



## Fireworks Types and Definitions

Now that you know the history of fireworks and the state laws to follow when you use them, brush up on your types of fireworks and definitions. You'll be able to impress your friends and family next time you use a punk to light off a helicopter, a parachute, or a cone. Confused? Start studying!

### A

#### **Aerial**

Any fireworks item that shoots flaming balls into the air, such as a cake or mortar.

#### **Assortment**

A collection of fireworks items, generally consisting of fountains, sparklers, rockets, and firecrackers.

### B

#### **Barrage**

A group of items fired all at once.

#### **Battery**

A battery is a group of similar items that is constructed as a single bundle, such as a missile battery of a roman candle battery.

#### **Black Powder**

Also known as gun powder, black powder is a mixture of potassium nitrate, charcoal, and sulfur. It is the principal ingredient in most fireworks because it is not sensitive to shock and its burning properties are predictable and slow. Generally used as a propellant to shoot flaming balls, and in the manufacture of stars for aerial effects.

#### **Bombette**

A Bombette is an exploding star, usually ejected from a roman candle or fountain. Bombettes are limited to a maximum charge of 130 milligrams of flash powder in legal consumer fireworks.

#### **Bottle Rocket**

A small rocket that is approximately the size of a standard firecracker, one and one-half inches long, with a thin stick attached to it that is approximately 12 inches in length. Bottle rockets can contain whistle effects and may contain a report (loud bang).

#### **Bouquet Pattern**

A bouquet patter is a floral-shaped aerial pattern of stars, usually in a spherical shape (see the definition for peony).

#### **Brocade**

A spider like effect in the sky, much like fine lace. The brocade effect is generally a silver tail effect, and is brighter than the willow or tiger tail effect. Most brocade effects use glitter to produce the long brocade tails.

## C

### **Cake**

Sometimes referred to as "repeaters" or "multi-shot aerials", a cake is an item that has a single fuse which is used to light several tubes in sequence. Cakes can have a variety of intricate aerial effects, including spinners, fish, flower bouquets, comets, crossettes, and other elements. Cakes are the most popular consumer fireworks item outside of sparklers and firecrackers

### **Candle**

Another name for roman candle (see definition below).

### **Chrysanthemum**

A flower-like aerial pattern, usually resulting from a cake or mortar.

### **Comet**

A type of star that leaves a trail of sparks as it flies through the air.

### **Cone**

A type of fountain in the shape of a cone.

### **Confetti**

Paper streamers in multiple colors that are propelled by a gas cartridge or by a small pyrotechnic charge

### **Consumer Fireworks**

Fireworks that have been approved by the US Consumer Product Safety Commission (CPSC).

Fireworks that are approved by the CPSC must be able to withstand 350 degree temperatures for two days, must not be able to explode with mechanical shock, are limited to 500 grams of composition, and can not contain aerial bursts that have more than 130 milligrams of flash powder. If the item has not been approved by the CPSC, it can not be classified as consumer fireworks.

### **CPSC**

The US Consumer Product Safety Commission, a federal agency responsible for testing and approving all consumer fireworks. The CPSC website can be found at <http://www.cpsc.gov/>.

### **Crackle Effect**

A fireworks effects that sounds like hundred of snaps or crackles, usually accompanied by an aerial gold lace visual effect.

### **Crossette**

A type of comet that breaks into multiple comets, usually forming a cross shape.

## D

### **Dahlia**

A shell that produces a starfish like shape.

### **Day Time Effect**

A type of fireworks that can be enjoyed better during the day time than the night time. Includes smoke items and parachute items.

## F

### **Falling Leaves**

A beautiful aerial effect that consists of glowing embers that tumble slowly in the air, flickering back and forth as they fall back to earth.

### **Firecracker**

A fireworks item containing flash powder and wrapped in paper with a fuse attached. When the fuse is lit, it burns down inside the paper until it reaches the flash powder. The deflagration of the flash

powder results in a loud bang. Legal consumer firecrackers are limited to a maximum of 50 milligrams of flash powder.

### **Firefly**

A stroboscopic tail effect that consists of many distinct bright flashes of light.

### **Fireworks**

A device that is designed to be burned or ignited in order to yield a visible and/or audio effect.

### **Fish**

An aerial effect that looks like a swarm of objects squirming through the air. This effect usually lasts only a few seconds. Fish are actually a type of fuse that propels itself through the air, creating a swimming effect.

### **Flare**

A cylindrical device containing a composition that burns for several minutes. Flares are generally 12 inches or longer in length, and are commonly used to light display fireworks. Flares are also used as safety devices for automotive emergencies (known as road flares).

### **Flitter**

Similar to glitter, flitter is a type of star that contains bright flashes of light in the trail the star leaves behind.

### **Floral Pattern**

An aerial pattern that resembles a flower with points of light that streak outward from the center of the break.

### **Fountain**

A ground device that emits showers of sparks several feet in the air.

### **Fuse**

An item resembling a string or wire that is used to light a fireworks device.

## **G**

### **Glitter**

A tail effect that contains flashes of light and small explosive bursts lasting several seconds.

### **Ground Item**

Ground items are any item that is lit on the ground and does not shoot objects into the sky. This includes fountains, sparklers, snaps, snakes, pops, smoke balls, and other items.

## **H**

### **Helicopter**

A term for a device that spins very fast and lifts high into the sky, only to explode or burst into a special aerial effect. These are also called planes, sky flyers or UFOs.

## **J**

### **Jumping Jacks**

Similar in appearance to a firecracker, jumping jacks spin rapidly and emit red and green sparks.

## **M**

### **Mine**

An aerial device that shoot stars into the sky in an upward spray pattern.

### **Missile**

In fireworks, a missile is a sky rocket that does not have a stick for guidance. Instead, it may rotate to give it some stability as it lifts off, or may be shot from a tube (like Saturn Missile Batteries).

### **Mortar**

A mortar is a paper or HDPE tube containing a shell with a long fuse. The shell has a lift charge on the bottom that helps propel it into the air. Once in the air, the shell explodes open and release stars and other effects that streak the sky with various designs. Most display fireworks are shot from mortars.

### **Multi-Shot Aerial**

This is another name for a cake or repeater.

## N

### **Novelty**

Fireworks items that limited in their potential to harm people and property, such as snaps, snakes, poppers, and (sometimes) sparklers.

## P

### **Palm Tree**

An aerial effect that produces a gold or silver stem as the shell rises into the sky (known as a rising tail), followed by a brocade or willow effect that creates palm fronds. It resembles a gold or silver palm tree in the sky.

### **Parachute**

A paper projectile that is expelled from a mortar tube either as a single-shot item, or as a multi-shot effect in a cake.

### **Peony**

An aerial effect that looks like a spherical ball of colored lights in the sky. A very common aerial effect on most fireworks displays.

### **Pistil**

A ball of stars in the center of another ball of stars. Another way to describe this effect is a small peony inside a larger peony.

### **Planes**

A term for a device that spins very fast and lifts high into the sky, only to explode or burst into a special aerial effect. These are also called helicopters, sky flyers or UFOs.

### **Punk**

A punk is a bamboo stick with a brown coating that burns slowly. These look identical to incense sticks, but do not have a distinctive aromatic effect like incense does. Punks are generally used to light consumer fireworks. Another way to light fireworks is with an instant-on propane torch or a road flare. Because fuses are known to spit fire occasionally, lighting fireworks with matches is strongly discouraged.

## R

### **Reloadable Aerial**

A reloadable aerial is an aerial mortar that includes one or more mortar tubes and several reloadable aerial shells. The shells are placed inside the mortar tube, a long quick-burning fuse is lit, and the item is fired into the sky. These items are consumer versions of the mortar-based fireworks used in commercial fireworks displays.

### **Report**

A report is another name for a bang. Items with reports explode with a bang. This term is most often used with rockets and cakes.

## **Ring Shell**

A shell that produces a ring as its aerial pattern. See also Saturn shell.

## **Rising Tail**

A rising tail is a gold or silver tail effect that is created when a shell is shot into the sky, similar to the trunk of a tree. Commonly used with palm tree shells.

## **Rocket**

A rocket is a tube-like pyrotechnic device made out of a paper tube that propels itself into the air in order to fly. There are many different kinds of rockets, including sky rockets, bottle rockets, and missiles. Please refer to these items for more information on rockets.

## **Roman Candle**

A paper tube filled with composition that shoots flaming balls out one end of the tube. Most roman candles have five or more balls. Roman candles should never be held in your hand. Instead, they should be planted securely in the ground and pointed away from people and flammable objects. A good way to shoot roman candles is to get a five gallon pail and fill it with kitty litter. The roman candles can be easily inserted into the bucket of kitty litter and fired safely.

# **S**

## **Safe and Sane**

This is a term for fireworks that do not have aerial effects or explode. Items that are classified as Safe and Sane include sparklers, snaps, smoke balls, fountains, snakes, and (in some cases) wheels. Items that are not classified as Safe and Sane include firecrackers, rockets, and cakes. Some States restrict legal fireworks to Safe and Sane items only.

## **Salute**

A salute is an item that explodes. This term is most frequently used in regard to aerial items, although some people refer to firecrackers as "ground salutes". When a salute explodes, it is referred to as a "report".

## **Saturn Shell**

A shell that produces a ring around an inside ball of stars. The Saturn shell is a combination of a peony with a ring around it.

## **Serpent**

Another name for a tourbillion. A serpent is a type of star that spins in the sky and gives off large quantities of gold, silver, or white light. These are generally constructed as a small paper tube with holes on each end that allow it to spin.

## **Shell**

A shell is an aerial item that is fired into the sky. It generally consists of a fuse, a lift bag, and a paper ball filled with stars and burst media. The fuse lights the lift bag on the bottom of the shell propelling it into the sky. At the same time, an internal time fuse is triggered and at the right time the paper shell bursts with all of its stars lit. The type of stars contained inside the shell determines the effect the shell produces in the sky.

## **Silver Salute**

A silver salute is an M80 firecracker with a silver colored paper tube. The words "do not hold in hand" are generally written on the tube. See the item titled M80 for more information on these devices.

## **Single Shot Aerial**

A single shot aerial is a mortar tube with a shell already installed in it. These items generally have a fuse sticking out the side of the mortar at the base of the tube. While these are single-shot, one time use items only, these items can produce some spectacular effects.

## **Sky Flyer**

A term for a device that spins very fast and lifts high into the sky, only to explode or burst into a special aerial effect. These are also called planes, helicopters, or UFOs.

### **Sky Rocket**

A sky rocket is a pyrotechnic device made out of a paper tube that propels itself into the air in order to fly. Sky rockets generally have a stick to add stability to the flight of the rocket. Firework rockets that do not have sticks are referred to as missiles.

### **Smoke Item**

Any item that produces a smoke effects, including smoke balls and aerial items that produce smoke instead of light or noise. Smoke items are generally used during the daytime.

### **Snakes**

Snakes are hard pellets that are lit and produce a long carbon snake. The items are popular with kids; however the pellets can be poisonous and should not be accessible to young children.

### **Snaps**

Snaps are paper balls that are filled with a cap composition that goes BANG when they are thrown at something. Snaps are generally safe for most kids to use.

### **Sparkler**

A stick with a coating of pyrotechnic composition that creates sparks when lit. While sparklers are generally considered safe, they are responsible for over eighty percent of the injuries due to fireworks each year. This is because people throw the hot sparkler wires on the ground and other people step on them. If you use sparklers, please make sure you have a bucket of water handy to place the used sparkler wires in when the sparkler burns out.

### **Spinner**

A spinner is a type of star that spins in the sky and gives off large quantities of white light. Another name for spinner is tourbillion.

### **Star**

A small pellet of composition that produces a pyrotechnic effect. Stars are used in aerial shells, rockets, roman candles, cakes, and fountains to produce streaks or light, pulses, long golden tails, and other aerial effects. A single shell could contain several hundred stars.

### **Strobe**

A strobe is a blinking effect. When used in a shell with hundreds of strobe stars, the strobe effect looks like shimmering water in the sky. Strobes can be a variety of colors, including white, green, blue, and orange.

## **T**

### **Tail**

A burning trail that follows a star in the sky. Most comets have tails, and so do willow and brocade effects.

### **Tourbillion**

Another name for a serpent. A tourbillion is a type of star that spins in the sky and gives off large quantities of gold, silver, or white light. These are generally constructed as a small paper tube with holes on each end that allow it to spin.

### **Tube**

A tube is another name for a mortar (see definition for mortar).

## **U**

### **UFO**

A term for a device that spins very fast and lifts high into the sky, only to explode or burst into a special aerial effect. These are also called helicopters, planes, or sky flyers.

## W

### **Wheel**

A wheel is a stationary device that spins and creates a circular ring of fire and sparks. These are generally nailed to a pole or a tree before they are lit. You should always be careful to make sure the area is free from flammable debris before you light a wheel as the sparks can carry ten feet or more.

### **Whistle**

Whistles are generally small paper tubes filled with a composition that makes a sharp howling sound. Whistles can be found in rockets, fountains, cakes.

### **Willow**

An aerial effect that looks like a giant gold willow tree in the sky. A true willow effect has delicate golden trails that hang in the sky ten seconds or more.