



Commentary

Title: Family & Consumer Fireworks

Issued: June 2005

Scope

This document will help fire fighters advise the public about consumer fireworks purchase, use and safety.

Introduction

Consumer fireworks (usually known as Family Fireworks) are pyrotechnic devices. Unfortunately many people treat these devices as toys. Statistics tell a grim story. Each year close to 200 children and adults in Canada are injured by family fireworks. The bulk of the injuries are burns suffered when fireworks explode while being held. Eye injuries account for just over 20% of all the reported injuries.

Black powder (sometimes called gun powder) is the primary component of all fireworks. Other agents, like sulphur or magnesium are added to produce colour and visual effects. The production and sale of family fireworks is regulated by the Explosives Regulatory Division (ERD) of Natural Resources Canada. Information about using family fireworks safely is available at the ERD web site: http://www.nrcan.gc.ca/mms/explosif/edu/edu_family_e.htm.

In some Saskatchewan municipalities bylaws restrict or prohibit the sale and use of family fireworks. Local Assistants to the Fire Commissioner should review local restrictions (if any) before advising the public.

Using Family Fireworks Safely

Based on ERD recommendations there are four areas of concern with the use of family fireworks.

- Purchase and Storage
- Transportation
- Set-up
- Firing

Purchase and Storage:

Follow the Regulations

Follow your local bylaws (if any) regarding the purchase, possession and use of family fireworks. Some municipalities restrict sales and use to certain times of the year while others prohibit family fireworks altogether or do not allow certain types of family fireworks to be sold or used.

Only Purchase Authorized Fireworks from Reliable Dealers

You must be at least 18 years of age to purchase fireworks in Saskatchewan. Fireworks approved by ERD will have bilingual labeling. Bringing fireworks across the border from other countries is illegal. There is a risk of criminal charges and heavy fines.

More importantly, illegal fireworks (like the so-called “M-80” or “M-100” firecrackers) can contain 0.25 kg (½ lb) or more of black powder. These devices are in fact explosives, not fireworks. They are often poorly made and can detonate unexpectedly, causing serious injury, even death. Making your own fireworks is also prohibited because of the risk of injury and unexpected detonation during manufacture and use.

Proper Storage

Fireworks at home must be stored in a cool, dry place – out of the reach of children. Some family fireworks need special handling. Check labels for directions. No more than 10 kg (22 lb) of fireworks can be stored in a home. Larger quantities must be stored in a separate, locked building or shed.

Transportation:

Due Care and Caution

Common sense rules apply. Don't transport fireworks in the passenger compartment of a vehicle. Use the trunk or cargo area instead. In a van or pick-up first put the fireworks in a plastic or other non-sparking container that will keep them cool and dry. Do not smoke while loading, transporting or unloading fireworks.

Setting-Up Family Fireworks Shows:

Be Prepared

Read and follow the directions on all the fireworks in advance. Some types of family fireworks should not be used together. Check instructions for proper spacing and locations. Plan where and how each device will be ignited. Have water available to put on small fires. A handy water bucket or garden hose will allow for extinguishing ground fires and soaking (after a 30 minute waiting period) fireworks that malfunction.

Spectators

A misfired device can shoot burning material at spectators. Keep people back at least 20m (65ft) and direct aerial fireworks away from spectators.

Location

Never use family fireworks, even sparklers, inside. Pick a clear, open area away from buildings, vehicles, overhead obstructions and dry grass or brush. Choose an area of at least 30m x 30m (100ft x 100ft) for setting off aerial fireworks like Roman candles. A 20m x 20m (65ft x 65ft) area is usually adequate for ground-based family fireworks, like fountains. Check for wind direction and speed before setting off fireworks. Don't use family fireworks in strong winds. Wait for a calm period.

Use a hard, flat and level surface for ground-based fireworks. A grassy area is not usually suitable. Use a sheet of plywood or something similar. Bury aerial fireworks, like Roman candles, so half its length is in the ground - or use a pail or box full of sand. Don't pile or group a number of fireworks together. Check the label for recommended separation distances.

Firing Family Fireworks:

Protect Yourself

Protect your eyes with safety glasses or safety goggles. An alarming number of fireworks injuries involve permanent eye damage or loss of sight. Regular eye glasses or sunglasses provide little or no protection and may actually trap burning material against the eye. Wear clothing, like cotton that won't burn easily. Never wear nylon, polyester or other synthetic fibres.

Protect Others

Never let children handle or play with fireworks. Even sparklers can cause serious burns or injuries. A disproportional number of the injuries caused by family fireworks happen to children. Young people need to know fireworks aren't toys. Don't point or throw fireworks at people, buildings or combustible materials.

Take Care

Treat fireworks with respect. Avoid dropping fireworks or placing them close to sources of heat or ignition. Never smoke when setting up or firing family fireworks. Don't carry fireworks in your pockets. Avoid putting your body, particularly your head, over fireworks when igniting them. Never hold fireworks in your hand to light them. Don't use containers, like pipes, for holding fireworks. Keep unused fireworks safely covered to prevent sparks from setting them off. If a device misfires (a dud) don't touch or move it for at least 30 minutes to allow for the possibility of a delayed ignition. Then place it carefully in a bucket of water and soak the device completely.

Cleaning Up

Unexploded bursts from aerial fireworks and burning debris can fall some distance from the firing area. Wait 30 minutes then check the area for duds and debris. Carefully put duds in water to soak. Check for burned vegetation and inspect buildings in the area of the display. Follow up with another inspection the morning after the show.

Conclusion

Helping people locally with information about family fireworks safety is a key way to prevent personal injury and fires. Consider providing all fire fighters with this safety information. Many fire fighters, particularly in smaller communities, are approached by family members and neighbours for advice on fireworks safety. The Explosives Regulatory Division of Natural Resources Canada has excellent educational resource available on-line. Visit their web site at: http://mmsd1.mms.nrcan.gc.ca/explo.net/default_e.htm. Fire Departments may want to place a link to the ERD site on their own web pages.