | 5                                   | 8   | 13                | 0                          |
| 51 to 90                                       | 5                                   | 13  | 20                | 0                          |
| 91 to 150                                      | 8                                   | 20  | 32                | 1                          |
| 151 to 280                                     | 13                                  | 32  | 50                | 1                          |
| 281 to 500                                     | 20                                  | 50  | 80                | 2                          |
| 501 to 1200*                                   | 32                                  | 80  | 125               | 3                          |

\*See MIL-STD-105 for larger numbers. Companies with no past difficulties use reduced inspection; known companies with some past difficulties use normal inspection; unknown companies use tightened inspection.

For each article selected, 12 units are to be supplied.

### **3.8.3 Acceptance Criteria**

#### ***3.8.3.1 For Each Article:***

- All 12 units are examined for labeling and condition at reception;
- 6 units are functioned - 6/6 must pass characteristics marked "C"; 5/6 must pass other characteristics;
- 2 units are subjected to thermal stability and must pass;
- 2 units are dismantled for construction, physical measurements and chemical analyses:
  - Construction - 2/2 must meet characteristics marked "C"; 1/2 must meet other characteristics;
  - Chemical and physical measurement - these must meet the declaration.

## Consumer and Display Fireworks Criteria

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Failure of these requirements constitutes a failure of the article. The performance of the selected articles will determine the acceptance of the submission.

### ***3.8.3.2 Authorization of Submission***

The performance of all the articles selected as the sample will be used to judge the merits of the submission. Each article can either pass or fail; the number of articles that may fail before the submission is rejected is given in the table above (AQL level of 1).

### **3.8.4 Addition of a Fuse to Articles**

Please note that some 7.2.2 articles are approved without a fuse for the ignition of the article. When a distributor intends to add a fuse for the re-sale of an article, this can only be done under the following conditions:

- with the approval of the Explosives Regulatory Division; this approval can only be obtained if a description for the modified article is provided along with a description of the packaging method when these articles are re-packed;
- this operation can only be done at a licensed site under the conditions of the licence.

**APPENDIX A**  
**CONSUMER FIREWORKS**

**The following section provides general and specific requirements for consumer fireworks. For the following, refer to the topic indicated:**

Banger - refer to Report  
Battery - refer to Cake  
Bengal Fire - refer to Flare  
Bombardo - refer to Battery/Combination  
Coloured Fire - refer to Flare  
Driver - refer to Wheel  
Hybrid - refer to Battery/Combinations  
Illuminating Fire - refer to Flare  
Lawn Light - refer to Flare  
Pinwheel - refer to Wheel  
Rains - refer to Fountain  
Saxon - refer to Wheel  
Showers - refer to Fountain  
Snap - refer to Christmas Crackers  
Spinner - refer to Ground Spinner  
Torch - refer to Flare  
Volcano - refer to Fountain

*Please note that articles, such as replica or other articles not listed in this document, that are prepared with fireworks described in this document will be allowed provided that their outer package or assembly does not hinder the proper functioning or safety of these articles.*

## General Requirements for Consumer Fireworks

| CHARACTERISTIC   | REQUIREMENT  |
|--|--|
| <p><u>1. Packaging</u></p> <p><u>1.1 Labeling (C)</u> (Note that any italics in sections under labeling must be reproduced on the article)</p> <p>Shipping name (either English or French)</p> <p>Product identification number</p> <p>Orange label</p> <p>Name of manufacturer/distributor</p> <p>Registration number for packaging</p> <p><u>1.2 Condition of Packaging</u></p> <p>Loose composition (C)</p>   | <p>Must meet <i>Transportation of Dangerous Goods Act</i>, its regulations, and/or its referred standards</p> <p>Not allowed</p> |
| <p><u>2. Labeling of Articles</u></p> <p>English and French</p> <p>Authorized brand or trade name</p> <p>Logo or code that identifies the manufacturer</p> <p>Precautions and instructions for safe handling (see individual items for details):</p> <p style="padding-left: 40px;">If marking the firework is not practical, the markings must appear in every inner package. In the absence of the inner package, the markings must appear on the shipping container.</p> <p style="padding-left: 40px;">When the fireworks are too small to carry all the markings and are to be sold outside the shipping packagings, they must carry the most important safety messages appropriate to their mode of functioning and the markings must be approved by ERD.</p> <p style="padding-left: 40px;">Packages of assortments must carry the trade names of the contained fireworks.</p> <p style="padding-left: 40px;">Any alternative to the labeling proposed by this document must be approved by the Chief Inspector.</p> <p>(The cautionary warning must capture the method of functioning of the individual components. Instructions such as “Place on level ground,” or “Stick firmly in ground in an upright position” shall be added to those articles requiring special precautions due to the design of the article. In the specific requirements, a choice is given as to which instruction best meets the design of the article.)</p> | <p>Must be present</p>   |
| <p><u>3. Physical Integrity</u></p> <p><u>3.1 Construction of Articles</u></p> <p>Containing metal, such as staples or wire, or hard plastic, which could be a possible missile hazard when functioned or malfunctioned (C)</p> <p>Pyrotechnics falling out of the tube (C)</p> <p>Easy removal of secondary components from the tube</p> <p>Loose pyrotechnic powder present in an unintended part of the article (C)</p> <p>Construction of roll paper tubes, which would allow composition to migrate under the inner layer of paper</p> <p>Signs of breaking or cracking in casing or composition</p>  | <p>Not allowed for all</p>   |
| <p><u>3.1.1 Tubes, Cones and Boxes</u></p> <p>Metallic construction (C)</p> <p>Damaged by shipping or handling</p>   | <p>Not allowed</p>   |

## General Requirements for Consumer Fireworks

| CHARACTERISTIC   | REQUIREMENT   |   |         |  |  |
|--|---|---|---------|--|--|
| <p><u>3.1.2 Base and Spikes</u><br/>When present, become detached or are not secure during handling<br/>Toppling over of article bases when tilted at 12° (C)</p>  | Not allowed   |   |         |  |  |
| <p><u>3.1.3 Main Fuse</u><br/>A type other than black match, igniter cord, safety fuse or encased in plastic tubing (C)<br/>Main fuse not visible (C)<br/>Not permanently and securely attached (C)<br/>Primed with an electric match (C)</p>  | Not allowed   |   |         |  |  |
| <p><u>3.1.4 Interconnecting Fuse</u><br/>Not covered in a manner that prevents accidental or unintentional ignition (C)<br/>Fuse not attached securely<br/>Fuse does not provide proper sequence</p>   | Not allowed   |   |         |  |  |
| <p><u>4 Performance</u><br/><u>4.1 Fusing</u><br/>Unreliable ignition (C)<br/>Main fuse average (6 units) action time <math>\pm 1</math> Standard Deviation (C)<br/>Delay in visible or audible effect</p>   | <p>Not allowed<br/>3-6 s<br/>5 s maximum</p>  |   |         |  |  |
| <p><u>4.2 Function</u><br/>Did not function as described on the label (C)<br/>Did not function in a safe, reliable, reproducible and predictable manner (C)<br/>Ejected effects with unpredictable trajectories landing more than 5 m away (C)<br/>Bulging, shattering, rupturing or burning through the case and/or closures unless designed so (C)<br/>Unravelling of tubes (C)<br/>Falling over during normal, upright functioning for articles with a base or spike (C)<br/>Bases or spikes that come loose during functioning (C)<br/>Unconsumed composition after functioning<br/>Loose plugs on tubes with plugs at the base after functioning<br/>Flames that spit, disintegrate or falter (except when so designed)<br/>Burning after function is complete (C)</p> <p><u>4.2.1 Height</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%; vertical-align: top;">Minimum</td> <td style="vertical-align: top;">Function of reports with more than 130 mg flash composition or more than 500 mg black powder<br/>Burst for shells or colour effects<br/>Completion of burning</td> </tr> <tr> <td style="vertical-align: top;">Maximum</td> <td></td> </tr> </table> | Minimum   | Function of reports with more than 130 mg flash composition or more than 500 mg black powder<br>Burst for shells or colour effects<br>Completion of burning | Maximum |  | <p>Not allowed</p> <p>Should not be a source of fire</p> <p>10 m<br/>10 m<br/>5 m<br/>Safe spectator distance instruction for all fireworks that project effects included; the height of function must be included in the labeling</p> |
| Minimum  | Function of reports with more than 130 mg flash composition or more than 500 mg black powder<br>Burst for shells or colour effects<br>Completion of burning |   |         |  |  |
| Maximum  |   |   |         |  |  |



## General Requirements for Consumer Fireworks

| CHARACTERISTIC  | REQUIREMENT   |
|---|---|
| <p>4.3 <u>Effects</u></p> <p>Explosion of article ( C )<br/>                     Projection of unlit composition<br/>                     Noise level at 5 m ( C )<br/>                     Scatter of burning effect or debris from lighting on ground ( C )<br/>                     Flame ( C )</p>  | <p>Not allowed (unless designed to do so)<br/>                     None<br/>                     140 dB (A) maximum<br/>                     5 m maximum<br/>                     No spitting, disintegrating</p> |
| <p>5 <u>Physical Measurements</u> (Compared to Technical Declaration)</p> <p>Gross weight<br/>                     Explosive charge weights</p>   | <p>List on a separate report</p>  |
| <p>6 <u>Stability</u>                      Test 2 from the units that were dismantled<br/>                     75 °C for 48 h</p>   | <p>Must meet</p>  |
| <p>7 <u>Chemical Analysis</u>                      From the units that were dismantled and compared to Technical Declaration<br/>                     No gross discrepancies; this is defined as follows:</p> <ul style="list-style-type: none"> <li>• detection of a component not present in the declaration</li> <li>• non-detection of a component present in the declaration</li> <li>• finding of &gt;200% for components present under 25%; find &gt;150% for other components</li> <li>• finding &lt;50% of components present over 10% in the declaration</li> </ul> | <p>List on a separate report</p>  |
| <p>7.1 <u>Qualitative Detection of Chlorate</u></p>   | <p>Chlorate with sulphur not allowed, chlorate allowed under restricted conditions</p>  |

## Specific Requirements for Consumer Fireworks

| CHARACTERISTICS  | REQUIREMENT   |
|--|---|
| <p><b><u>BATTERY/COMBINATION</u></b><br/>           Synonyms are, for example, barrage, bombardos, hybrid, multiple tubes. Assembly including several elements either containing the same type or several types each corresponding to one of the following: Roman candles, mines, fountains, flares, or ground whistles, and that consists of a rapidly fired sequence of aerial or low-level fireworks with one or two points of ignition. Shells are not allowed. Note that these articles are also commonly called cakes; however, in this document, the articles with more than seven tubes are described separately since the requirements differ.</p>  |   |
| <p><u>Physical Dimension</u> (See Roman candles, fountains, flares, mines or ground whistles)<br/>           Number of tubes (C)<br/> <u>Charge Limitation</u><br/>           For individual items</p> <p>Total pyrotechnic (C)<br/>           Number of aerial whistles<br/>           Number of aerial whistles with reports<br/>           Number of reports</p> <p><u>Physical Integrity</u><br/>           Use of wire to tie tubes together or to a support (C)<br/> <u>Labeling</u><br/>           See Roman candles, fountains, flares, ground whistles or mines<br/> <u>Performance</u><br/>           As per general requirements<br/>           Movement of article as a result of function<br/>           The barrage shall not enhance any hazard expected from individual components (C)</p> | <p>7 maximum</p> <p>As per Roman candles, mines, fountains, flares or ground whistles<br/>           300 g maximum<br/>           As per Roman candles<br/>           1 maximum per tube<br/>           1 maximum per tube - 800 mg, if multiple reports<br/>           130 mg to a maximum of 1 g as per mines (all reports must be ejected at once)</p> <p>Not allowed</p> <p>Not allowed</p> |

| CHARACTERISTICS   | REQUIREMENT   |
|---|---|
| <p><b><u>CAKES</u></b><br/> A firework device of 8 to 100 small-diameter cylindrical tubes that are chain fused to fire in sequence after a single ignition. These items discharge projectiles (e.g., stars, comets, aerial whistles, small effects) into the air. Only one effect per tube is allowed. Ground whistles and shells are not allowed.</p>   |   |
| <p><u>Physical Dimension</u> (See Roman candles, fountains or flares)<br/> Number of tubes (C)<br/> <u>Charge Limitation</u><br/> For the individual item<br/> Total pyrotechnic (C)<br/> Number of small effects or reports (130 mg flash powder or 500 mg of black powder)<br/> Number of aerial whistles<br/> Shells<br/> <u>Physical Integrity</u><br/> Use of wire to tie tubes together or to a support (C)<br/> Tube dimension<br/> <u>Labeling</u><br/> See Roman candles, fountains, flares or aerial whistles<br/> <u>Performance</u><br/> As per general requirements<br/> Movement of article as a result of function<br/> Cakes shall not enhance any hazard expected from individual components (C)</p> | <p>100 maximum<br/><br/> As per fountains, flares or Roman candles<br/> 300 g maximum<br/> 1 maximum per tube meeting these criteria<br/> 1 maximum per tube<br/> Not allowed<br/><br/> Not allowed<br/> Internal diameter: 22 mm maximum<br/><br/><br/><br/><br/><br/> Not allowed</p> |

| CHARACTERISTICS   | REQUIREMENT   |   |  |
|---|---|---|--|
| <p><b><u>CHRISTMAS CRACKERS</u></b><br/> A firework article consisting of an overwrapped cracker and designed to produce noise due to a small explosion when tapes or strings are pulled in opposite directions.</p>  |   |   |  |
| <p><u>Physical Dimension</u><br/> <u>Charge Limitation</u><br/> Total pyrotechnic (C)<br/> <u>Physical Integrity</u><br/> Projections during functioning (C)<br/> <u>Labeling</u> (on the box, individual items need not be labeled)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>WARNING</b><br/> EXPLODES WHEN TAPES ARE PULLED<br/> Do not disassemble<br/> Hold in hands, pull tapes apart sharply</p> </td> <td style="width: 50%; vertical-align: top;"> <p><b>MISE EN GARDE</b><br/> EXPLOSE QUAND ON TIRE LES RUBANS<br/> Ne pas démonter<br/> Tenir dans les mains et tirer les rubans brusquement</p> </td> </tr> </table> <p><u>Performance</u><br/> Sparks or smouldering material (C)<br/> Possible burns to the skin or igniting other material (C)<br/> Noise level at 45 cm</p>   | <p><b>WARNING</b><br/> EXPLODES WHEN TAPES ARE PULLED<br/> Do not disassemble<br/> Hold in hands, pull tapes apart sharply</p>  | <p><b>MISE EN GARDE</b><br/> EXPLOSE QUAND ON TIRE LES RUBANS<br/> Ne pas démonter<br/> Tenir dans les mains et tirer les rubans brusquement</p>  | <p>None defined<br/> 1.6 mg maximum<br/> Not allowed<br/> Not allowed<br/> 140 dB(A) maximum</p> |
| <p><b>WARNING</b><br/> EXPLODES WHEN TAPES ARE PULLED<br/> Do not disassemble<br/> Hold in hands, pull tapes apart sharply</p>  | <p><b>MISE EN GARDE</b><br/> EXPLOSE QUAND ON TIRE LES RUBANS<br/> Ne pas démonter<br/> Tenir dans les mains et tirer les rubans brusquement</p>  |   |  |
| <p><b><u>FLARES</u></b><br/> Ground-level firework that consists of a thin-walled cylindrical tube, so that the tube may burn away with the composition, into which a pyrotechnic composition is pressed or cast that produces a hot, bright-coloured flame; also called illuminating torches, coloured fire or Bengal fire.</p>  |   |   |  |
| <p><u>Physical Dimension</u><br/> <u>Charge Limitation</u><br/> Total pyrotechnic (C)<br/> <u>Labeling</u></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>WARNING</b><br/> EMITS FLAMES<br/> For use by adults<br/> For outdoor use only<br/> Do not hold in hand<br/> Place upright on level ground<br/> (for flares with bases)<br/> OR<br/> Stick firmly upright in ground<br/> (for flares without bases)<br/> Light fuse and stand clear</p> </td> <td style="width: 50%; vertical-align: top;"> <p><b>MISE EN GARDE</b><br/> ÉMET UNE FLAMME<br/> Utilisation par des adultes<br/> N'utiliser qu'à l'extérieur<br/> Ne pas tenir dans la main<br/> Placer verticalement sur le sol à un endroit bien à plat<br/> (fusées comportant une base) OU<br/> Bien enfoncer en position verticale dans le sol<br/> (fusées sans base)<br/> Allumer la mèche et se tenir à l'écart</p> </td> </tr> </table> <p><u>Performance</u><br/> As per general requirements</p> | <p><b>WARNING</b><br/> EMITS FLAMES<br/> For use by adults<br/> For outdoor use only<br/> Do not hold in hand<br/> Place upright on level ground<br/> (for flares with bases)<br/> OR<br/> Stick firmly upright in ground<br/> (for flares without bases)<br/> Light fuse and stand clear</p>   | <p><b>MISE EN GARDE</b><br/> ÉMET UNE FLAMME<br/> Utilisation par des adultes<br/> N'utiliser qu'à l'extérieur<br/> Ne pas tenir dans la main<br/> Placer verticalement sur le sol à un endroit bien à plat<br/> (fusées comportant une base) OU<br/> Bien enfoncer en position verticale dans le sol<br/> (fusées sans base)<br/> Allumer la mèche et se tenir à l'écart</p> | <p>None defined<br/> 150 g maximum</p>   |
| <p><b>WARNING</b><br/> EMITS FLAMES<br/> For use by adults<br/> For outdoor use only<br/> Do not hold in hand<br/> Place upright on level ground<br/> (for flares with bases)<br/> OR<br/> Stick firmly upright in ground<br/> (for flares without bases)<br/> Light fuse and stand clear</p>   | <p><b>MISE EN GARDE</b><br/> ÉMET UNE FLAMME<br/> Utilisation par des adultes<br/> N'utiliser qu'à l'extérieur<br/> Ne pas tenir dans la main<br/> Placer verticalement sur le sol à un endroit bien à plat<br/> (fusées comportant une base) OU<br/> Bien enfoncer en position verticale dans le sol<br/> (fusées sans base)<br/> Allumer la mèche et se tenir à l'écart</p> |   |  |

| CHARACTERISTICS   | REQUIREMENT   |   |   |
|---|---|---|---|
| <p><b><u>FOUNTAINS</u></b><br/> Ground piece fireworks that are filled with pyrotechnic composition and usually having a choke or restricted orifice. A fountain is a gerb that contains a base for support. When ignited, it projects a jet or broad spray of fire and sparks; a conical fountain is sometimes called a volcano and may contain microstars.</p>  |   |   |   |
| <p><u>Physical Dimension</u><br/> <u>Charge Limitations</u><br/> Cones (C)<br/> Cylinders (C)<br/> <u>Physical Integrity</u><br/> Must meet 12° tilt or have a spike or be designed for partial burial (C)<br/> <u>Labeling</u></p> <table border="0" data-bbox="163 483 1302 860"> <tr> <td style="vertical-align: top;"> <p><b><i>WARNING</i></b><br/> <i>EMITS SHOWER OF SPARKS</i><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place on level surface or partially bury (no spikes)</i></p> </td> <td style="vertical-align: top;"> <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer sur le sol à un endroit bien à plat ou enterrer partiellement (sans pieu) OU</i><br/> <i>Bien enfoncer dans le sol en position verticale (avec pieu)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> </td> </tr> </table> <p>OR</p> <p><i>Stick firmly into the ground in an upright position (with spikes)</i><br/> <i>Light fuse and stand clear</i></p> <p><u>Performance</u><br/> As per general requirements</p> | <p><b><i>WARNING</i></b><br/> <i>EMITS SHOWER OF SPARKS</i><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place on level surface or partially bury (no spikes)</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer sur le sol à un endroit bien à plat ou enterrer partiellement (sans pieu) OU</i><br/> <i>Bien enfoncer dans le sol en position verticale (avec pieu)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> | <p>None defined</p> <p>50 g maximum<br/> 75 g maximum</p> <p>Presence of one or the other</p> |
| <p><b><i>WARNING</i></b><br/> <i>EMITS SHOWER OF SPARKS</i><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place on level surface or partially bury (no spikes)</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer sur le sol à un endroit bien à plat ou enterrer partiellement (sans pieu) OU</i><br/> <i>Bien enfoncer dans le sol en position verticale (avec pieu)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> |   |   |



| CHARACTERISTICS  | REQUIREMENT  |  |  |
|--|--|--|--|
| <p><b><u>PRE-LOADED MORTARS</u></b><br/> A completed item supplied by a manufacturer that is ready for use. It ejects a small shell with stars and/or small effects, or a comet, or an aerial whistle or a report.</p>   |  |  |  |
| <p><u>Physical Dimensions</u><br/> Internal diameter (C)</p> <p><u>Charge Limitations</u><br/> Effect (C)<br/> Aerial whistle (C)<br/> Lift (C)</p> <p><u>Labeling</u></p> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><b><i>WARNING</i></b><br/> <b><i>SHOOTS A SHELL OR WHISTLE</i></b><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a min. distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/> <i>Light fuse and stand clear</i></p> </td> <td style="vertical-align: top; width: 50%;"> <p><b><i>MISE EN GARDE</i></b><br/> <b><i>LANCE UNE BOMBE OU UN SIFFLET</i></b><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance minimale de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> </td> </tr> </table> <p><u>Performance</u><br/> Bases must be of large enough dimension to prevent toppling over during functioning ( C)</p> | <p><b><i>WARNING</i></b><br/> <b><i>SHOOTS A SHELL OR WHISTLE</i></b><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a min. distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/> <i>Light fuse and stand clear</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <b><i>LANCE UNE BOMBE OU UN SIFFLET</i></b><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance minimale de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> | <p>50 mm maximum</p> <p>40 g maximum; (refer to shells) except for:<br/> 5 g maximum<br/> 10 g maximum</p> |
| <p><b><i>WARNING</i></b><br/> <b><i>SHOOTS A SHELL OR WHISTLE</i></b><br/> <i>Up to a height of XX m</i><br/> <i>Spectators must be at a min. distance of XX m</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/> <i>Light fuse and stand clear</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <b><i>LANCE UNE BOMBE OU UN SIFFLET</i></b><br/> <i>Jusqu'à une hauteur de X m</i><br/> <i>Les spectateurs doivent être à une distance minimale de X m</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> |  |  |

| CHARACTERISTICS  | REQUIREMENT   |   |  |
|--|---|---|--|
| <p><b><u>ROMAN CANDLES</u></b><br/>Cylindrical tube loaded in such a way as to periodically and repeatedly propel stars or other pyrotechnic small effects (see small effects definition) into the air.</p>  |   |   |  |
| <p><u>Physical Dimensions</u><br/>Internal diameter (C)</p> <p><u>Charge Limitations</u><br/>Total pyrotechnic (C)<br/>Whistle (Note that Roman candles with more than one (1) aerial whistle may be subjected to a crush/violence test)<br/>Number of reports or tourbillons<br/>Number of shots</p> <p><u>Physical Integrity</u></p> <p><u>Labeling</u></p> <table border="0" data-bbox="163 548 1323 958"> <tr> <td style="vertical-align: top;"> <p><b>WARNING</b><br/><i>SHOOTS FLAMING BALLS</i><br/><i>Up to a height of XX m</i><br/><i>Spectators must be at a min. distance of XX m</i><br/><i>For use by adults</i><br/><i>For outdoor use only</i><br/><i>Do not hold in hand</i><br/><i>Place upright on firm, level ground (with bases)</i><br/>OR <i>Bury one half of its length in sand or soil (without bases)</i><br/><i>Light fuse and stand clear</i></p> </td> <td style="vertical-align: top;"> <p><b>MISE EN GARDE</b><br/><i>ÉMET DES BOULES ENFLAMMÉES</i><br/><i>Jusqu'à une hauteur de X m</i><br/><i>Les spectateurs doivent être à une distance minimale de X m</i><br/><i>Utilisation par des adultes</i><br/><i>N'utiliser qu'à l'extérieur</i><br/><i>Ne pas tenir dans la main</i><br/><i>Placer verticalement sur le sol à un endroit solide et bien à plat (avec base)</i><br/>OU <i>Enterrer à la moitié dans du sable ou dans le sol (sans base)</i><br/><i>Allumer la mèche et se tenir à l'écart</i></p> </td> </tr> </table> <p><u>Performance</u><br/>As per general requirements</p> <p>Time intervals between stars<br/>Breakage of stars<br/>Completion of burning (Note: debris beyond 5 m is a critical characteristic under general requirements)</p> | <p><b>WARNING</b><br/><i>SHOOTS FLAMING BALLS</i><br/><i>Up to a height of XX m</i><br/><i>Spectators must be at a min. distance of XX m</i><br/><i>For use by adults</i><br/><i>For outdoor use only</i><br/><i>Do not hold in hand</i><br/><i>Place upright on firm, level ground (with bases)</i><br/>OR <i>Bury one half of its length in sand or soil (without bases)</i><br/><i>Light fuse and stand clear</i></p>  | <p><b>MISE EN GARDE</b><br/><i>ÉMET DES BOULES ENFLAMMÉES</i><br/><i>Jusqu'à une hauteur de X m</i><br/><i>Les spectateurs doivent être à une distance minimale de X m</i><br/><i>Utilisation par des adultes</i><br/><i>N'utiliser qu'à l'extérieur</i><br/><i>Ne pas tenir dans la main</i><br/><i>Placer verticalement sur le sol à un endroit solide et bien à plat (avec base)</i><br/>OU <i>Enterrer à la moitié dans du sable ou dans le sol (sans base)</i><br/><i>Allumer la mèche et se tenir à l'écart</i></p> | <p>22 mm maximum</p> <p>40 g maximum;<br/>5 g maximum each; 10 g total as aerial whistles</p> <p>1 maximum<br/>5 minimum</p> <p>Must not have a spike</p> <p>Regular intervals<br/>No debris/trajectory beyond 5 m<br/>Whilst in the air</p> |
| <p><b>WARNING</b><br/><i>SHOOTS FLAMING BALLS</i><br/><i>Up to a height of XX m</i><br/><i>Spectators must be at a min. distance of XX m</i><br/><i>For use by adults</i><br/><i>For outdoor use only</i><br/><i>Do not hold in hand</i><br/><i>Place upright on firm, level ground (with bases)</i><br/>OR <i>Bury one half of its length in sand or soil (without bases)</i><br/><i>Light fuse and stand clear</i></p>   | <p><b>MISE EN GARDE</b><br/><i>ÉMET DES BOULES ENFLAMMÉES</i><br/><i>Jusqu'à une hauteur de X m</i><br/><i>Les spectateurs doivent être à une distance minimale de X m</i><br/><i>Utilisation par des adultes</i><br/><i>N'utiliser qu'à l'extérieur</i><br/><i>Ne pas tenir dans la main</i><br/><i>Placer verticalement sur le sol à un endroit solide et bien à plat (avec base)</i><br/>OU <i>Enterrer à la moitié dans du sable ou dans le sol (sans base)</i><br/><i>Allumer la mèche et se tenir à l'écart</i></p> |   |  |



| CHARACTERISTICS   | REQUIREMENT  |  |   |
|---|--|--|---|
| <p><b><u>SNAKES</u></b><br/> A ground piece firework that consists of a solid pellet. When ignited it swells, forming what resembles a snake.</p>   |  |  |   |
| <p><u>Physical Dimensions</u><br/> <u>Charge Limitation</u><br/> Total pyrotechnic (C)<br/> <u>Physical Integrity</u><br/> Cracks or loose composition<br/> <u>Labeling</u> (on the packaging)</p> <table border="0" data-bbox="163 418 1081 641"> <tr> <td style="vertical-align: top;"> <p><b><i>WARNING</i></b><br/> <b><i>PRODUCES A SNAKE</i></b><br/> <i>Do not put in mouth</i><br/> <i>Place on level ground</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i></p> </td> <td style="vertical-align: top;"> <p><b><i>MISE EN GARDE</i></b><br/> <b><i>FORME UN SERPENT</i></b><br/> <i>Ne pas mettre dans la bouche</i><br/> <i>Placer sur le sol à un endroit bien à plat</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i></p> </td> </tr> </table> <p><u>Performance</u><br/> As per general requirements but fuse requirements do not apply<br/> Difficult to light pellets</p> | <p><b><i>WARNING</i></b><br/> <b><i>PRODUCES A SNAKE</i></b><br/> <i>Do not put in mouth</i><br/> <i>Place on level ground</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i></p>  | <p><b><i>MISE EN GARDE</i></b><br/> <b><i>FORME UN SERPENT</i></b><br/> <i>Ne pas mettre dans la bouche</i><br/> <i>Placer sur le sol à un endroit bien à plat</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i></p> | <p>None defined<br/> 5 g maximum<br/> None<br/> None<br/> Not allowed</p> |
| <p><b><i>WARNING</i></b><br/> <b><i>PRODUCES A SNAKE</i></b><br/> <i>Do not put in mouth</i><br/> <i>Place on level ground</i><br/> <i>For use by adults</i><br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <b><i>FORME UN SERPENT</i></b><br/> <i>Ne pas mettre dans la bouche</i><br/> <i>Placer sur le sol à un endroit bien à plat</i><br/> <i>Utilisation par des adultes</i><br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i></p> |  |   |

| CHARACTERISTICS   | REQUIREMENT   |   |              |  |   |
|---|---|---|--------------|--|---|
| <p><b><u>SPARKLERS</u></b><br/>Composition coated metal rod designed to be hand-held.</p>   |   |   |              |  |   |
| <p><u>Physical Dimensions</u><br/>Length<br/>Length of composition<br/>Rod to serve as a handle</p> <p><u>Charge Limitation</u><br/>Total pyrotechnic (C)</p> <p><u>Physical Integrity</u><br/>Cracks that could cause the composition to fall off or composition falling off; this requirement will be replaced with the following once the test is developed:<br/>Composition falling off when testing in a jogging test (C)</p> <p><u>Labeling On the primary container, which is the smallest container sold to the public.</u></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>WARNING</b><br/><i>EMITS SHOWERS OF SPARKS</i><br/><i>For adult use or under close supervision by an adult</i><br/><i>Not recommended for indoor use</i><br/><i>Do not touch glowing rod</i><br/><i>Light only one sparkler at a time</i><br/><i>Hold in hand with arm extended away from the body</i></p> <p><i>Keep burning end and sparks away from clothing or other flammable materials</i></p> <p><i>Not intended for children under 8 years old</i></p> </td> <td style="vertical-align: top;"> <p><b>MISE EN GARDE</b><br/><i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/><i>Utilisation par un adulte ou sous la surveillance étroite d'un adulte</i><br/><i>Non recommandé pour utilisation à l'intérieur</i><br/><i>Ne pas toucher à la tige incandescente</i><br/><i>N'allumer qu'un cierge magique à la fois</i><br/><i>Tenir en maintenant la main le plus loin possible du corps</i></p> <p><i>Tenir le bout incandescent et les étincelles à l'écart des vêtements ou d'autres matières inflammables</i></p> <p><i>Non destiné aux enfants de moins de 8 ans</i></p> </td> </tr> </table> <p><u>Performance</u><br/>Time to ignition<br/>Shall burn smoothly<br/>Total burning time<br/>Large pieces of composition falling from the rod (C)<br/>Ignition or burning (scorching and some pinholes are allowed) through a single page of newspaper (C)</p> <table border="0"> <tr> <td style="vertical-align: top;">Pinholes (C)</td> <td style="vertical-align: top;">Size of any pinhole:<br/>Number: For 20-sparkler sample<br/>Per sparkler</td> </tr> </table> <p>Sag after functioning from the point at which burning ceased<br/>Fuse requirements do not apply</p> | <p><b>WARNING</b><br/><i>EMITS SHOWERS OF SPARKS</i><br/><i>For adult use or under close supervision by an adult</i><br/><i>Not recommended for indoor use</i><br/><i>Do not touch glowing rod</i><br/><i>Light only one sparkler at a time</i><br/><i>Hold in hand with arm extended away from the body</i></p> <p><i>Keep burning end and sparks away from clothing or other flammable materials</i></p> <p><i>Not intended for children under 8 years old</i></p>  | <p><b>MISE EN GARDE</b><br/><i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/><i>Utilisation par un adulte ou sous la surveillance étroite d'un adulte</i><br/><i>Non recommandé pour utilisation à l'intérieur</i><br/><i>Ne pas toucher à la tige incandescente</i><br/><i>N'allumer qu'un cierge magique à la fois</i><br/><i>Tenir en maintenant la main le plus loin possible du corps</i></p> <p><i>Tenir le bout incandescent et les étincelles à l'écart des vêtements ou d'autres matières inflammables</i></p> <p><i>Non destiné aux enfants de moins de 8 ans</i></p> | Pinholes (C) | Size of any pinhole:<br>Number: For 20-sparkler sample<br>Per sparkler | <p>100 mm to 750 mm<br/>None defined - must meet other requirements<br/>1/3 minimum of the total length</p> <p>20 g maximum</p> <p>Not allowed</p> <p>10 s maximum with a match flame</p> <p>5 min maximum<br/>None (only sparks are allowed)<br/>None in a horizontal position 450 mm above the paper<br/>2 mm maximum diameter<br/>20 maximum<br/>5 maximum<br/>30° maximum from horizontal</p> |
| <p><b>WARNING</b><br/><i>EMITS SHOWERS OF SPARKS</i><br/><i>For adult use or under close supervision by an adult</i><br/><i>Not recommended for indoor use</i><br/><i>Do not touch glowing rod</i><br/><i>Light only one sparkler at a time</i><br/><i>Hold in hand with arm extended away from the body</i></p> <p><i>Keep burning end and sparks away from clothing or other flammable materials</i></p> <p><i>Not intended for children under 8 years old</i></p>  | <p><b>MISE EN GARDE</b><br/><i>ÉMET UNE PLUIE D'ÉTINCELLES</i><br/><i>Utilisation par un adulte ou sous la surveillance étroite d'un adulte</i><br/><i>Non recommandé pour utilisation à l'intérieur</i><br/><i>Ne pas toucher à la tige incandescente</i><br/><i>N'allumer qu'un cierge magique à la fois</i><br/><i>Tenir en maintenant la main le plus loin possible du corps</i></p> <p><i>Tenir le bout incandescent et les étincelles à l'écart des vêtements ou d'autres matières inflammables</i></p> <p><i>Non destiné aux enfants de moins de 8 ans</i></p> |   |              |  |   |
| Pinholes (C)  | Size of any pinhole:<br>Number: For 20-sparkler sample<br>Per sparkler  |   |              |  |   |



| CHARACTERISTICS  | REQUIREMENT  |  |   |
|--|--|--|---|
| <p><b><u>STROBE POTS</u></b><br/>           Strobe pots have strobe composition pressed, cast or loaded into small tubes or end plugs. It generates a blinking effect where bright flashes of light are produced at fairly regular intervals with relatively complete darkness between flashes.</p>  |  |  |   |
| <p><u>Physical Dimensions</u><br/> <u>Charge Limitation</u><br/>           Total pyrotechnic (C)<br/> <u>Labeling</u></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b><i>WARNING</i></b><br/> <i>EMITS FLAMES</i><br/>           For use by adults<br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/>           (with bases)<br/>           OR <i>Bury in sand or soil (without bases)</i><br/> <i>Light fuse and stand clear</i></p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET DES FLAMMES</i><br/>           Utilisation par des adultes<br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/>           (avec base)<br/>           OU <i>Enfoncer dans le sable ou dans le sol (sans base)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> </td> </tr> </table> <p><u>Performance</u><br/> <i>As per general requirements</i></p> | <p><b><i>WARNING</i></b><br/> <i>EMITS FLAMES</i><br/>           For use by adults<br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/>           (with bases)<br/>           OR <i>Bury in sand or soil (without bases)</i><br/> <i>Light fuse and stand clear</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET DES FLAMMES</i><br/>           Utilisation par des adultes<br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/>           (avec base)<br/>           OU <i>Enfoncer dans le sable ou dans le sol (sans base)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> | <p><i>None defined</i></p> <p><i>40 g maximum</i></p> |
| <p><b><i>WARNING</i></b><br/> <i>EMITS FLAMES</i><br/>           For use by adults<br/> <i>For outdoor use only</i><br/> <i>Do not hold in hand</i><br/> <i>Place upright on firm, level ground</i><br/>           (with bases)<br/>           OR <i>Bury in sand or soil (without bases)</i><br/> <i>Light fuse and stand clear</i></p>   | <p><b><i>MISE EN GARDE</i></b><br/> <i>ÉMET DES FLAMMES</i><br/>           Utilisation par des adultes<br/> <i>N'utiliser qu'à l'extérieur</i><br/> <i>Ne pas tenir dans la main</i><br/> <i>Placer verticalement sur le sol à un endroit solide et bien à plat</i><br/>           (avec base)<br/>           OU <i>Enfoncer dans le sable ou dans le sol (sans base)</i><br/> <i>Allumer la mèche et se tenir à l'écart</i></p> |  |   |





| CHARACTERISTICS   | REQUIREMENT   |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
|---|---|-----------------------------|-------------------------------|------------------------------------|---|---|--------------------------|------------------------------------|-----------------------------|------------------------------------|----------------------------|----------------------------------|-----------------------------------|---|---|
| <p><b><u>WHEELS</u></b><br/> A revolving firework device fixed by an axle to a post above ground. When ignited, the attached driver(s) produces thrust, which causes the wheel to spin, producing a pattern of sparks.</p> <p>Construction Details</p> <p><u>Pinwheel:</u> Short length of paper-wrapped composition wound in a spiral around the edge of a circular piece of cardboard or plastic. The centre is secured to a post by a pin.</p> <p><u>Saxon:</u> A single driver with a hole in one end through which a nail is secured. The other end has a hole through the side with a fuse. When ignited the driver rotates about the axis.</p> <p><u>Wheels:</u> 1 or more drivers arranged on a sturdy support of wood, heavy cardboard or other appropriate material. The center has a hole for a nail.</p> <p><u>Driver:</u> A driver consists of a strong paper case with a nozzle or choke, charged with a fast burning pyrotechnic composition. In fact it is a thrust producing gerb designed to propel the unit.</p>   |   |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <p><u>Physical Dimensions</u><br/> <u>Charge Limitations</u><br/> Tube or driver on a wheel (C)<br/> Total on a wheel (C)<br/> May eject sparks or microstars or flames but may not shoot stars as in Roman candles</p> <p><u>Physical Integrity</u><br/> Article coming loose during function (C)<br/> Condition of hole to assure smooth rotation<br/> Pin or nail of appropriate diameters shall be supplied with the wheel; unless the wheel is in a sealed package, the nail shall be firmly affixed to the support<br/> Fuse shall be firmly affixed to the support and shall be well insulated to prevent cross ignition</p> <p><u>Labeling</u></p> <table border="0"> <tr> <td><b><i>WARNING</i></b></td> <td><b><i>MISE EN GARDE</i></b></td> </tr> <tr> <td><i>EMITS SHOWER OF SPARKS</i></td> <td><i>ÉMET UNE PLUIE D'ÉTINCELLES</i></td> </tr> <tr> <td><i>Nail to a post, make sure wheel turns freely</i></td> <td><i>Clouer à un poteau; s'assurer que la roue tourne librement</i></td> </tr> <tr> <td><i>For use by adults</i></td> <td><i>Utilisation par des adultes</i></td> </tr> <tr> <td><i>For outdoor use only</i></td> <td><i>N'utiliser qu'à l'extérieur</i></td> </tr> <tr> <td><i>Do not hold in hand</i></td> <td><i>Ne pas tenir dans la main</i></td> </tr> <tr> <td><i>Light fuse and stand clear</i></td> <td><i>Allumer la mèche et se tenir à l'écart</i></td> </tr> </table> <p><u>Performance</u><br/> Wheel shall revolve smoothly (C)<br/> Stoppage:<br/> Drivers and whistle shall remain attached to support to which the wheel is attached<br/> Distance sparks fly<br/> Ignition of post to which it is attached (C)<br/> Presence of stars (C)</p> | <b><i>WARNING</i></b>   | <b><i>MISE EN GARDE</i></b> | <i>EMITS SHOWER OF SPARKS</i> | <i>ÉMET UNE PLUIE D'ÉTINCELLES</i> | <i>Nail to a post, make sure wheel turns freely</i> | <i>Clouer à un poteau; s'assurer que la roue tourne librement</i> | <i>For use by adults</i> | <i>Utilisation par des adultes</i> | <i>For outdoor use only</i> | <i>N'utiliser qu'à l'extérieur</i> | <i>Do not hold in hand</i> | <i>Ne pas tenir dans la main</i> | <i>Light fuse and stand clear</i> | <i>Allumer la mèche et se tenir à l'écart</i> | <p>None defined</p> <p>60 g maximum<br/> 240 g maximum</p> <p>Not allowed<br/> Grommetted or otherwise treated</p> <p>5 s maximum</p> <p>5 m maximum<br/> Not allowed<br/> Not allowed, except for microstars</p> |
| <b><i>WARNING</i></b>   | <b><i>MISE EN GARDE</i></b>                                       |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>EMITS SHOWER OF SPARKS</i>   | <i>ÉMET UNE PLUIE D'ÉTINCELLES</i>                                |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>Nail to a post, make sure wheel turns freely</i>   | <i>Clouer à un poteau; s'assurer que la roue tourne librement</i> |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>For use by adults</i>  | <i>Utilisation par des adultes</i>                                |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>For outdoor use only</i>   | <i>N'utiliser qu'à l'extérieur</i>                                |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>Do not hold in hand</i>  | <i>Ne pas tenir dans la main</i>                                  |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |
| <i>Light fuse and stand clear</i>   | <i>Allumer la mèche et se tenir à l'écart</i>                     |                             |                               |                                    |   |   |                          |                                    |                             |                                    |                            |                                  |                                   |   |   |





| CHARACTERISTICS  | REQUIREMENT   |  |   |   |   |                                    |   |
|--|---|--|---|---|---|------------------------------------|---|
| <p><b><u>SECONDARY EFFECTS</u></b><br/>           These function or occur outside the fireworks articles and are initiated in whole or in part by a fuse or other delay system. The following items are permitted only as components of an article.</p>  |   |  |   |   |   |                                    |   |
| <p><b><u>SMALL EFFECTS</u></b><br/>           These include, but are not exclusive to, small star bursts, small shells and miniature tourbillons. Note that aerial whistles, reports or firecrackers are described further in this document. The use of flash powder is allowed but must be in compliance with the charge limitation described under reports.</p>  |   |  |   |   |   |                                    |   |
| <p><u>Charge Limitation</u><br/>           Total pyrotechnic (C)</p> <p><u>Labeling</u> (label must remain attached after being fired)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><i>Explosives-Danger-Do not light</i></td> <td style="width: 50%;"><i>Explosifs - Danger - Ne pas allumer</i></td> </tr> <tr> <td><i>Hand to local police for destruction</i></td> <td><i>Remettre à la police locale pour destruction</i></td> </tr> <tr> <td><i>Name and address of the manufacturer</i></td> <td><i>Nom et adresse du fabricant</i></td> </tr> </table> <p><u>Performance</u><br/>           Must be positioned to ignite reliably<br/>           Must meet general requirements</p>  | <i>Explosives-Danger-Do not light</i>               | <i>Explosifs - Danger - Ne pas allumer</i> | <i>Hand to local police for destruction</i> | <i>Remettre à la police locale pour destruction</i> | <i>Name and address of the manufacturer</i> | <i>Nom et adresse du fabricant</i> | <p>8 g maximum</p>  |
| <i>Explosives-Danger-Do not light</i>  | <i>Explosifs - Danger - Ne pas allumer</i>          |  |   |   |   |                                    |   |
| <i>Hand to local police for destruction</i>  | <i>Remettre à la police locale pour destruction</i> |  |   |   |   |                                    |   |
| <i>Name and address of the manufacturer</i>  | <i>Nom et adresse du fabricant</i>                  |  |   |   |   |                                    |   |
| <p><b><u>SHELLS</u></b><br/>           A spherical or cylindrical shell with a hard paper casing containing stars, and/or small effects, and a burst charge with a lift charge to send the shell into the air. These are allowed only as a component of a finished item.</p>   |   |  |   |   |   |                                    |   |
| <p><u>Construction</u><br/>           Fragments causing injury by falling on people (C)</p> <p><u>Physical Dimensions</u><br/>           Diameter (C)</p> <p><u>Charge Limitations</u><br/>           1 shell per tube<br/>           Effect (C)<br/>           Lift (C)</p> <p><u>Labeling</u> (label must remain attached after being fired)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><i>Explosives-Danger-Do not light</i></td> <td style="width: 50%;"><i>Explosifs - Danger - Ne pas allumer</i></td> </tr> <tr> <td><i>Hand to local police for destruction</i></td> <td><i>Remettre à la police locale pour destruction</i></td> </tr> <tr> <td><i>Name and address of the manufacturer</i></td> <td><i>Nom et adresse du fabricant</i></td> </tr> </table> <p>If the print is too small, the following is acceptable when approved by the Chief Inspector:<br/> <i>Explosives - Danger - Explosifs</i></p> <p>Labeling must also indicate how far spectators must be placed from the firing area</p> <p><u>Performance</u><br/>           See general requirements</p> | <i>Explosives-Danger-Do not light</i>               | <i>Explosifs - Danger - Ne pas allumer</i> | <i>Hand to local police for destruction</i> | <i>Remettre à la police locale pour destruction</i> | <i>Name and address of the manufacturer</i> | <i>Nom et adresse du fabricant</i> | <p>None</p> <p>50 mm maximum</p> <p>40 g maximum (no flash powder in burst)<br/>           10 g maximum</p> |
| <i>Explosives-Danger-Do not light</i>  | <i>Explosifs - Danger - Ne pas allumer</i>          |  |   |   |   |                                    |   |
| <i>Hand to local police for destruction</i>  | <i>Remettre à la police locale pour destruction</i> |  |   |   |   |                                    |   |
| <i>Name and address of the manufacturer</i>  | <i>Nom et adresse du fabricant</i>                  |  |   |   |   |                                    |   |

| CHARACTERISTICS  | REQUIREMENT   |
|--|---|
| <p><b><u>REPORTS</u></b><br/> Reports are rolled paper tubes that contain flash powder (a powerful pyrotechnic composition) or black powder that produces a loud noise and that may also have the visual effect of a bright flash and smoke. They are available only as components in consumer fireworks. Reports must be ejected from the firework.</p>   |   |
| <p><u>Charge Limitations</u><br/> 1 report (C)<br/><br/> More than 1 (C)<br/><br/> Total for an article with more than one report</p> <p><u>Labeling</u> (label must remain attached after being fired)<br/> <i>Explosives-Danger-Do not light</i>                      <i>Explosifs -Danger - Ne pas allumer</i><br/> <i>Hand to local police for destruction</i>                      <i>Remettre à la police locale pour destruction</i><br/> <i>Name and address of the manufacturer</i>                      <i>Nom et adresse du fabricant</i></p> <p><u>Performance</u><br/> Reports must be fused to ignite reliably; fuse may be delay composition with colour<br/> When more than one report, they must be ejected all at once and not sequentially (C)<br/> When more than one report is present in a tube they must be part of a mine (C)<br/> Roman candles may not have more than one report</p> | <p>800 mg of flash powder or 3 g of black powder maximum<br/> 130 mg maximum of flash powder or 500 mg maximum of black powder for each<br/> 1 g maximum of flash powder or 4 g maximum of black powder</p> |
| <p><b><u>AERIAL WHISTLES</u></b><br/> These are permitted as part of mines, pre-loaded mortars or Roman candles, but are not permitted as individual articles.</p>   |   |
| <p><u>Charge Limitations</u><br/> Total pyrotechnic (C)<br/> If includes a report as the end of the aerial whistle, flash powder charge weight (C)</p> <p><u>Labeling</u> (label must remain attached after being fired)<br/> _____ <i>Explosives-Danger-Do not light</i>                      <i>Explosifs - Danger - Ne pas allumer</i><br/> _____ <i>Hand to local police for destruction</i>                      <i>Remettre à la police locale pour destruction</i><br/> _____ <i>Name and address of the manufacturer</i>                      <i>Nom et adresse du fabricant</i></p> <p><u>Performance</u><br/> Must be positioned to ignite reliably</p>  | <p>5 g maximum<br/> 800 mg maximum</p>  |

| CHARACTERISTICS   | REQUIREMENT   |
|---|---|
| <p><b>COMETS</b><br/>Comets are single large stars that produce a burning tail; they may or may not include a report insert.</p>  |   |
| <p><u>Charge Limitations</u><br/>Comet<br/>    Effect (C)<br/>If a report is present, report (C)<br/>Burst charge</p> <p><u>Labeling</u> (label must remain attached after being fired)<br/>    <i>Explosives-Danger-Do not light</i>                      <i>Explosifs - Danger - Ne pas allumer</i><br/>    <i>Hand to local police for destruction</i>                      <i>Remettre à la police locale pour destruction</i><br/>    <i>Name and address of the manufacturer</i>                      <i>Nom et adresse du fabricant</i></p> <p>If the print is too small, the following is acceptable when approved by the Chief Inspector<br/>    <i>Explosives - Danger - Explosifs</i></p> <p><u>Performance</u><br/>Comets per tube (C)<br/>Completion of comet burn after reaching the ground</p> | <p>40 g maximum<br/>130 mg maximum<br/>400 mg maximum of flash</p> <p>One maximum<br/>Not allowed</p> |

**APPENDIX B**  
**DISPLAY FIREWORKS**

## General Requirements for Display Fireworks

| CHARACTERISTICS  | REQUIREMENT   |  |   |   |   |                                    |                        |
|--|---|--|---|---|---|------------------------------------|------------------------|
| <b>Examine the shipping containers and packaging (all articles).</b>   |   |  |   |   |   |                                    |                        |
| <p><u>1. Packaging</u></p> <p><u>1.1 Labeling</u> (Note that any italics in sections under labeling must be reproduced on the article)</p> <p>UN name<br/>UN number<br/>Orange label<br/>Name of the manufacturer or distributor<br/>Registration number for packaging (C)</p> <p><u>1.2 Condition of packaging</u></p> <p>Loose composition (C)<br/>Acceptable for transport</p>  | <p>Not allowed<br/>Must be acceptable for transport</p> |  |   |   |   |                                    |                        |
| <b>Examine 9 units of each of the articles submitted.</b>  |   |  |   |   |   |                                    |                        |
| <p><u>2 Labeling</u></p> <p>English and French<br/>Authorized brand or trade name<br/>Logo or code that identifies the manufacturer<br/>Generic name of the article adequate to indicate its function<br/>Description of effect<br/>Explicit precautions and instructions for safe handling (C)<br/>Tube items must show arrow indicating the exit of flame/fire<br/>Aerial shells and separately fused and ejected components to carry the following label (C):</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: left;"><i>Explosives-Danger-Do not light</i></td> <td style="text-align: left;"><i>Explosifs - Danger - Ne pas allumer</i></td> </tr> <tr> <td style="text-align: left;"><i>Hand to local police for destruction</i></td> <td style="text-align: left;"><i>Remettre à la police locale pour destruction</i></td> </tr> <tr> <td style="text-align: left;"><i>Name and address of the manufacturer</i></td> <td style="text-align: left;"><i>Nom et adresse du fabricant</i></td> </tr> </table> <p>If the print is too small, the following is acceptable when approved by the Chief Inspector<br/><i>Explosives - Danger - Explosifs</i></p> <p>This means that if an item is shot into the air or is enclosed in a tube or shell, this tube or shell must carry this label, which must remain attached to the tube or shell after firing</p> | <i>Explosives-Danger-Do not light</i>                   | <i>Explosifs - Danger - Ne pas allumer</i> | <i>Hand to local police for destruction</i> | <i>Remettre à la police locale pour destruction</i> | <i>Name and address of the manufacturer</i> | <i>Nom et adresse du fabricant</i> | <p>Must be present</p> |
| <i>Explosives-Danger-Do not light</i>  | <i>Explosifs - Danger - Ne pas allumer</i>              |  |   |   |   |                                    |                        |
| <i>Hand to local police for destruction</i>  | <i>Remettre à la police locale pour destruction</i>     |  |   |   |   |                                    |                        |
| <i>Name and address of the manufacturer</i>  | <i>Nom et adresse du fabricant</i>                      |  |   |   |   |                                    |                        |

| CHARACTERISTICS   | REQUIREMENT   |
|---|---|
| <b>Dismantle 2 units of each article submitted.</b>   |   |
| <p><u>3 Construction of Articles</u></p> <p>Damage through normal shipping and handling</p> <p>Subject to rupture</p> <p>Metallic components posing a hazard of igniting other fireworks (C)</p> <p>Metallic components posing a hazard of missiles (C)</p> <p>Missile hazard when functioned or malfunctioned (C)</p> <p>Closed so that pyrotechnics cannot fall out of the tube (C)</p> <p>Loose pyrotechnic powder present in an unintended part of the article (C)</p> <p>Presence of parachutes attached to the shell or flare (C)</p> <p>Presence of sticks (stick rockets) (C)</p> <p>Main fuses clearly marked and firmly secured (C)</p> <p>End of the fuse must be covered by a removable cap of a distinguishing colour</p> <p>Possibility of accidental or unintentional ignition of interconnecting fuse (C)</p>   | <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p> <p>Not allowed</p>   |
| <b>Function 6 units.</b>  |   |
| <p><u>4 Performance (Function 6 Units)</u></p> <p>Did not function as described on the label (C)</p> <p>Did not function in a safe, reliable, reproducible and predictable manner (C)</p> <p>All lift charges must be sufficient to propel the effect so it:<br/>presents no danger to the public (C)</p> <p style="padding-left: 40px;">allows burning pyrotechnics to be completely consumed in the air (C)</p> <p style="padding-left: 80px;">height for complete burning of stars</p> <p style="padding-left: 80px;">height for function of sound shells</p> <p style="padding-left: 40px;">allows inert debris to extinguish itself before returning to the ground (C)</p> <p>Endanger or cause fire to operators, spectators or the environment</p> <p style="padding-left: 40px;">Fires started outside 20 m (C)</p> <p>Effects must be reproducible</p> <p>If to be lit by a portfire, fuse must be easily lit</p> <p>If to be lit by a portfire, delay between lighting and first effect average time <math>\pm</math> 1 standard deviation</p> <p>Explosion of article (C)</p> <p>Projection of unlit composition</p> <p>Noise level at 25 m and 1.5 m off the ground:                 Impulsive</p> <p style="padding-left: 220px;">Continuous</p> | <p>Not allowed</p> <p>Not allowed</p> <p>As per the requirements described in the Display Fireworks Manual</p> <p>10 m minimum</p> <p>20 m minimum</p> <p>10 m minimum</p> <p>None</p> <p>All reproducible</p> <p>3 to 10 s</p> <p>Not allowed</p> <p>Not allowed</p> <p>140 dB(A) maximum</p> <p>122 dB(A) maximum</p> |
| <p><u>5 Physical Measurements (Compared to Technical Declaration):</u></p> <p>Gross weight</p> <p>Explosive charge weights</p>  | <p>List on a separate report</p>  |

|     |  |  |   |
|-----|--|--|---|
| 6   | <u>Stability</u><br>75 °C for 48 hr      | Test 2 from the units that were dismantled   | Must meet   |
| 7   | <u>Chemical Analysis</u>                 | From the units that were dismantled compared to the Technical Declaration<br>No gross discrepancies; this is defined as follows: <ul style="list-style-type: none"> <li>• detection of a component not present in the declaration</li> <li>• non-detection of a component present in the declaration</li> <li>• finding of &gt;200% for components present under 25%; find &gt;150% for other components</li> <li>• finding &lt;50% of components present over 10% in the declaration</li> </ul> | List on a separate report   |
| 7.1 | <u>Qualitative Detection of Chlorate</u> |  | Chlorate with sulphur not allowed<br>Chlorate allowed under restricted conditions |

## Specific Requirements for Display Fireworks

| Characteristics  | Requirements  |
|--|---|
| <b><u>AERIAL AND NAUTICAL SHELLS</u></b>   |   |
| <b>Physical Examination</b>  |   |
| <p>Number of breaks (C) all calibres</p> <p>Calibre of shells (C)<br/>               Calibre of sound shells (C)</p> <p>Length of fuse to be lit by flame</p> <p>Minimum length of mortar</p> <p>Shells will fit snugly into the mortar<br/>               Minimum difference<br/>               Maximum difference<br/>                   3 and smaller<br/>                   4 to 6 inches<br/>                   &gt;6 inches</p> <p><u>Physical Integrity or Construction</u></p> <p>String to lower &gt;152 mm shells</p> <p><u>Labeling</u></p> <p>Labeling must include<br/>               Size of the mortar to be used<br/>               Name of the shell<br/>               Specific use e.g., sound shell, daylight shell, aquatic shell, star shells<br/>               Maximum height, dispersion, delay<br/>               Nautical shells must be supplied with a firing table (angle versus distance)</p> | <p>3 maximum; final break may be a report (150 mm maximum)</p> <p>12 inches (300 mm) maximum<br/>           150 mm maximum; 1 report shell</p> <p>Overhang of 150 mm minimum from the top of the mortar</p> <p>As per NFPA, unless specified by the manufacturer</p> <p>5 mm<br/>           8 mm<br/>           12 mm<br/>           15 mm</p> <p>Must be present</p> |
| <b>Function</b>  |   |
| <p><u>Charge limitations</u></p> <p>Bursting charge must be large enough to produce the effect described by the manufacturer</p> <p>Charge limitation for sound shells</p>   | <p>See requirement heights for completion of burning<br/>           85 g maximum of flash powder</p>  |



| Characteristics  | Requirements                |
|--|-----------------------------|
| <b><u>EXHIBITION CANDLES</u></b>   |                             |
| <b>Physical Examination</b>  |                             |
| <u>Physical Integrity</u><br>Delay compositions or other barriers be present to prevent the rapid unplanned passage of fire down the tube, but must minimize migration of expelling charge<br><br><u>Labeling</u><br>Height must be specified on the label<br>Fuse labeling is covered under section<br>Direction from which the flame exits must be indicated<br>Warning must include:<br><i>This article must not be held in the hand</i> Cet article ne doit pas être tenu dans la main |                             |
| <b>Function</b>  |                             |
| <u>Performance</u><br>Intervals for sequential functions<br>No rapid passage of fire down the tube<br>Stars, shells, comets, etc., that do not function  | 2 to 5 s<br><br>Not allowed |

| Characteristics  | Requirements   |
|--|--|
| <b><u>SAXON VOLANT (FLYING SAUCERS)</u></b>  |  |
| <b>Physical Examination</b>  |  |
| <u>Physical Integrity</u><br>Driver must be securely attached to prevent change of direction of force produced by the jet (C)<br>Drivers must not come loose or separate from the articles (C)<br>Supports must be sufficiently strong and not come apart in flight (C)<br><br><u>Labeling</u><br>Must carry instruction for use<br>Maximum height must be specified on the label<br>Warning must include:<br><i>Erratic Flight, Take Precautions for Spectators      Trajectoire aérienne imprévisible. Assurer la protection des spectateurs</i> |  |
| <b>Function</b>  |  |
| <u>Function</u><br>Spinning and lifting drivers must not allow unintended communication between them<br>Must spin on the ground before rising<br>Height (C)<br>Angle of trajectory (C)   | Must comply with instructions on labels<br>30° maximum from the vertical |
| <b><u>FOUNTAINS</u></b>  |  |
| <b>Physical Examination</b>  |  |
| <u>Labeling</u><br>The presence of whistles must be indicated  |  |
| <b>Function</b>  |  |
| <u>Performance</u><br>Height allowed for large amount of sparks<br>When used as drivers on wheels, fountains light within 1 s (C)<br>Burn continuously with a steady flame   | 20 m maximum   |
| <b><u>FLARES</u></b>   |  |
| <b>Function</b>  |  |
| <u>Function</u><br>Shall burn continuously with a steady flame   |  |

| Characteristics   | Requirements   |
|---|--|
| <b><u>FIRECRACKERS</u></b>  |  |
| <b>Physical Examination</b>   |  |
| <u>Physical Dimension</u><br>Length<br>Diameter<br><u>Charge Limitations</u><br>Black powder (C)<br>Flash powder (C)  | 5.0 cm maximum<br>0.65 cm maximum<br><br>0.5 g maximum<br>130 mg maximum |
| <b>Function</b>   |  |
| <u>Performance</u><br>Firecrackers sold in a cluster must not explode “en masse”<br>Range of debris   | 3 m maximum  |
| <b><u>BATTERIES, BARRAGES AND BOMBARDOS</u></b>   |  |
| <b>Physical Examination</b>   |  |
| <u>Labeling</u><br>Provided the batteries, barrages or bombardos are labeled, the individual firework need not be labeled   |  |
| <b>Function</b>   |  |
| <u>Performance</u><br>Base must remain intact during function (C)<br>Tubes must remain attached to the base (C)   |  |
| <b><u>MINES</u></b>   |  |
| <u>Labeling</u><br>Maximum height must be specified on the label<br>The individual components must be labeled<br>Direction from which the flame exits must be indicated |  |
| <u>Function</u><br>All effects must be ejected at the same time   |  |

| Characteristics  | Requirements                               |
|--|--|
| <b><u>WHEELS</u></b>   |  |
| <b>Physical Examination</b>  |  |
| <u>Physical Integrity</u><br>Nail supplied with the wheel must be sufficiently strong and long to hold the wheel in place (C)<br><u>Labeling</u><br>The individual components must be labeled  |  |
| <b>Function</b>  |  |
| <u>Function</u><br>Wheel must revolve smoothly, without stopping or hesitating (C)<br>Frame must not break, warp or catch fire (C)<br>Drivers must remain attached to their support or fall within 7 m of a vertical support with the wheel's nail 3 m above ground (C)  |  |
| <b><u>WATERFALLS AND SET PIECES</u></b>  |  |
| <b>Physical Examination</b>  |  |
| <u>Physical Integrity</u><br>Framework of a set piece and the wire of a waterfall must be strong enough and well secured to remain in position during functioning<br><u>Labeling</u><br>The individual pieces for the waterfall or set pieces need not be labeled on the condition that instructions be provided with the articles |  |
| <b><u>PORTFIRES</u></b>  |  |
| <b>Physical Examination</b>  |  |
| <u>Physical Features</u><br>The construction allows the attachment of an extension that remains cool while in use<br><u>Labeling</u><br>Must carry statement of its burn time  |  |
| <b>Function</b>  |  |
| <u>Performance</u><br>If to be lit by flame, must ignite (C)<br>If lit by friction, must ignite (C)<br>Variation on specified times (C)  | 10 s maximum<br>3 trials maximum<br>± 10 s |

| Characteristics  | Requirements                  |
|--|-------------------------------|
| <b><u>ELECTRIC MATCHES</u></b>   |                               |
| <b>Physical Examination</b>  |                               |
| <u>Labeling</u><br>Must include: <ul style="list-style-type: none"> <li>Maximum fire current</li> <li>Minimum fire current</li> <li>Resistance, including that of the leg wires</li> </ul> |                               |
| <b>Function</b>  |                               |
| <u>Performance</u><br>0.2 amp for 30 s (C)<br>0.5 amp (C)<br>Matchheads shall deflagrate and not detonate  | 0/10 fire<br>10/10 within 1 s |



**APPENDIX C**

**SUBMISSION FORM FOR AUTHORIZATION AND CLASSIFICATION OF FIREWORKS**

**SUBMISSION FORM FOR THE AUTHORIZATION AND CLASSIFICATION OF  
FIREWORKS**

Note: *This form is meant to be a summary of the information to be provided. When applicable, please indicate a reference document or indicate if the information is attached to this submission form.*

**SECTION 1 - APPLICANT INFORMATION**

*1.1 Requesting company details*

|                                   |       |
|-----------------------------------|-------|
| <b>Name of requesting company</b> | _____ |
| <b>Street address</b>             | _____ |
| <b>City</b>                       | _____ |
| <b>Province or state</b>          | _____ |
| <b>Country</b>                    | _____ |
| <b>Postal code</b>                | _____ |
| <b>Telephone</b>                  | _____ |
| <b>Fax</b>                        | _____ |
| <b>E-mail</b>                     | _____ |
| <b>Name of contact person</b>     | _____ |
| <b>Title</b>                      | _____ |

*1.2 Manufacturing company details*

|                                      |       |
|--------------------------------------|-------|
| <b>Name of manufacturing company</b> | _____ |
| <b>Street address</b>                | _____ |
| <b>City</b>                          | _____ |
| <b>Province or state</b>             | _____ |
| <b>Country</b>                       | _____ |
| <b>Postal code</b>                   | _____ |
| <b>Telephone</b>                     | _____ |
| <b>Fax</b>                           | _____ |
| <b>E-mail</b>                        | _____ |
| <b>Name of contact person</b>        | _____ |
| <b>Title</b>                         | _____ |



## SECTION 2 - LIST OF PRODUCTS

For submissions containing many articles ( $\geq 10$ ), an electronic copy of the listed products and part numbers must be supplied (in Microsoft Excel). Please refer to Section 2.1.1 of Revision 4 of the Consumer and Display Fireworks Criteria for more details and for an example of the format that should be used.

For submissions with less than 10 articles, you can either submit an electronic copy of the listed products and part numbers as mentioned above, or you can fill out the table below.

| Part Number(s) | Name of Product(s) |
|----------------|--------------------|
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |
| _____          | _____              |

## SECTION 3 - TECHNICAL DECLARATION

### 3.1 *Specification detailing the product(s)*

**Please specify which documents are attached to this submission:**

- Technical drawing of the article(s) with dimensions
- Chemical name(s) of the explosives and/or composition(s) with tolerances
- Explosives charge weight(s) with tolerances
- Gross article(s) weight(s)
- Description of the means and methods of disposal or destruction

### 3.2 *Packaging and labeling*

**Please specify which documents are attached to this submission:**

- Drawing or description of shipping packaging [external, internal, item]
- All labeling as it appears on the packaging [external, internal, item]
- When applicable, the packaging as offered to the consumer and its labeling
- Examples of all instructions for use and safety warnings in English and French

When applicable, does the packaging and packing method provide mitigation of explosive effects?

Yes  No

When packaging is opened or altered, are these effects still mitigated by the package?

Yes  No

#### **SECTION 4 - MANUFACTURER PRODUCT SCOPE DECLARATION**

##### *4.1 Scope of the explosive*

What is the scope of the explosive?

Consumer Fireworks  Display Fireworks

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

Provide a short description of the product and its method of function.

\_\_\_\_\_

##### *4.2 Reliability statement*

If available, provide a summary of the testing and/or use of articles used during/for development work and/or commercialization to demonstrate the reliability of the products.

\_\_\_\_\_

#### **SECTION 5 - INTENDED DISTRIBUTION**

##### *5.1 Means of distribution, sale or use*

Explain how the articles will be packaged for their distribution, sale or use (full case quantities, part case quantities, internal package, by unit, etc.)

\_\_\_\_\_

State expected shipment mode: \_\_\_\_\_

State expected shipment quantity by shipment mode:

Maximum: \_\_\_\_\_

Minimum: \_\_\_\_\_

5.2 "Mixed-load" combinations

Identify the "mixed-load" combinations of other dangerous goods needed for routine use. With which other items are the articles routinely transported for use?

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**SECTION 6 - UN HAZARD CLASSIFICATION FOR TRANSPORT**

6.1 Transport classification

A letter/certificate from a Competent Authority is attached to this submission:

Yes  No

If a letter/certificate is attached, indicate the basis of classification:

1.1G  1.2G  1.3G  1.4G  Other(specify): \_\_\_\_\_

Indicate the expected UN classification:

1.1G  1.2G  1.3G  1.4G  Other(specify): \_\_\_\_\_

Please explain the reason for this expectation (i.e., shipping mode, freight cost, compatibility, etc.)

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Willing to have tests conducted? Yes  No

Signature \_\_\_\_\_ Date \_\_\_\_\_