



DUTCH
SAFETY BOARD

Summary

New Year's Eve Safety Risks



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The Dutch Safety Board

When accidents or disasters happen, the Dutch Safety Board investigates how it was possible for them to occur, with the aim of learning lessons for the future and, ultimately, improving safety in the Netherlands. The Safety Board is independent and is free to decide which incidents to investigate. In particular, it focuses on situations in which people's personal safety is dependent on third parties, such as the government or companies. In certain cases the Board is under an obligation to carry out an investigation. Its investigations do not address issues of blame or liability.

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N.B. The full report is published in the Dutch language. If there is a difference in interpretation between the Dutch report and English summary, the Dutch text will prevail.

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In the Netherlands, the New Year's Eve is a celebration with a downside. People set off fireworks on a grand scale, causing hundreds of injuries every year. On average, since 2000, fireworks have caused the death of one person each year. Many of those injured – half of whom are bystanders – are scarred for life. Although the percentages vary from year to year, on average nearly half the victims are aged under 20. No other festival in the Netherlands causes as many injuries as the celebration of the New Year's Eve. In addition, during New Year celebrations there are large-scale disruptions to public order, ranging from cars set on fire, rubbish containers destroyed and noise pollution to the use of violence. There are around 11,000 incidents in total.

The (potential) physical and material consequences of the use of fireworks and the disruption to public order also have a subjective side: they make people feel unsafe in their own communities. However, there is no simple solution that will resolve these New Year's Eve safety issues. After carrying out its investigation, the Dutch Safety Board has determined that these problems need to be tackled on two fronts: fireworks and public order.

Fireworks

A great many injuries result from both illegal fireworks and legal consumer fireworks. The use of fireworks also aggravates the disruptions to public order. In combination with the circumstances surrounding New Year's Eve celebrations, the availability of unsafe fireworks and incorrect firework use lead to serious safety risks.

People are permitted to set off consumer fireworks in the Netherlands, but the risks of doing so are often underestimated. Aerial fireworks (*siervuurwerk*) have been shown to play a significant role in causing harm, including many injuries sustained by bystanders. Some of the victims have to live with permanent injuries.

By no means everyone follows the instructions for setting off fireworks, including the use of a long spill to light them, wearing eye protection and maintaining a proper distance. Citizens have a personal responsibility in this area, including with respect to their children. The safety risks are aggravated by the use of alcohol and drugs, peer pressure, poor visibility, building density and the presence of a great many people in the streets. Fireworks are not only dangerous to the people setting them off: bystanders, passers-by, police and emergency services personnel are also put in danger.

What's more, consumer fireworks are not always safe. The Dutch Safety Board has found that, for years now, the use of the CE-marking system has failed to prevent that almost a quarter of the fireworks with a CE-mark that is being checked by the Dutch government, is rejected. Neither the industry nor the government has an accurate idea of the shortcomings in the production and testing process.

Bangers (*knalvuurwerk*) are a nuisance to both people and animals and contribute to feelings of insecurity, not least because of the temptation to throw them at other people. Illegal bangers – such as cobras – also cause serious injury especially to the people setting them off, and they are used to cause damage in public spaces.

The explosive power of illegal fireworks has increased in recent years, causing the danger to grow accordingly: several have the same destructive power as hand grenades. Some of these fireworks are produced legally in other countries for professional use, and then illegally sold on to consumers in large quantities. They are readily available, and they are cheap.

Efforts to tackle the production and illegal trade of these fireworks has not so far led to a reduction in the problems; the relevant parties have not been successful in reducing the availability of illegal fireworks (such as illegal bangers) to consumers. In terms of refining the European firework regulations, the necessary support of other Member States is often lacking; not to mention that the suggested amendments to European legislation only cover the legal production of and trade in professional fireworks, and offer no solution to the illegal circuit of production and trade. The detection and prosecution of suspicious individuals and organisations is also difficult. A solution to this problem demands international cooperation, but this cooperation faces various hurdles, and it is time consuming and labour intensive. However, the Dutch Safety Board is aware that the Public Prosecution Service (PPS) and the police are developing initiatives to improve detection and prosecution.

Public order

Every New Year's Eve, Dutch society is once more confronted with violence, destruction and arson, with many of these incidents involving fireworks. The Dutch Safety Board has established that, in many parts of the Netherlands, the celebration of New Year's Eve is the most dangerous festival of the year. According to the 'safety valve' theory, some of the people who disrupt public order see the New Year's Eve as a time when everything that is forbidden for the rest of the year is temporarily allowed; they behave themselves throughout the year, only to take a moral time-out during New Year's Eve celebrations. This explains part of the problem. Another factor is the trouble-making and violent behaviour of people who already display problematic behaviour during the rest of the year, and who have come into contact with the police more often.

For years, most municipalities have been taking a variety of measures to maintain public order, working with actors such as the police, emergency services, youth workers, neighbourhood associations and schools. The approach varies greatly between municipalities, depending in part on the scope of the problem in different areas. Mainly large and medium-sized municipalities that have serious problems around the New Year's Eve celebration make very considerable efforts.

The measures sometimes lead to local successes, but they have not resulted in structurally safer New Year's Eve celebrations in the Netherlands. The Dutch Safety Board has concluded that there is more that municipalities can do to change this situation. Despite the fact that the local approach to the problems around New Year's Eve has been stepped up in the last ten years, the measures used are largely based on untested assumptions.

It is also clear that there is a lack of structural and widespread knowledge sharing between municipalities that would enable them to learn from each other and increase their effectiveness. At the same time, municipalities are almost at the limits of their capabilities, especially as regards the problems with fireworks. This highlights the need for a national and European approach.

Aiming to celebrate New Year's Eve safely

The problems associated with New Year's Eve celebrations differ in their nature and scope in different areas, and are also experienced differently by the people on the ground. Some sections of society are very worried about the issue, while others do not think of it as a priority. The Dutch Safety Board finds it remarkable that – despite the hundreds of injuries and thousands of incidents – once the celebrations are over people often conclude that New Year's Eve passed off 'relatively quietly'.

The approach to tackling the problems has improved somewhat in recent years – even if this is localised or temporary – but at a national level the measures that have been taken have not made New Year's Eve celebrations substantially safer. This is even more of a problem because it is definitely not a new phenomenon: it is a predictable string of accidents and incidents. Although a large proportion of the Dutch population follows the rules and is careful when setting off fireworks, everyone knows before the end of December that there will be significant damage and hundreds of (firework) victims during the New Year celebrations. Some of these victims, among them a large number of bystanders, will be left with lasting injuries. Innocent people are seriously inconvenienced or become the victim of the irresponsible behaviour of others, who sometimes intentionally cross the line. The Dutch Safety Board sees it as a cause for concern that, in spite of the many efforts being made, so little change has been brought about. The persistence of the problem should cause all parties to feel the urgency to break this cycle.

RECOMMENDATIONS

In order to achieve safety gains, the Dutch Safety Board considers that a turning point is needed in the way the Netherlands deals with the problems at New Year. In the Board's assessment, the injuries (around 480 injured people going to Accident & Emergency; on average 200 eyes being damaged) people suffer as a result of fireworks are especially difficult to reconcile with the intended festive atmosphere of New Year celebrations.

The Dutch Safety Board sees a need for structural improvements in safety, with the aim of substantially reducing firework-related injuries and disruption to public order.

The recommendations focus on:

- a. limiting the dangers of consumer fireworks;
- b. combating illegal fireworks;
- c. reducing the disruption to public order.

Although analytically these topics can be separated, in practice they are interrelated. It is therefore important to ensure that relevant organisations agree on a coherent and multi-year approach to resolving the safety issues surrounding New Year's Eve.

a. Limiting the dangers of consumer fireworks

Setting off consumer fireworks, especially aerial fireworks (*siervuurwerk*), causes a great deal of harm. This unsafe situation relates to (a combination of) the quality of the product, the way it is used and the circumstances surrounding its use.

Recommendations to the Minister of Justice and Security and the Secretary of State for Infrastructure and Water Management

1. Prohibit the fireworks that are responsible for the most severe violation of safety in practice due to the harm (rockets) and public nuisance (bangers) they cause.

The European Directive regarding pyrotechnic articles gives Member States the opportunity to restrict or prohibit consumer fireworks on the grounds of protecting health, public order and safety or due to environmental concerns (Article 4 (2)). The Dutch Safety Board has found that rockets (*vuurpijlen*) have caused many burns and eye injuries over the years. Rockets are inherently dangerous and invite unsafe use due to the fact that, in practice, they are set off from a person's hand or aimed directly at bystanders.

Roman candles and baby rockets were banned some years ago as a result of similar considerations. It is also necessary to take extra precautions to ensure that rockets are lit safely, such as installing a solid and stable launch site. Bangers are a nuisance and cause people to feel unsafe, and they can invite reckless behaviour such as throwing them at bystanders. For this reason, the Board considers it advisable to ban the use of rockets and bangers. Other consumer fireworks, such as fountains, 'cakes', ground spinners and Catherine wheels, will still be available for people to set off at New Year's Eve celebrations (see appendix J).

2. Achieve a better understanding of the relationship between the type of fireworks and the scope and severity of the injury, and take further measures where appropriate.

In the coming years, the government must closely monitor the extent to which the existing range of fireworks cause injury. To ensure that the decision-making process is reliable, it is essential for decision makers to have access to reliable quantitative information about the link between the type of firework and the scope and nature of the harm caused. This makes it possible to use an annual check to identify whether, apart from rockets and bangers, more types of firework should be considered for inclusion in a ban, or whether other measures are necessary.

3. Require vendors of consumer fireworks to include free firework goggles and long spills with orders, and to explain the safe use of the fireworks they sell.

Importers and vendors of consumer fireworks could be expected to take an active approach to take measures to reduce the risk of injury, beginning by offering protective equipment and explaining safety procedures to the people who buy their fireworks.

b. Combating illegal fireworks

Illegal fireworks – particularly heavy-duty bangers – cause significant injury and damage during New Year's Eve celebrations, but also throughout the year.

Recommendations to the Minister of Justice and Security and the Secretary of State for Infrastructure and Water Management

4. Step up the detection and prosecution of the trade in illegal fireworks. Consider increasing staffing levels, improving the information-gathering process and engaging in more intensive collaboration at national and international levels.

There is a need for a tougher approach to tackling the illegal trade in heavy-duty bangers. This is a long-term project. The recent initiatives the PPS and the police have taken should be continued for several years. Cooperation and information exchange are essential to this, at both a national and an international level, between government actors and with the firework industry and other relevant parties (such as courier services, payment services, internet service providers, insurance companies and housing corporations). It is especially important to step up detection efforts in light of the legislative restrictions on legal consumer fireworks referred to in Recommendation 1. This will cause more types of firework to be legally prohibited for private use than is currently the case.

5. Promote further limits to firework-related risks at a European level by toughening the European Pyro Directive, especially as regards a ban on the production of heavy-duty professional bangers for which there is no legal market.

Many heavy-duty bangers which are produced legally, and which may only be used by professionals, find their way into the hands of individuals. There is hardly any demand for bangers among professionals. The use of these fireworks that are illegal for individuals to possess and use, and whose explosive power has increased significantly in recent years, poses a grave danger to the people setting them off, to bystanders and to emergency services personnel. In practice, it leads to serious injury such as the loss of hands, fingers or worse. Illegal bangers are also used for criminal purposes and to disrupt public order: the damage and nuisance resulting from this type of firework is very extensive.

c. Reducing the disruption to public order

Arson, destruction and violence: misconduct makes an appearance at New Year's Eve in public spaces – where municipalities are responsible for keeping public order. Municipalities are taking action: the preparations for New Year sometimes begin as early as the summer, and they implement a wide range of measures. Mainly large and medium-sized municipalities that have serious problems at New Year's Eve are making very considerable efforts, but at a national level the number of incidents is still very high.

In the first instance, the recommendations are directed to municipal mayors, given their legal responsibility with respect to maintaining public order in their municipality. It is also important that municipalities have the support of the authorities at a national level.

Recommendations to all mayors, the Minister of Justice and Security and the Association of Dutch Municipalities (Vereniging van Nederlandse Gemeenten - VNG)

6. Evaluate New Year's Eve measures on the basis of their effectiveness. Ensure that municipalities learn from each other by making better use of each other's experiences and good practices.

It is important for municipalities to improve their understanding of what works and what does not, and under what circumstances. Municipalities still have a tendency to let opportunities pass them by in terms of exchanging knowledge about the measures taken and their effectiveness, and using this knowledge in practice. For example, this could include sharing experiences with firework-free zones and risk-focused measures at the level of the neighbourhood, the group and the individual citizen (see appendix G). To avoid a situation in which each municipality keeps on reinventing the wheel in isolation, the Dutch Safety Board sees an essential role in this for nationally-active parties – particularly the VNG and the Ministry of Justice and Security. These national actors can carry out research, collect and disseminate knowledge and support municipalities in implementing measures.

7. Treat New Year's Eve celebrations as an event. As a municipality, in the interests of public order and safety, take the lead in ensuring that New Year's Eve celebrations achieve a more organised character. Attach conditions to events and other activities. Motivate and support citizens to organise activities to ensure a safe celebration of the New Year's Eve.

Municipalities have an important contribution to make in terms of switching from the risky New Year's Eve celebrations that are common at the moment to a festival that is safe for everyone. This approach could also include organising professional firework displays. Approaching New Year's Eve as if it were an event will allow new festive traditions to take root and offer potential trouble-makers an alternative way to spend the evening. These traditions could include collective initiatives such as a party for the whole village, neighbourhood or street. Municipalities could establish key terms and conditions to make it clear who is responsible for what, what is and is not allowed and where the activity will take place.

Based on the investigation, the Dutch Safety Board's conclusions are as follows:

Problem

In many parts of the Netherlands, the celebration of the New Year's Eve is the most dangerous festival of the year. Every 31 December, hundreds of people are injured, and an average of one person has died from firework-related injuries each year since 2000. Fireworks also cause a great deal of inconvenience and damage to the environment and to public health. New Year's Eve celebrations are also characterised by a variety of disruptions to public order, in which fireworks often play a role. No other day of the year sees so many cases of open use of violence, arson and destruction. Millions of euros of damage is caused every year to public and private property. Nevertheless, people often respond to this downside of the New Year's Eve celebrations with a certain amount of resignation, concluding that the New Year passed off 'relatively quietly'. This dismissive attitude does not do justice to the nature and scope of the problem.

The practice of setting off consumer fireworks and illegal fireworks is a significant source of insecurity for various reasons. As well as the people who set off the fireworks, bystanders, local residents, police officers and emergency services personnel suffer injuries and are impeded or threatened in their own living and working environment.

Consumer fireworks

The circumstances and the manner in which people set off consumer fireworks have serious consequences for safety in society. In the Netherlands, individuals are prohibited from obtaining practically all the more heavy-duty category-F3 fireworks but, despite this, setting off permitted consumer fireworks, especially aerial fireworks (*siervuurwerk*), causes a great deal of harm. Certain types of firework invite risky and reckless behaviour, such as setting them off from the user's hand or deliberately shooting at bystanders, as is the case with rockets. The government has already banned Roman candles and baby rockets, because in practice these products provoked careless and reckless behaviour and led to many injuries. Legal bangers contribute to feelings of insecurity in some sections of society.

The CE marking system for consumer fireworks, intended to guarantee firework safety, has various shortcomings which lead to fireworks that do not meet safety requirements finding their way into the hands of consumers. The Ministry of Infrastructure and Water Management and the firework industry have only a minimal understanding of the shortcomings present in the production and testing process, causing the problem to persist.

The implementation of a range of initiatives over the years has not led to any substantial reduction in the number of firework victims, nor has it reduced the damage to public and private property.

Illegal fireworks

Many fireworks that are produced legally, but exclusively for use by professionals, find their way into the hands of individuals. The use of these fireworks, which it is illegal for individuals to possess, is dangerous for the people setting them off, as well as for bystanders and emergency services personnel. Due to the explosive power of these fireworks, the safety risks have increased further in recent years. Illegal bangers cause serious injury, especially to the people who set them off, and they are also used to disrupt public order, particularly by causing destruction in public spaces. In this way, these fireworks contribute significantly to the damage and inconvenience caused each year. The use of these explosives poses a threat to citizens, police officers and emergency services personnel.

Efforts to tackle the use of and trade in illegal fireworks have been intensified in recent years, but so far this has not led to a reduction in the problems associated with illegal fireworks. International cooperation is necessary for the detection and prosecution of people and organisations involved in the use of or trade in illegal fireworks. This cooperation faces various hurdles, and it is time-consuming and labour intensive; this means that more people and resources are needed. Moreover, the international nature of the trade makes it more difficult to obtain an accurate picture of trade flows.

Investigative services have too little information to be able to obstruct the illegal trade flows effectively; there is a particular lack of knowledge about the criminal organisations behind the trade. The further intensification of detection efforts, begun in 2017, is only temporary. The adequacy and suitability of this new methodology cannot yet be evaluated.

Disruption to public order

The disruption to public order during New Year's Eve celebrations results to be rampant, persistent and difficult to combat. Municipalities differ both in the extent to which they have to deal with this kind of disruption and in how they deal with it. Municipalities have different ideas about the severity of the New Year problems and what is considered acceptable in their different municipal areas. They fail to take up opportunities to stem the tide of disruptions to public order in a structured and substantiated way. Despite the fact that local approaches to New Year's Eve celebrations have been expanded in the last ten years, and although municipalities have begun to collaborate more with other organisations, the measures taken are largely based on untested assumptions. Evaluating these measures and establishing the results of the evaluations in writing are not currently permanent features of the approach taken by the majority of municipalities. Moreover, knowledge sharing between municipalities is extremely limited and unstructured, which hinders the further development of the approach.

The New Year problem is too varied for a single layer of government to be able to tackle it. To turn the tide and make real progress in terms of a substantial reduction in the number of firework victims and disruptions, major interventions are required. To achieve this, all the parties involved must acknowledge a sense of urgency that matches the nature and severity of the problems surrounding New Year's Eve celebrations.

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