



# Fireworks Safety Course

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Saanich Fire Department

# Course Outline

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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

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- 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

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**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

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## 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

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**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

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- 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 2 p.m. on Monday, October 31**
- Fireworks can only be set off by the permit holder, on private property with the owner's written permission

# Ticket Fines

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- \$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

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- Only purchase fireworks from an authorized dealers.
- 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

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- 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

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- 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

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- 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

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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

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- 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

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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

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- **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

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- 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

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- 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

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## 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

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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

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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

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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

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When discharging wheel fireworks:

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



# Sparklers

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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

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- 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?

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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:

| <b>What can happen</b>         | <b>Potential cause of issue</b>         |
|--------------------------------|---|
| 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?

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- 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?

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- 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

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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!

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