



### **Introduction**

This guide and the information in it, is just that, 'a guide', it is not designed to be copied and nor should it be used verbatim and presented as a risk assessment to cover your activities using EG smoke and pyrotechnics. This guide outlines some of the risks, hazards and regulatory issues that may arise and should be considered when supplying and/or using EG products. We have also included some mitigating actions that should be considered; however, the list is not exhaustive and other issues may exist in your particular circumstances.

### **EG Smoke and Pyrotechnics, Risks, Hazards and Regulation**

Below are some of the main regulatory issues, risks and hazards associated with Enola Gaye / EG pyrotechnics that should be considered when supplying, handling, using, storing and transporting them; We have also suggested mitigatory action(s). Depending on your own application of these products there may be additional risks and hazards; please be mindful that we cannot know the individual circumstances you are using Enola Gaye / EG products and therefore cannot cater for every eventuality.

### **Age**

Only persons of 18 years or over may be supplied and or use EG pyrotechnics.

- Checks should be put in place to ensure people under 18 are not given / supplied EG pyrotechnic products or are able to use them.

### **General Nuisance**

The use of smoke or noise products may be a nuisance, cause alarm or even panic under certain circumstances. For example, if you are using white smoke, you may cause alarm as neighbouring businesses and people close by may think it's a fire.

- Consider using coloured smoke only and/or informing neighbouring residences, businesses, farms and schools etc. as to your plans.

### **Smoke Drift**

Smoke naturally drifts, this can potentially cause serious problems if drifting across roads by reducing visibility to traffic. Smoke drifting across footpaths may also cause problems to pedestrians.

- Always use smokes well away from roads. Ensure that any roads or footpaths that are close by are either upwind of the smoke or at a satisfactory distance so that the smoke dissipates before it reaches them.



### **Damage to property**

Smoke and pyrotechnics can damage property in a variety of ways if not used correctly or consideration given to where they are used.

#### *Smoke*

EG smokes will stain clothes, surfaces and property if they come in contact with the main concentrated smoke plume (within approximately 2 metres from the smoke outlet) or are exposed to prolonged smoke as the residues will build up over time.

- Stand upwind of smoke or away from the main smoke plume. Surfaces and property in contact with the main smoke plume should be protected e.g. fire blanket or non-flammable cover e.g. canvas sheet or the device placed inside a non-flammable container e.g. metal tin or bucket to protect the surface and prevent staining.

#### *Pyrotechnics*

EG pyrotechnics that go bang can throw debris intentionally or unintentionally, this debris whilst it is not harmful when the devices are used correctly, may harm people and mark or damage property, if used without consideration.

- Always adhere to the specified safety distances and label instructions. Ensure people using the products or close by are wearing the correct safety equipment. Protect property that is close by or within the safety distance by covering them with a protective sheet e.g. canvas.

### **Fire**

Any pyrotechnic article from any manufacturer has the potential to cause a fire, consider the surfaces that the pyrotechnics will be used on or near, are they flammable e.g. dried grass, paper, fuel?

- You may wish to relocate, use non-flammable protective covers e.g. fire blanket, or non-flammable containers to contain the devices. You could wet the immediate and surrounding areas to protect against a fire starting.
- Ensure the areas where pyrotechnics are monitored so if a fire does start it can be tackled quickly.
- Have fire-fighting equipment readily accessible.



### Fire Fighting Equipment

As there is always a risk of fire, equipment should be kept on hand to tackle small fires and to prevent fires spreading. There is no way of extinguishing smoke devices or pyrotechnics once they have been ignited so firefighting should focus on the area around the smoke and preventing the spread of fire.

The amount and type of equipment you need depends on the quantity of pyrotechnics, size of the area they are being used in and the quantity of flammable material surrounding.

- Water is the best firefighting medium so you should consider having buckets or containers of water, water fire extinguishers and /or fire blankets and fire beaters on standby. For larger events using a large amount of pyrotechnics you may also want to consider contacting the nearest fire brigade.

### First Aid.

Once functioning pyrotechnic devices can cause burns if used incorrectly or without proper equipment. Excessive inhalation of smoke may cause breathing difficulties. Persons with existing complaints such as asthma and chest infections and other conditions which affect breathing, maybe adversely affected by over exposure to the smoke produced by these devices.

- Do you have a first aid kit? If not, get one! It should contain provisions to cover all basic first aid, however when pyrotechnics are involved the first aid kit should contain adequate provisions to handle burns (containers of clean water or a tap), smoke inhalation, and eye discomfort, issue or contamination (eye wash solution). As well as the usual and more common injuries e.g. cuts, stings, sprains etc.
- The advice given below is for the time immediately after exposure and prior to seeking professional medical advice.

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|------------|---|
| Inhalation | Excessive inhalation of the smoke produced may cause respiratory irritation and difficulty breathing. Remove victim to fresh air, loosen clothing around airway, keep warm and rest. Seek medical advice/attention if symptoms persist.                                     |
| Burns      | Burns may occur if product is not used correctly. Place burnt area under clean cold running water for at least 10 minutes. Keep the affected area clean. For serious burns seek medical attention.  |
| Ingestion  | Exposure to the powdered contents is not foreseen; however, If the powdered contents within a device are swallowed, immediately seek medical attention. Ensure victim is comfortable. Do not induce vomiting and only give water if directed to do so by medical personnel. |



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| Eye Contact  | Exposure to the powdered contents is not foreseen; however, If the powdered contents within a device come into contact with eyes, remove any contact lenses and flush eyes with copious amounts of clean water or eye wash with eyelids open. Seek medical advice. |
| Skin Contact | Exposure to the powdered contents is not foreseen; however, If the powdered contents within a device come into contact with skin, remove any contaminated clothing and wash exposed area with soap and water.  |

#### Paint from Paint Grenades

The “paint” in our paint grenades contains water and chemicals that are also found in food products, therefore it is non-hazardous; however to prevent staining, we recommend that if paint is splashed onto the skin or in the eyes, immediately wash the splashed area with copious amounts of clean water.

#### Fire Brigade and Emergency Services

Commonly smokes and pyrotechnics are used in remote locations. If an accident occurs, you need to be able to contact the emergency services.

- Is there a site office or access to a landline phone? If there is a security/ site office, you may want to consider use the of radios so you can stay in contact with site security directly or you could position someone in a place with phone signal and use the radios / walkie talkies to contact them.
- You may want to consider contacting the emergency services immediately prior to the use of pyrotechnics and give them a time you will contact them again to give the all clear. It is important to give them the “all clear” or they might respond thinking there is a problem.

#### Smoking, Naked Flames, Matches etc

Sources of heat near pyrotechnics may cause them to ignite either individually or in bulk.

- Consider having a system to ensure that there are no sources of ignition around the pyrotechnics and people do not smoke whilst handling or using smoke and pyrotechnics. Ensure all cigarettes, lighters, matches and other sources of ignition are kept in a safe place isolated from the pyrotechnics. Phones and batteries should also be kept isolated when handling from pyrotechnics.

#### Transport



EG smoke and pyrotechnics are classified and authorised by the UK Explosives inspectorate (a part of HSE) as either Hazard Group 1.4S or 1.4G. You may need to transport smokes and pyrotechnics by road to get from the place of storage to the place they will be used, or you might be sending to a customer. It is your responsibility to ensure that the products are packaged and transported the correct way according to *The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 ("CDG 2009")*. (See our guidance on road transport).

Unless you can park the vehicle directly next to the site where they will be used or stored, consideration will also need to be made with transporting EG products from the car park to the point of use which could be through public areas. Consideration needs to be given to security of the products to prevent theft and also to safety of the products as there may be a range of associated hazards.

- Keep smoke and pyrotechnics in the packaging that they were sent in. Ensure that the products are not transported with other products that may cause an ignition e.g. matches, lighters or products such as gas canisters, liquid fuel (petrol, diesel) and aerosols that may cause an even bigger problem if an ignition were to occur.
- Keep vehicle locked when unattended.
- Keep smoke and pyrotechnics out of direct sunlight.
- No smoking when handling or transporting smoke devices and pyrotechnics
- Do not send any pyrotechnic product through the postal system, it is illegal.

### **Storage (at venue)**

At the venue, it is important that the pyrotechnics are kept secure, dry and away from sources of heat. The quantity of pyrotechnics that can be legally stored, depends on the Hazard Group, the Net Explosive Content (NEC) and the duration of storage EG products are all Hazard Group 4.

- Always store smoke and pyrotechnics in the same packaging they were sent to you in, do not keep in metal locked containers e.g. filing cabinets.
- Keeping smoke and pyrotechnics in a locked vehicle or in a locked room at the event is a good idea. If keeping the pyrotechnics in a locked vehicle ensure that the vehicle is parked in a safe location out of direct sunlight and away from hazardous products e.g. gas canisters and fuel stores, hay barns etc.
- For long term storage, you may need to register a store or get a storage license.



For further information please see the storage guidance on our website and FAQ's and / or the HSE website <https://www.hse.gov.uk/explosives/licensing/storage/>

### **Emergency Plan**

No one ever foresees an accident or an emergency, but they do occur; if you have an emergency plan and never use it then great; but to not have a plan and need one, could end with an injury or worse.

- Would a fire affect a neighbouring business, residence, schools etc. and how would you raise the alarm to those people within those areas?
- Consider, exit routes both for the emergency services to enter and also how you, your staff and others affected may escape. How the emergency services or site security will be contacted and coordinated, mobile phone, radios? How do you keep track of people to ensure everyone is accounted for?

### **Risks and Hazards when using of EG Smoke and Pyrotechnics**

Smoke and pyrotechnics produce various effects by burning chemical compositions. They are ignited by striking a fuse or pulling a metal wire/ring, the fuse ignites the effect formula which then either produces smoke or a bang or other cool effects. The effects commonly feature, heat, smoke, hot gasses, sparks, bright flames, flashes and noise which are all harmful if the instructions are not followed. If the instructions and guidance are followed then EG smoke and pyrotechnics can be great fun and enhancement to an event, photoshoot, film or training.

### **Personal Protective Equipment**

For all EG smokes and pyrotechnic products we recommend that Gloves and Eye protection are worn whilst handling and using them.

When using EG pyrotechnics especially those that disperse a filling, e.g. paint grenades, frag grenades, BB grenades, then these must only be used within a supervised area and only when all persons within the activity area are wearing the correct protective equipment.

### **Carrying**

We recommend that EG pyrotechnics are only carried in the hand or carried in EG pouches ([Link](#)) which are designed to carry EG smoke and pyrotechnics and allow easy removal in the case of an accident or accidental ignition.

**DO NOT CARRY EG SMOKE or PYROTECHNICS IN YOUR POCKETS**

### **Indoors or Outdoors**



Unless specifically stated on the product or the product's safety data sheet all EG pyrotechnics are designed for Outdoor Use Only.

### **Confined Spaces**

When using EG smoke and pyrotechnics in confined spaces e.g. bunkers, alley ways, tunnels, crowds etc. extra caution needs to be taken as to the risks and hazards posed. Smoke will linger for longer in these areas which may cause breathing problems that would not be apparent when used in a completely open area. In addition, noise is increased in confined spaces and due consideration needs to be made.

We generally advise that EG smokes and pyrotechnics are not used in confined spaces.

When using smokes our number one rule is to only use them in places where can people easily move away from the smoke if they wish?

### **In Public Places / Event venues**

It is illegal to use any type of smoke or pyrotechnic device regardless of manufacturer in public areas, public events, arenas or stadiums without the correct permissions and authorisations from the appropriate authorities and the appropriate insurance and risk assessment have been carried out. Who you need to ask to gain the correct permissions depends greatly on the area of use. Public places will probably be the local council, in stadiums it could be the health and safety department, security or police.

Being found with a pyrotechnic device entering or leaving a football game for example could lead to prosecution and imprisonment. The supporters club would not be considered proper approval.

- If you are in the business of supplying EG pyrotechnics consider having the customer complete a registration of use form with their contact details such as name, address, photo ID and intended use and place of intended use.

### **Holding**



All EG smokes and pyrotechnics are designed to be held in the hand to ignite but then they should be immediately deployed or placed on the ground. When deploying always consider the safety distance to other people and what the product may land on.

### *EG Pyrotechnics*

Once ignited there is a delay of 3-5 seconds or 4-6 seconds depending on the device to allow time for the user to safely deploy the device. Read the instructions.

### *EG smokes*

The smoke will be produced fairly quickly after ignition, usually within about one second, always keep them pointed away from yourself and others. They are designed not to produce excessive heat so as to avoid fires.

- Consider giving a safety demonstration for the variety of products prior to sale, not only will this improve safety but may also help to sell products.

### **Noise**

EG pyrotechnics that produce noise will have the noise level given on the label or instructions. The noise level is such that when someone is at the safety distance, their hearing will not be damaged by the noise produced. Noise measurements are made on hard flat open ground and as such the noise will vary depending on the area of use. In general, if the area is more enclosed then the noise level goes up and if the devices are used on soft surfaces e.g. grass then the noise level will be lower.

- Consider the environment you are using the products in; you could conduct your own tests, so you know the noise levels at your activity.

### **Safety Distance(s)**

The safety distances have been specified so as to prevent injury from heat and or noise.

- Don't alter the safety distance EG has specified.
- Ensure all persons using smokes and pyrotechnics know the safety distance and that they apply to other people as well as themselves.

### **Breathing Smoke**

Under normal conditions the smoke composition burns, sublimating the dye which condenses as it cools in the atmosphere. In addition to dye, carbon dioxide, carbon monoxide, various nitrogen oxides together with water vapour and various combustion products of the dyes and chemicals are





also produced in the smoke. The exact nature and quantity of the smoke emissions is dependent on the atmospheric and environmental conditions at the time of release and thus ill-defined.

The coloured smoke produced by EG smokes is not toxic; however, it may cause irritation and coughing. People with existing breathing problems such as asthma and COPD may be adversely affected by the smoke and it may cause breathing difficulties just as they would do from any particulate smoke for example from a bonfire.

Although there is no information indicating the smoke is hazardous, the amount of smoke breathed in should be kept to a minimum and we recommend to avoid as much as possible breathing in the smoke.

### **Altering Products**

Under no circumstances should EG pyrotechnics be tampered with, this includes re-labelling. EG products have been tested and CE marked against a strict set of standards, altering the product in any way will invalidate the CE registration and invalidate the product warranty and guarantee. EG will not accept any liability where their products have been tampered with, relabelled, modified or misused.

### **Misfires**

On rare occasions the ignited smoke or pyrotechnic may extinguish and not fully function. If this occurs do not approach the device and leave for as long as practically possible (at least 5 minutes) then carefully whilst wearing eye protection and protective gloves dispose of the product according to one of the disposal methods.

### **Disposal**

On occasion there may be a need to dispose of some “live” pyrotechnic products.

Disposal of live products should be by the method that best conforms to local and national regulation plus transport regulations where necessary.

*Method 1:* Submerge in a bucket of water allowing the water to enter the device, leave submerged for at least 72 hours then dispose of remnants in accordance with local or national regulations.

*Method 2:* Controlled burn - Place a maximum of 100 devices onto a pre-made fire and ignite remotely from a distance of at least 25 metres. Ensure fire is placed in a suitable location, not to



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ignite or damage surrounding vegetation, trees or buildings and away from roads, be aware of smoke drift.

*Method 3:* Re-pack the devices into the original supplied transport packaging and return to the supplier using a courier service registered to carry class 1 dangerous goods. This method should not be used for products that have misfired.