Human Environment and Transport
Inspectorate
Ministry of Infrastructure
and Water Management

Product Safety Inspection Report on Category F1 Fireworks 2020

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Content

Summary

In recent years, the Dutch Human Environment and Transport Inspectorate (ILT) has received several reports that category F1 fireworks are becoming increasingly powerful and are therefore more likely to be dangerous. These kinds of firework may be sold throughout the year in the Netherlands to persons aged twelve and above. Because of these reports, in June 2020, the ILT launched an investigation into the quality of category F1 fireworks. This report contains the findings of the investigation. The study focuses mainly on fountains, crackling balls and selection packs. It does not cover any other category F1 fireworks, such as pull strings, throw downs and party poppers.

The investigation ran between July 2020 and February 2021 and focused on the most high-risk items. The ILT examined the safety distance, type and amount of gunpowder in the fireworks, the stability of the fireworks, CE-marking and labelling of the fireworks. In October 2020, the initial test results already showed that a large number of products did not comply with the current regulations. For this reason, the ILT already informed our deputy minister of the initial results of this investigation in a supervisory alert report in October 2020.

The final results of the investigation show that the most frequently rejected products are 'fountains'. The total rejection rate for the fireworks articles investigated is 56%. For the fountains studied, this is as high as 69%. The ILT ordered the importers of the fireworks who did not meet the requirements to remove the rejected articles from the market and destroy them. If the compulsory information on the labels was missing, the importer had the opportunity to rectify the information on the labels. For all the tested fireworks, the importers have shown the ILT evidence that they have destroyed or rectified the rejected labels.

The Inspectorate tested 114 items in total, of which

- 56% were rejected. This percentage applies to 64 articles and 640 specimens. Fountains account for the biggest share, with burning parts or crackling ending up outside the 1-metre safety zone.

- 25.5% was of non-compliant quality. That amounts to 29 articles and 290 specimens. This concerns unclear or incorrect texts on the packaging, incorrect labels or omitted compulsory texts. The fireworks sometimes worked differently than described, but the ILT did not find these differences sufficient reason to reject the fireworks.

- 18.5% functioned properly and was found to be correct. This amounts to 21 articles and 210 specimens.

The current investigation methods do not allow the Inspectorate to determine why the examined category F1 fireworks do not comply with the safety regulations. However, the ILT understands that users experience category F1 fireworks as being more powerful, due to the force with which this type of fireworks shoot out of the shell. Therefore, the ILT commissioned the Netherlands Organization for applied Scientific Research (TNO) to investigate the composition of the most high-risk

products. TNO concluded in their research that the fireworks investigated do *not* generally contain more gunpowder than is permitted for category F1.

Conclusion
The tested fountains in 'category F1 fireworks' do not meet the essential safety requirements that the Pyrotechnics Directive and the Fireworks Decree place on category F1 fireworks. Producers and importers are responsible for guaranteeing this quality.

Fireworks products offered for sale on the European market must have a type test certificate, batch test report and declaration of conformity. With this CE mark, the manufacturer indicates that the article complies with the European regulations and the essential safety requirements. Nevertheless, the ILT concluded that only 18.5% of the investigated category F1 fireworks were 'compliant'.

According to NEN-standard 15947 the Net Explosive Mass (NEM) of 'category F1 fireworks fountains' may not exceed 7.5 grams and the safety distance for this is 1 metre. Most fountains examined contain no more than 7.5 grams of powder. But the burning parts or crackling effects of this exceeded the norm outside the 1-metre zone. Given the study results, it is mainly the fountains that do not stay within the 1-metre safety zone.

Just like fireworks in category F2, category F1 fireworks contain gunpowder. Using gunpowder comes with a risk. When setting off any firework, users must adhere to safety rules. Because children can also set off category F1 fireworks, parents and children should know the age requirements and safety rules.

Investigation of CE marking for consumer fireworks
Although the articles bear a CE marking, the ILT is concerned that only 18.5% of the investigated category F1 fireworks were 'compliant'. This is also because young people from the age of twelve may buy and use category F1 fireworks throughout the year. Previous product safety studies of consumer fireworks (excluding category F1 fireworks) have already shown that a part of the F2 category fireworks do not meet the essential safety requirements in Annex 1 of the European Pyrotechnic Articles Directive 2013/29. This investigation into category F1 fireworks and the annually recurring high numbers of rejections and non-conformities gives the ILT further reason to investigate the CE marking for consumer fireworks.

1 Reason / problem definition

1.1 Problem definition

The ILT regularly receives complaints about consumer fireworks. The complaints about category F1 fireworks are mainly about the power of these fireworks. Consumers are startled by that power. Category F1[1] fireworks are less hazardous than F2[2] fireworks but are also used by a vulnerable group of users: young children. Burns specialists from the Dutch Burns Care Association also warn of severe burns caused by category F1 fireworks. Category F1 fireworks may be sold and set off throughout the year. In addition, it is mainly the younger age group that buys and sets off these consumer fireworks.

1.2 Role of the Human Environment and Transport Inspectorate

The Human Environment and Transport Inspectorate (ILT) supervises compliance with the laws and regulations for fireworks based on the European pyrotechnic articles directive 2013/29 and the Fireworks Decree. The purpose of this supervision is to promote consumer safety. The circulation of unsafe consumer fireworks must be prevented. The ILT carries out inspections throughout the year, looking specifically at consumer fireworks that pose the most significant risk. These inspections include controls on the import and export and possession of consumer fireworks. They take place at the importers' premises, at the border, in ports, at the roadside and at points of sale.

1.3 Product safety investigation

Every year, the ILT conducts product safety investigations into consumer fireworks. Inspectors assess whether the consumer fireworks comply with the Fireworks Decree, the Regulation on the Designation of Consumer and Theatre Fireworks, and the European Pyrotechnic Articles Directive 2013/29.

To assess the quality of consumer fireworks, firework articles are sampled and examined at random. The Inspectorate examines the following aspects, among others:

- safety distances;
- type and amount of gunpowder;
- stability of the fireworks;
- sound pressure level of the fireworks;
- ignition delay;
- duds;

[1] Category F1: consumer fireworks which may present a very low hazard and negligible noise level and which are intended for use in confined areas, including fireworks which are intended for outdoor use. This category of fireworks is available all year round and may also be set off all year round. This category of fireworks may also be purchased by persons aged 12 or above.
[2] Category F2: fireworks which may present a low hazard and low noise level, are intended for outdoor use in confined areas and may be sold to persons over 16 years of age.

- too low a burst (exploding bursts in 'aerial' fireworks of e.g. compounds and batteries);
- CE marking;
- labelling.

The essential safety requirements for (consumer) fireworks are defined in the European Pyrotechnic Articles Directive 2013/29 and are detailed in standards sheets.

1.4 Chemical study

In response to the signals from the community about the increasing 'power' of category F1 fireworks, the ILT has ordered a chemical study to determine whether this is the case. An examination of the chemical composition of the consumer fireworks is possible, if necessary.

1.5 Enforcement

If the ILT determines that fireworks do not meet the legal requirements, it will take enforcement action. The ILT has powers under administrative and criminal law to have the fireworks rectified or destroyed, such as issuing a warning or a penalty.

2 The Product Safety Investigation

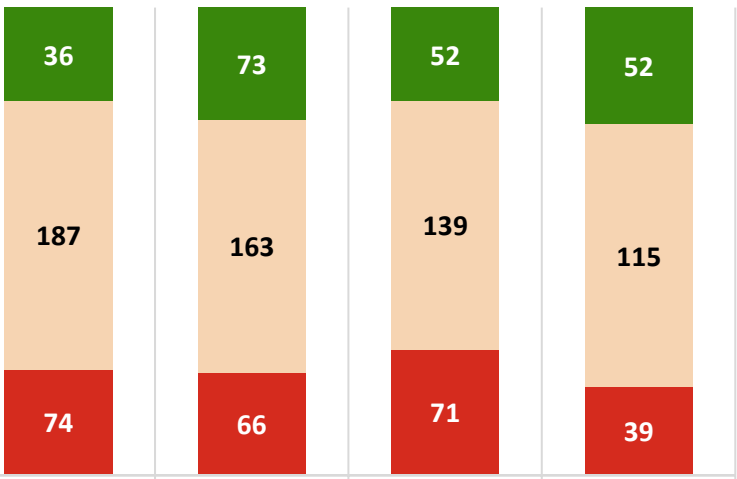
2.1 Purpose of the product safety investigation

Each year the ILT tests consumer fireworks (F2 category) in cooperation with the Netherlands Forensic Institute (NFI). Previous years' rejection rates were at least 19%, in the years 2016, 2017, 2018 and 2019.

By conducting tests, the ILT prevents unsafe consumer fireworks from reaching consumers. The aim is to reduce the number of fireworks victims. In recent years, product safety investigations by the ILT into consumer fireworks (excluding category F1 fireworks) have shown that at least 19% of products does not meet the essential safety requirements stated in Annex 1 of the European Pyrotechnic Articles Directive 2013/29. Products that do not comply with the essential safety requirements are rejected and withdrawn from the market through administrative measures. There are also many products of non-compliant quality that do not have to be taken off the market immediately or can still be put on the market after a few adjustments, for instance the adjustments of the texts on the labels.

Chart 1 shows the figures of the past years concerning the ILT investigation into consumer fireworks:

CHART 1. OVERVIEW OF PRODUCT SAFETY INVESTIGATIONS ON CONSUMER FIREWORKS 2016-2019



	2016	2017	2018	2019
Compliant	22%	24%	20%	25%
Non-compliant	63%	54%	53%	56%
Rejected	25%	22%	27%	19%

Chart 1. Overview ILT Product Safety Investigations Consumer Fireworks category F2, 2016-2019. (This does not include category F1 fireworks.)

Category F1 fireworks
With this report, the ILT aims to clarify the status of this specific type of fireworks in the Netherlands. This way, the ILT also responds to signals from members of the public and looks into whether these are justified.

CE, certification and batch testing
For the product safety investigation, the ILT obtains the certificates of the articles to be tested from the importer. This includes the type test certificate, batch test report and certificate of conformity. An independent accredited laboratory performs the batch test and examines whether the articles comply with the essential safety requirements set out in the European Pyrotechnic Articles Directive 2013/29. This Notified Body (NoBo) is involved in the proper execution of the conformity assessment procedure, after which the CE marking can be applied. With this CE mark, the manufacturer indicates that the article conforms with the European regulations and the essential safety requirements. For articles placed on the European market, the importer draws up a declaration of conformity. The importer thus declares that the articles are of good quality and that he or she is responsible for them. These certificates are always obtained and examined by the ILT during a product safety investigation.

2.2 Scope of the F1 product safety study

The ILT investigates whether consumer fireworks meet essential safety requirements. The scope of this study is limited to the higher-risk category F1 products that Dutch importers put on the Dutch market. All other category F1 fireworks (such as pull strings, throwdowns and party poppers) are not included in this study. That is because the danger level for these products is relatively low.

At the start of the study in 2020, the rejection rate was so high that more research was needed to look more specifically into which products presented the greatest danger. Based on the initial results, an alert report (Category: F1 fireworks dated 23 October 2020) was written and sent to the deputy minister. The deputy minister informed the Dutch House of Representatives about this report on 2 December 2020[3].

The ILT has also had the chemical composition of the most high-risk products investigated. The purpose of this was to determine whether category F1 fireworks have indeed become more powerful in recent years and whether exceeding the maximum power of pyrotechnic charges is a factor in the number of rejected articles.

[3] Parliamentary paper 28684 No 641

2.3 Initial results of the study into category F1 fireworks- Phase 1

At the start of this investigation, the focus was on different types of category F1 fireworks articles. These articles were selected based on a risk analysis. This analysis was based on the knowledge and experience of our inspectors, (promotional) videos from importers, and videos on social media of as many category F1 fireworks as possible. Based on the declared stock and the range of articles offered by the importers, it was decided to examine a number of different articles. A total of 67 different items (10 specimens per item) were tested during this phase of the study. (Annex 2 contains a list of these articles).

The first results are as follows:

- **61%** were rejected; this mainly concerned:
  - Fountains that fell over, leaving burning parts or crackling[4] outside the 1-metre zone[5]
  - Fountains that functioned normally, but where burning parts and/or crackling ended up outside the 1-metre zone;
  - Different kinds of ground flowers and crackling balls with burning parts and/or crackling outside the 1-metre zone.
- **22%** were of non-compliant quality. This concerned:
  - Unclear texts on the packaging;
  - Incorrect labels, and/or
  - The absence of mandatory texts;
  - Non-compliant performance, where the observed non-conformities did not lead to the rejection of the fireworks.
- **17%** functioned properly and everything was compliant.

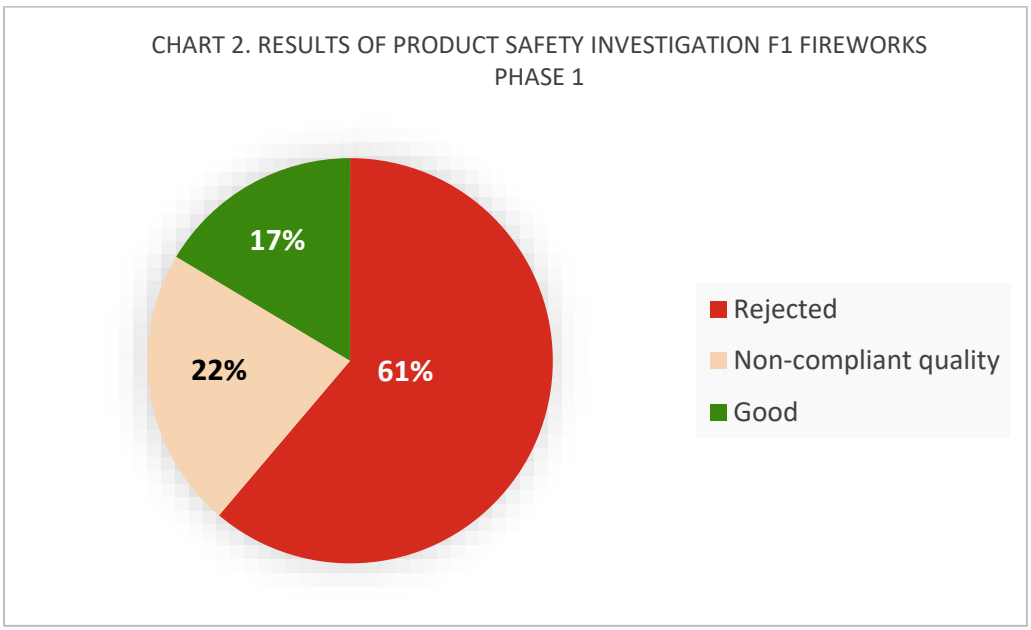


Chart 2: Results of the first survey

A total of 41 articles were *rejected*, amounting to 410 specimens (61%).

[4] Here the combustion of a special kind of powder is accompanied by small bangs.

[5] This legal standard is listed in Annex 1 of the European Pyrotechnic Articles Directive 2013/29).

Non-compliant quality was found in 15 articles, which is 150 specimens (22%). The importer should indicate whether these items can be rectified or whether they are also eligible for destruction.

No abnormalities were found in 11 articles. These articles functioned satisfactorily. This concerns 110 specimens (17%), mainly 'sparklers'.

Of the 67 items tested, 41 were fountains. Of the 41 fountains, 33 were rejected. That equates to **80%** rejection of the fountains inspected.

The results of the first results of this investigation led to the alert report that was sent to the deputy minister for the ministry of Infrastructure and Water Management on 23 October 2020.

2.4 Results of follow-up inspection on category F1 fireworks- Phase 2

In the remainder of this investigation, the emphasis was placed on the various F1 firework packs (consisting of several different articles). These articles were again selected on the basis of a risk analysis. Here too, various articles were obtained from several importers on the basis of the import data. During this phase of the study, 47 items (10 specimens per item) were tested. (Annex 3 contains a list of these articles).

The results of this phase of the study are as follows;

- **49%** were rejected; this mainly concerned:
  - Fountains that functioned normally, but where burning parts and/or crackling came outside the circle of 1 metre;
  - 1 fountain exploded during testing.
  - Several types of crackling balls had burning parts and/or crackling outside the 1-metre circle.
- **30%** were of non-compliant quality, this concerned:
  - Unclear or incorrect text on the packaging;
  - Incorrect labels;
  - The absence of mandatory texts;
  - Non-compliant performance, where the observed non-conformities did not lead to the fireworks being rejected.
- **21%** functioned properly and everything was compliant.

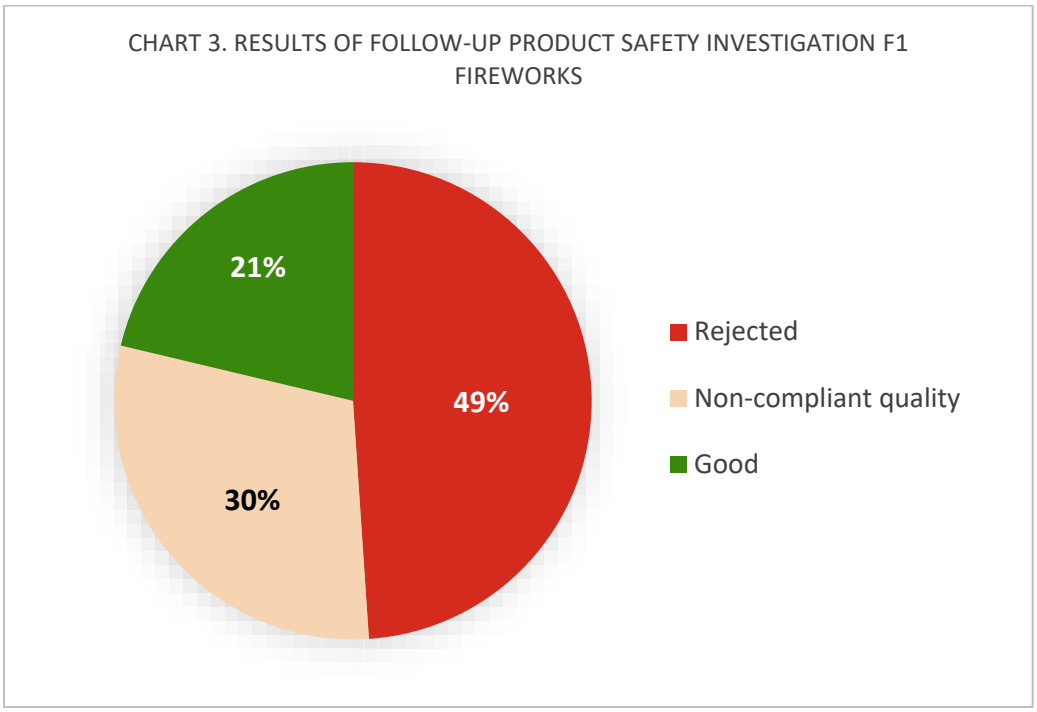


Chart 3: results of additional examination

A total of 23 articles were *rejected*, amounting to 230 specimens (49%). These batches must be destroyed.

Non-compliant quality was found in 14 articles, which is 140 specimens (30%). The importer should indicate whether these items can be repaired or whether they are destined for destruction.

No abnormalities were found in 10 articles. These articles functioned satisfactorily. This concerns 100 specimens (21%).

Of the 47 items tested, 37 were fountains. Of the 37 fountains, 21 were rejected. That equates to **57%** rejection of the fountains studied.

2.5 Chemical analysis of category F1 fireworks- Phase 3

As a result of the performance of the articles tested in this study, 8 articles were selected for chemical analysis by TNO. All 8 were fountains, because most rejects were type of firework.

The chemical analysis focuses on the type and amount of gunpowder and the construction of the fountains. This shows whether the chemical composition of these fountains influenced their functioning. Observations of these fountains showed that burning elements spread too high and too wide to function safely within the safety zone of one metre.

TNO has performed research into the category classification of fireworks in relation to the CE-standard EN 15947 and the Regulation on the indication of consumer and theatrical fireworks (RACT). The RACT lists the requirements for category 1 fountains that may be sold on the Dutch market. For category 1 fountains, the requirements are specified in the table below.

The specifications according to the RACT for category F1 fountains

Dutch name	**Intended effect**	**Category**	**Maximum permitted weight of pyrotechnic substances or preparations**
Fountains for outdoor use	Emission of sparks or flames with sound effect other than bang or no sound effect	F1	7.5 grams of pyrotechnic substances or preparations

During the investigation, the construction, mass and composition of the fireworks fountains were determined. Chart 4 shows the results of TNO's chemical analysis of the 8 selected fountains. Three specimens of each fountain were examined by TNO.

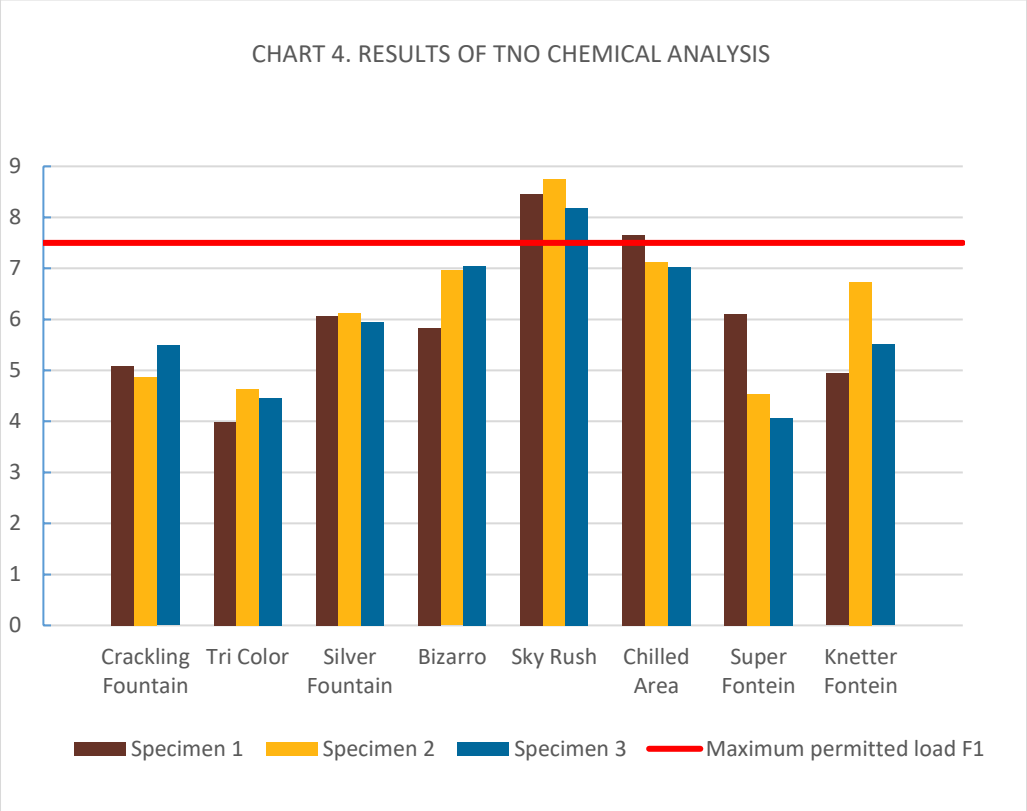


Chart 4. Results of TNO chemical analysis. The values in the chart above are shown in grams.

The above chart shows that the Sky Rush fountain had above the maximum permitted 7.5 grams of pyrotechnic charge for all 3 fountains examined. One of the examined Chilled Area fountains also has above the maximum permitted 7.5 grams of pyrotechnic charge for category F1.

All fountains with more charge than 7.5 grams do not meet the specifications to be classified as F1 under the RACT. These fireworks are therefore 'too powerful'. TNO also found a non-compliant composition of the pyrotechnic charge in a single fountain, which is not expected for an article classified in category F1.

Furthermore, TNO states that when the opening of a fountain is limited or partially closed, pressure can build up causing the fountain effects to intensify. The level of the effects is determined by the amount and type of charge but also by the pressure with which the effects leave the fountain.

Another cause of a quick reaction is an unintentionally larger area of the impact charge[6]. If the cardboard tube with the effect charge is not uniformly filled and, for example, voids or cracks have appeared, the reaction may be different from what was intended.

[6] Charge containing the effects such as crackling.

3 Final results of the product safety investigation for category F1 fireworks

In the total product safety study, 114 different articles were examined from 79 sample numbers. These items consisted of a total of 1,140 tested samples.

A total of 114 items were tested of which:

- **56%** were rejected, which amounts to 64 articles and 640 specimens. Most of these were fountains, where burning parts and/or crackling ended up outside the 1-metre safety zone.
- **25.5%** were of non-compliant quality, which amounts to 29 articles and 290 specimens. This concerns unclear or incorrect texts on the packaging, incorrect labels, or the absence of compulsory texts, as well as non-compliant functioning, whereby the non-conformities observed did not lead to the fireworks being rejected.
- **18.5%** performed satisfactorily and were found to be correct. This amounts to 21 articles and 210 specimens.

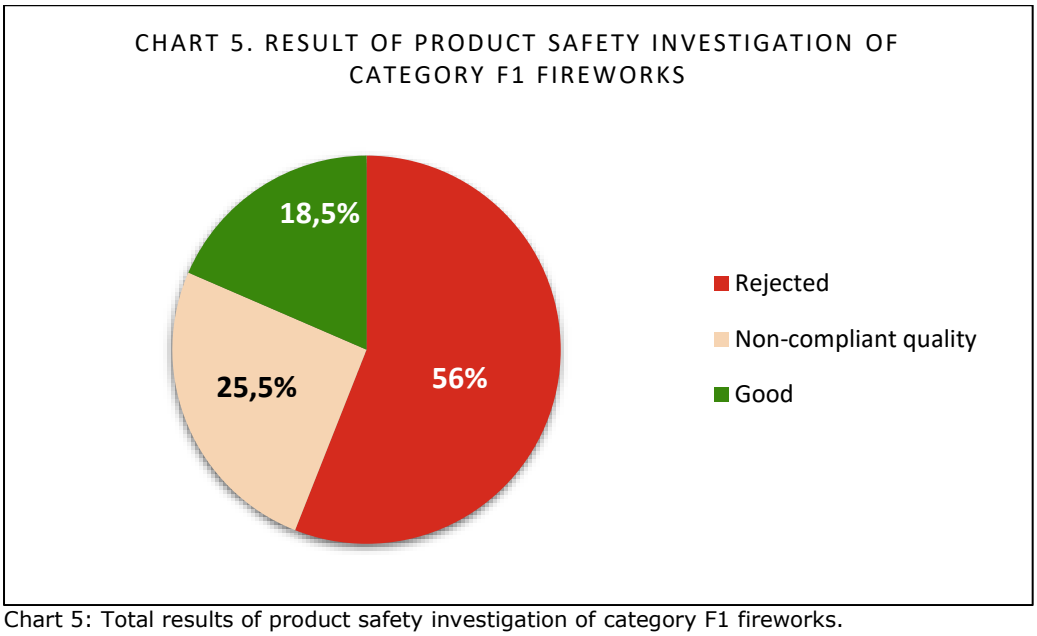


Chart 5: Total results of product safety investigation of category F1 fireworks.

Of the total of 114 items tested, 78 fall under the category of fountains, 11 fall under the category of crackling balls, 13 fall under the category of ground spinners and 12 fall under the category of sparklers and air howlers.

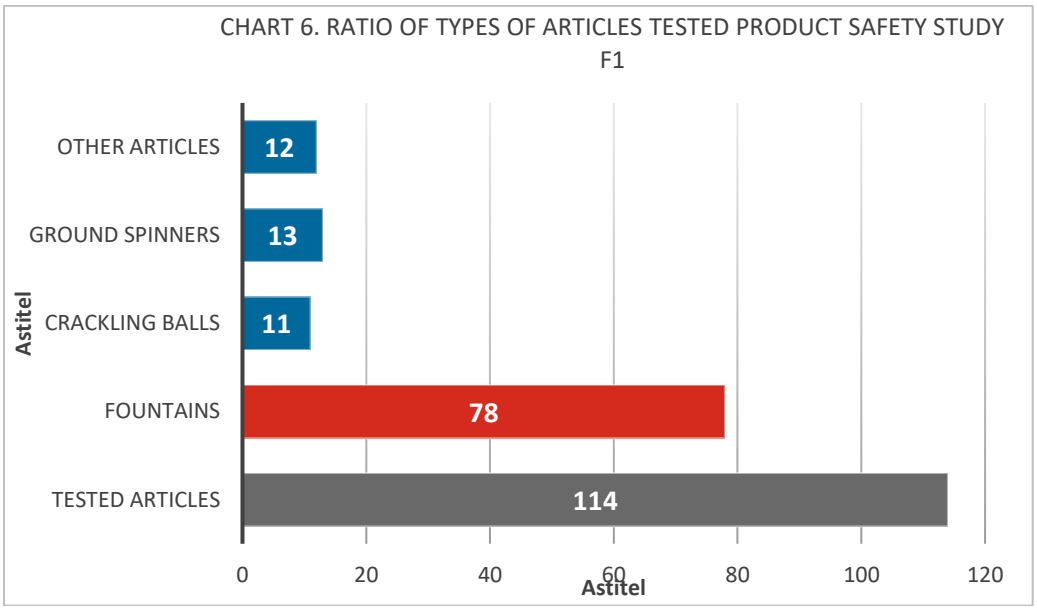


Chart 6: Ratio of items tested.

4 Administrative measures

As a result of the investigation, importers were instructed to remove the rejected articles from the market and destroy them. The importers should correct the articles which were non-compliant owing to the absence of mandatory texts. The importers have been instructed to correct the missing or incorrect texts on the articles. The importers whose fireworks were rejected were given incremental penalty orders to compel compliance. The importers complied with the orders by either withdrawing the fireworks from the market and destroying them or changing the fireworks' text and labelling.

5 Conclusions

The European directive for pyrotechnic articles allows a maximum net explosive mass (gunpowder) of 7.5 grams for category F1 fireworks. It is therefore assumed that the risk is low. Also, it is laid down in the NEN standard 15947 that category F1 fireworks fountains may contain a Net Explosive Mass (NEM) of maximum 7.5 grams. In addition, the safety distance for category F1 fireworks has been set at 1 metre. Although most of the inspected fountains did not contain more than 7.5 grams of powder, the burning parts and/or crackling effects, contrary to that standard, ended up outside the 1-metre zone.

- 56% of all inspected category F1 fireworks do not meet the essential safety requirements.
- 69% of the fountains surveyed do not meet the essential safety requirements.

The chemical analysis carried out by TNO indicates that, in general, in the F1 fountains no excess was found with respect to the maximum permitted amount of net explosive mass. It is unclear why the fountains do not meet the essential safety requirements. Consideration was given to whether the gunpowder mass was a reason for standards being exceeded. Investigation by TNO has shown this not to be the case. There could be several reasons why the effects of fountains end up outside the safety distance. The cause of this cannot be traced using the investigative methods available to the ILT.

Given the study results, it is mainly the fountains that do not stay within the 1-metre safety zone.

Category F1 fireworks are not always as harmless as expected. There are category F1 fireworks that are safe and also remain within the safety distance of 1 metre. However, this is not true for the majority of the fountains being studied. Like fireworks in category F2, category F1 fireworks contain gunpowder, and their use carries a risk. As children can also set off category F1 fireworks, parents and children must be aware of the specific age requirements and instructions.

The ILT concludes that 69% of the F1 fountains investigated do not meet the essential safety requirements set out in the Pyrotechnics Directive and the Fireworks Decree for category F1 fireworks. Fireworks products available on the European market must have a type test certificate, batch test report and declaration of conformity. With this CE mark, the manufacturer indicates that the article conforms with the European regulations and the essential safety requirements. Despite this, only 18.5% of the investigated category F1 fireworks were found to be ‘compliant’ by the ILT.

6 Annex 1

Alert report F1 Fireworks

Inspectie Leefomgeving en Transport
Ministerie van Infrastructuur en Waterstaat

Signaalrapportage

Categorie: F1-vuurwerk

Datum 23 oktober 2020

Achtergrond

De ILT houdt toezicht op de naleving van de wet- en regelgeving voor vuurwerk op grond van de Europese Pyro-richtlijn en het Vuurwerkbesluit. Het doel van dit toezicht is het bevorderen van de veiligheid voor de consument. Voorkomen moet worden dat onveilig vuurwerk in omloop wordt gebracht. Het hele jaar door worden controles uitgevoerd door de ILT, waarbij heel gericht wordt gekeken naar vuurwerk dat het grootste risico vormt. Dat zijn onder meer controles op de productveiligheid van vuurwerk, op de in- en uitvoer en het voorhanden hebben van vuurwerk. Deze controles vinden plaats bij de importeurs, aan de grens, in de havens, langs de weg en bij verkooppunten.

Inleiding

- De ILT is verantwoordelijk voor producttoezicht op de kwaliteit van vuurwerk en richt zich daarbij op leveranciers en importeurs. In het kader van het markttoezicht is de ILT gestart met een project waarin fop- en schertsvuurwerk (categorie F1) wordt getest.

- In de eerste fase van dit project is een dusdanig groot aantal producten afgekeurd dat de ILT heeft besloten de tot nu toe beschikbare testresultaten, voorafgaand aan afronding van het volledige project, met dit toezichtsignaal openbaar te maken.

- De nadruk van de eerste fase van dit project lag bij het meest risicovolle F1-vuurwerk; hierbij is specifiek naar fonteinen, grondbloemen, knetterballen en sterretjes van diverse importeurs gekeken. De testresultaten hoeven dan ook niet maatgevend te zijn voor alle producten in de categorie F1-vuurwerk.

- In de volgende fasen van het project wordt breder onderzoek gedaan naar meer F1-vuurwerk producten. Daarbij wordt onder andere nagegaan of de informatie op het etiket overeen komt met de samenstelling van het artikel en of het F1-vuurwerk in de loop van de jaren niet te zwaar is geworden voor de kwalificatie 'F1'. De resultaten hiervan worden in de eerste helft van 2021 verwacht.

Bevindingen

Fop- en schertsvuurwerk valt in categorie F1 van het Vuurwerkbesluit. Dit vuurwerk wordt ook wel kindervuurwerk genoemd en mag het hele jaar door worden verkocht aan personen van 12 jaar en ouder. Sommige soorten mogen ook binnenshuis worden afgestoken.
In de eerste fase van het onderzoek door de ILT zijn 670 verschillende artikelen onderzocht. Hierbij is onder andere nagegaan of er geen brandende delen en/of 'crackling' buiten een cirkel van 1 meter kwamen.

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De Inspectie Leefomgeving en Transport werkt aan veiligheid, vertrouwen en duurzaamheid in transport, infrastructuur, milieu en wonen.

- 61% werd afgekeurd; dit betreft voornamelijk fonteinen die omvielen. Ook diverse soorten grondbloemen en knetterballen werden afgekeurd. De importeurs is opgedragen om deze artikelen van de markt te halen en te vernietigen.

- 22% is van onvoldoende kwaliteit. Dit betreft onduidelijke teksten op de verpakking, verkeerde etiketten of het ontbreken van verplichte teksten. Alleen na aanpassingen mogen deze partijen alsnog op de markt worden gebracht. Zo niet, dan dienen de importeurs deze artikelen te vernietigen.

- Bij de overige 17% (114 artikelen) werden geen bijzonderheden geconstateerd. Dit ging voornamelijk om 'sterretjes'.

Conclusie

Vooralsnog is geconstateerd dat bij diverse producten brandende delen en/of cracklingeffecten buiten de cirkel van 1 meter belandden, waarbij de kans bestaat dat dit op kleding of de huid terechtkomt. Dat kan een onverwacht effect zijn wat tot schrik kan leiden bij omstanders. Op basis van deze eerste testen kan geen uitspraak worden over een risico op letsel of een ander specifiek gevarenrisico.

In afwachting van de verdere resultaten van het onderzoek wijst de ILT de importeurs op hun verantwoordelijk om zorg te dragen voor veilig vuurwerk dat aan de voorschriften voldoet.

[Annex 1
Alert report
Category: F1 Fireworks
Date 23 October 2020

Background
The ILT supervises compliance within the laws and regulations for fireworks on the basis of the European Pyrotechnics Directive and the Fireworks Decree. The purpose of this supervision is to promote consumer safety. The circulation of unsafe fireworks must be prevented. Throughout the year, inspections are carried out by the ILT, focusing on fireworks that pose the greatest risk. These include inspections of the manufacture of fireworks, the import and export of fireworks and the possession of fireworks. These inspections take place at the importers' premises, at the border, in ports, at the roadside and at points of sale.

Introduction
- The ILT is responsible for product supervision regarding the quality of fireworks and focuses on suppliers and importers. In the context of market surveillance, the ILT has started a project to test category F1 fireworks.
- In the first phase of this project, such a large number of products were rejected that the ILT decided to publicise the test results available to date, prior to completion of the entire project, with this supervision alert.
- The emphasis of the first phase of this project was on the most high-risk F1 firework products. The focus was on fountains, ground flowers, crackling balls and sparklers of various importers. Therefore, the test results are not necessarily normative for all products in the Fl-fireworks category.
- In the next stages of the project, broader research on more firework products will be conducted. Among other things, it will be ascertained whether the information on the label corresponds to the composition of the product and whether the F1 fireworks have become too powerful over the years and should be given the 'F2' classification. The results are expected in the first half of 2021.

Findings
Category F1 fireworks fall under the Fireworks Decree. These fireworks may be sold to persons aged 12 and above all year round. Some types may also be set off indoors. In the first stage of the investigation by the ILT, 670 different articles were examined. The inspection included checking whether or not burning parts and/or crackling ended up outside a 1-metre circle.

61% was rejected; this mainly concerned Fountains that fell over. Several kinds of ground flowers and crackling balls were also rejected. The importers have been instructed to remove and destroy them.
- 22% were of insufficient quality. This concerned unclear texts on the packaging, wrong labels or the absence of required texts. These batches may only be placed on the market after they have been adapted. If not, the importer should destroy these articles.
- For the remaining 17% (114 articles), no non-conformities were found. This related mainly to 'sparklers'.

Conclusion

For the time being, it has been found that burning parts and/or crackling effects of various products land outside the 1-metre zone, with the chance of this ending up on clothes or skin. This can be an unexpected effect which can cause shock to bystanders. Based on these initial tests, no pronouncements can be made about a risk of injury or any other specific hazard.

Pending the further results of the investigation, the ILT refers importers to their responsibility to ensure they deliver safe and compliant fireworks that meet the regulations.

7 Annex 2

Overview of articles, first inspection

Type of article	Name	Approved	Non-compliant	Destroy
Ground spinners	Grondbloem	Yes	No	No
Fountain	Iconic	No	Yes	Yes
Ground spinners	Ground Ninjas	Yes	Yes	Yes
Fountain	Candy Fountain	No	Yes	Yes
Fountain	Color Burst	No	Yes	Yes
Fountain	Happy Cracker	No	Yes	Yes
Fountain	Fun Pyramid	No	Yes	Yes
Fountain	Goud Fontein	Yes	No	No
Air howler	Luchthuiler	Yes	No	No
Fountain	Knetter King	Yes	Yes	No
Sparklers	Smaragd	Yes	No	No
Ground spinners	Fire Eyes	Yes	Yes	No
Crackling balls	Giga Crackling Balls	Yes	Yes	No
Fountain	Silver Fountain	No	Yes	Yes
Flash tablets	Blinker	Yes	Yes	No
Crackling balls	Magic Whip	Yes	No	No
Crackling balls	Crackling Balls	Yes	Yes	No
Ground spinners	Crazy Spinner	Yes	Yes	No
Sparklers	Sparkler	Yes	No	No
Sparklers	Ster 30	Yes	No	No
Throwdowns	Granata	No	Yes	Yes
Fountain	Iconic Fountain	No	Yes	Yes
Fountain	Happiness	No	Yes	Yes
Ground spinners	Ground Flower	No	Yes	Yes
Fountain	Disco Cracker Fountain	No	Yes	Yes
Flash tablets	Blinkies	No	Yes	Yes
Sparklers	Sterren 70 cm	Yes	No	No
Fountain	Traffic Light	Yes	Yes	No
Crackling balls	Crackling Balls	No	Yes	Yes
Ground spinners	Grondbloemen	Yes	Yes	No
Ground spinners	Spinning Strobe	No	Yes	Yes
Fountain	Firestorm	No	Yes	Yes
Fountain	Stary Night	No	Yes	Yes
Fountain	Firefly	No	Yes	Yes

Fountain	Silver Screen	No	Yes	Yes
Fountain	Color Pearl	No	Yes	Yes
Fountain	Bling	No	Yes	Yes
Fountain	Naugthy Boy	No	Yes	Yes
Fountain	Pirates Treasure	No	Yes	Yes
Fountain	Lovely Flower	No	Yes	Yes
Fountain	Happy Trip	No	Yes	Yes
Fountain	Secret Garden	No	Yes	Yes
Fountain	Magical Barrage	No	Yes	Yes
Sparklers	Sterretjes 16 cm	Yes	No	No
Sparklers	Sterretjes 60 cm	Yes	No	No
Ground spinners	Twist & Swing	No	Yes	Yes
Ground spinners	Big Spinner	No	Yes	Yes
Fountain	Blazing Vulcan	Yes	Yes	No
Fountain	Horizon	No	Yes	Yes
Fountain	Showbiz	No	Yes	Yes
Fountain	Birdies	No	Yes	Yes
Fountain	Splendid	No	Yes	Yes
Fountain	Delight	No	Yes	Yes
Fountain	Fabulous	Yes	Yes	No
Fountain	Passion	No	Yes	Yes
Fountain	Delight	No	Yes	Yes
Flash tablets	Flash tablets	Yes	No	No
Crackling balls	Knetterpellets	No	Yes	Yes
Ground spinners	Ground spinners	Yes	Yes	No
Fountain	Fun Pack KY1919-1	No	Yes	Yes
Fountain	Fun Pack KY1919-2	Yes	No	No
Fountain	Fun Pack KY1919-3	No	Yes	Yes
Fountain	Fun Pack KY1919-4	No	Yes	Yes
Fountain	Fun Pack KY1919-5	Yes	Yes	No
Fountain	Fun Pack KY1919-6	Yes	Yes	No
Fountain	Fun Pack KY1919-7	No	Yes	Yes
Fountain	Fun Pack KY1919-8	Yes	Yes	No
Fountain	Fun Pack KY1919-9	No	Yes	Yes

8 Annex 3

Overview of articles, supplementary research

Type of article	Name	Approved	Non-compliant	Destroy
Fountain	Red Dragon	Yes	Yes	No
Fountain	Crackling Sky	Yes	Yes	No
Fountain	Green Dragon	No	Yes	Yes
Fountain	Gold Glitter	No	Yes	Yes
Fountain	Red Pearl	No	Yes	Yes
Fountain	White Glitter	No	Yes	Yes
Fountain	Silver Fountain	No	Yes	Yes
Fountain	Green & Blue Fountain	Yes	Yes	No
Fountain	Disco Flash Fountain	Yes	No	No
Fountain	Tri Color Fountain	No	Yes	Yes
Fountain	Crackling Fountain	No	Yes	Yes
Crackling balls	Kortsluiters	No	Yes	Yes
Fountain	Knettervulkaan	No	Yes	No
Crackling balls	Knetterballen	Yes	Yes	No
Fountain	1846-01	Yes	No	No
Fountain	1846-03	Yes	No	No
Fountain	1846-04	Yes	Yes	No
Fountain	1846-06	Yes	Yes	No
Fountain	1846-09	Yes	No	No
Fountain	1846-05	Yes	No	No
Fountain	Candy Fountain	No	Yes	Yes
Fountain	Color Burst	No	Yes	Yes
Fountain	Happy Cracker	No	Yes	Yes
Fountain	Fun Pyramid	Yes	Yes	No
Fountain	Color Vulcano	Yes	Yes	No
Ground spinners	Whizzly	Yes	No	No
Crackling balls	Knetter-Pellet	Yes	No	No
Fountain	Fontastic	Yes	No	No
Fountain	Bizarro	No	Yes	Yes
Fountain	Knetter fontein	No	Yes	Yes
Fountain	Power fontein	No	Yes	Yes
Fountain	Super fontein	No	Yes	Yes
Crackling balls	Blitzers	No	Yes	Yes
Fountain	Blazing Vulcans	Yes	Yes	No
Fountain	Magical Fountain	Yes	No	No
Ground spinners	Camellia Flowers	Yes	Yes	No
Ground spinners	Ground Bloom Flowers	Yes	Yes	No

Fountain	Piccadilly	Yes	Yes	
Fountain	Platonic Plague	No	Yes	Yes
Fountain	Chilled Area	No	Yes	Yes
Fountain	Deep Space	No	Yes	Yes
Fountain	Sky Rush	No	Yes	Yes
Fountain	Ring Bling	No	Yes	Yes
Fountain	Blue Night Fire	No	Yes	Yes
Crackling balls	Crackling Thunder	Yes	No	No
Flash tablets	Flash fun	Yes	No	No
Air howler	Huilfonteinen	Yes	No	No

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