



Fireworks Safety Course

Saanich Fire Department

Course Outline

In this fireworks safety course, the following topics will be reviewed:

- overview of Fireworks Regulation Bylaw No. 8865
- purchasing and storing
- set up and safety
- lighting fireworks

Fireworks Regulation Bylaw No. 8865

- In 2007, the District of Saanich enacted Fireworks Regulation Bylaw No. 8865 to regulate the sale, possession and discharge of fireworks in Saanich.
- The goal of this bylaw is to reduce the risk of personal injury and property damage from fireworks use.

Prohibitions

No person may:

- sell fireworks
- buy, sell, hold, possess, store, discharge, or otherwise use any prohibited fireworks or firecrackers
- discharge consumer fireworks except on October 31 of each year between 5 p.m. and 10 p.m.

Prohibitions

No person:

- may hold, possess, store, discharge, or use fireworks in a manner that increases the risk of physical injury or damage to property
- under the age of 18 years may hold, possess, store, discharge, or otherwise use fireworks
- parent or guardian of any person under the age of 18 years shall allow that person to hold, possess, store, discharge, or otherwise use any fireworks

Prohibitions

No person shall discharge fireworks in or on a:

- highway
- park
- property on which a school is located
- beach or other area of land below the water boundary
- land in a commercial or industrial zone

Permit

- Any person 18 years of age or older must apply for and receive a permit before discharging consumer fireworks
- Permit applications for consumer fireworks events must be submitted to the municipality by **no later than 12 p.m. on October 31**
- Fireworks can only be set off by the permit holder, on private property with the owner's written permission

Ticket Fines

- \$500 - sale of fireworks
- \$100 - possess prohibited fireworks / firecrackers
- \$200 - possess fireworks without permit
- \$100 - discharge outside permitted period
- \$200 - unsafe discharge
- \$100 - underage or allowing underage possession
- \$250 - obstruction of peace officer

Buying Fireworks

- Only purchase fireworks from an authorized dealer.
- You must be 18 years of age to purchase fireworks.
- Authorized fireworks will always have a bilingual label.
- Do not be tempted to try to smuggle fireworks into Canada from another country.
- Illegal fireworks (M-80, M-100 firecrackers) are deemed explosives, not fireworks. They are often poorly made and can detonate unexpectedly.

Transporting Fireworks

- Do not transport fireworks in the passenger compartment of a vehicle.
- Always put fireworks in the trunk.
- In the absence of a trunk, fireworks should be transported in a non-sparking container with a lid.
- Do not smoke while loading, transporting or unloading fireworks.

Store Fireworks Properly

- Always store fireworks in a cool and dry place.
- Always store fireworks safely away from children.
- Always check the instructions for any special handling directions.
- The maximum amount of fireworks that can be stored in a dwelling is 10 kilograms gross weight. Any amount in excess of this must be stored in a separate, locked building.

Eye Protection and Clothing

- Wear non-flammable clothing such as cotton. Never wear synthetic fibers (nylon, polyester) when firing.
- Wear safety glasses or safety goggles to protect your eyes.
- Regular prescription glasses or sunglasses provide little or no protection and may actually contribute to an injury.



Setting Up and Lighting Fireworks

When setting up and lighting fireworks:

- never set up fireworks too close together
- always set up fireworks with the bigger ones at the back
- never set off more than one firework at a time
- use a barbeque lighter at arms length to ignite the firework
- never use a match or small lighter

Choose a Clear and Open Area

- Always use fireworks in an open area away from buildings, vehicles, overhead obstructions, and dry brush/grass.
- Always choose an area that there are no overhead obstructions.
- Carefully read all the instructions and discharge clearances for each firework item ahead of time.

The Fireworks Zone

When lighting fireworks, ensure that your area has enough space to:

- move around the fireworks without having to jump or trip over other fireworks
- move to a safe distance after lighting each one
- have an escape route in case of problems

Neighbours

- **Be courteous to your neighbours** - let them know what you are planning, especially elderly neighbours or those with young children.
- If your neighbours have pets, remind them of your plans so they can keep them indoors on the evening of your display.

Wind

- Prior to lighting fireworks, check the wind direction and wind speed.
- Fireworks should be lit with the prevailing wind blowing away from spectators.
- Do not set off aerial fireworks in strong winds.
- Always keep a charged hose or bucket of water close by in case of a malfunction or fire.

Fireworks Ingredients

- Colours in fireworks are generated by pyrotechnic stars.
- Stars contain five basic ingredients which have the following purposes:

Ingredient	Purpose
Fuel	Allows the star to burn
Oxidiser	A compound which produces oxygen for combustion
Colourants	A producing chemical
Binder	Holds the pellet together
Chlorine Donor	Strengthens the colour

Fireworks Kit

Cakes:

- 2 Mean Machine
- 2 Hot Tamali
- 1 Fatal Attraction

Sky rockets and missiles:

- 2 Sky Rockets
- 2 25-shot Missile Battery
- 2 50-shot Strobing Missiles

Tube type:

- 1 Rainbow Mine/Crackers

Fountains:

- 1 Fan Tail
- 1 Canada Fountain
- 2 Colour Spring Fountain
- 2 Diwali Fountain
- 2 Happy Diwali
- 2 Mystical Cone
- 2 Candy Crackle
- 2 Magic Stick
- 2 Dancing Butterfly

Roman candles:

- 3 10-ball roman candle

Novelty Fireworks:

- 1 Flash Flitter Strobes
- 1 Wiggle Worms
- 1 Mystical Shotgun Shells
- 2 Air Striker
- 2 Radical Racer

Noisemakers:

- 1 Whistling Mini Air Bomb
- 1 Screecheroo
- 1 Noise Assortment



Top and Side Wick Fireworks

When discharging top or side wick fireworks:

- plant firework in a minimum of three inches of sand or soil (either in the ground or in a bucket)
- tilt 5 to 10 degrees away from the audience
- do not group fireworks together



Mortars and Mine Bursts

When discharging mortars or mine bursts fireworks:

- place the firework on the flat ground or on a piece of plywood and tack it down with finishing nails
- stack bricks
- stake in the ground



Cones, Showers & Fountains

When discharging cones, showers or fountain fireworks:

- place the firework on flat ground or on a piece of plywood
- planted the firework in a bucket of sand or soil



Wheels

When discharging wheel fireworks:

- nail securely to a sawhorse or post allowing spinning clearance
- do not place or ignite near trees or vegetation



Sparklers

When lighting or using sparklers:

- keep everyone six feet apart
- do not allow anybody to chase or wave sparklers at each other
- place burnt out sparklers in a bucket of water



Sparklers can burn as hot as 650°C (1200°F) and are very dangerous.

Use Care When Firing Fireworks

- When lighting, never put any part of your body or head over the firework.
- Never hand hold fireworks or insert them into other means of containment such as pipes.
- During the show, store the unused fireworks away from the firing area and keep them covered to prevent stray sparks from prematurely setting them off.

What Can Go Wrong?

When lighting fireworks there is a risk of something going wrong. Here are some examples of what can go wrong and the cause of why it happened:

What can happen	Potential cause of issue
firework tips over	not properly secured
shot going off at ground level	due to a fault lack of a lifting charge
part fired	due to a problem with fusing
fall out over the audience	change in wind direction
cross ignition	sparks from one firework ignite another
dud or misfire	defective firework

What kinds of injuries occur?

- Injuries caused by fireworks most frequently involve fingers, hands, and face.
- More than half of the injuries from fireworks are burns (63%). Lacerations were the second most frequent injuries (18%).
- Fireworks also can cause life-threatening residential fires.

Who is most likely to be injured?

- Each year close to 200 children and adults are injured by family fireworks (2010 statistics).
- Of these, roughly 5% of injuries require hospitalization.
- About 45% of persons injured from fireworks are children ages 14 years and younger.
- Males represent 65% of all injuries.

Clean-up After The Show

When cleaning up fireworks:

- Wait 30 minutes after the display has finished.
- Keep the area clear of spectators while cleaning up.
- Do not allow children to gather spent fireworks after the display.
- Check the firing area for duds, clean up all debris, and check the area again the next morning.



Have a safe and fun time!
