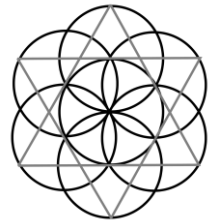


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## FIRE & FUEL SAFETY GUIDE

Playing with fire is dangerous. This info sheet is written as a guide, to help you enjoy your fire performance equipment as safely as possible and to keep others and property safe while you do so.

### ARE YOU READY FOR FIRE?

This question has no easy answer. What matters most is your confidence and ability to perform the moves you know. Ideally, you should have an experienced fire performer to help you the first time you use fire. If this isn't possible, have a friend to help you and act as your safety person. Don't be in too much of a hurry to start playing with fire as soon as possible. Practice your moves, get used to your equipment and only spin when you feel ready and skilled enough to control the equipment safely. The first time you spin with fire don't try any new moves you're not familiar & confident with and spin slowly.

### KNOWLEDGE AND EQUIPMENT

Before you start spinning with fire, check that you have the following:

- **Burns specific first aid kit** (you can speak to your chemist/pharmacist/drug store about this).
- **Damp cotton towel** - for smothering out burning equipment, people or objects.
- **Fire extinguisher** which is full, within its expiry date and has the pin intact. (The most appropriate extinguisher is dry powder.)
- **Fire blanket** in good condition.
- **Fire safety person** - the role of the fire safety person is to act as an extra set of eyes for the spinner and to quickly respond to any danger posed to the spinner, their environment or others. The fire safety should have the damp towel, fire blanket and extinguisher on hand at all times and know how to use them.
- **Appropriate clothing** for both you and your safety person (refer to the "Clothing" section of this sheet).
- **Knowledge of first aid** specific to treating burns (refer to the "First Aid" section of this sheet).
- **Fire equipment** - check your fire equipment each time you intend to use it. Make sure that the split rings, swivels, chains, wick and handles are all in good condition. All of these will get wear and tear over time and will need to be periodically replaced.
- **Fuel container** with secure lid and no leaks (the original fuel container from the supplier is best).
- **Fuel dump** - this should be a safe area away from walkways, clear of debris, flammable materials and away from heat, flames and other hazards.
- **Fuel** (refer to the "Fuel" section of this sheet).

**As a bare minimum you should have a damp cotton towel, appropriate clothing, knowledge of first aid as related to burns, fire equipment in good condition and appropriate fuel in a secure fuel dump.**

### BEFORE YOU START

- Be aware of any local **fire bans**, fire safety regulations and permits (if required).
- Do not use fire on a flammable surface e.g. dry grass.
- Keep others out of the burn zone; mark this area, have barriers and have someone in charge of keeping onlookers safe.
- Secure the fuel dump and do not leave any fuel containers open.

### FUEL

The safest, most readily available fuels for fire props are Kerosene and Isoparaffin (RecosolG) as they are the least explosive. However, no fuel is "safe" and all fuels are toxic.

- **KEROSENE** ("KERO"), also known as Paraffin, if it's 100% pure, is not particularly toxic. Very few brands of kerosene are 100% pure, with no additives. Pure Kerosene/Paraffin is sold as aviation kerosene and is not available to the general public. Other brands and types of kerosene (aviation fuel, coal oil, heating oil, lamp oil and fuel oil) contain a variety of **extremely toxic ingredients**, mainly benzene and shellite (naphtha). These additives are **absorbed through the skin** and mucous membrane, and accumulate in the liver and kidneys. If kerosene is splashed into the eyes, the eyelids should be held open and the eye flushed for fifteen minutes, and if swallowed, do not induce vomiting. In either case, seek medical attention immediately. All kerosene should be treated as if it is highly toxic. It burns very hot, produces a lot of smoke/soot and has a very strong smell. *Available at supermarkets & hardware stores.*
- **LAMP OIL**, scented and unscented, is kerosene without the bad smell. It produces less smoke and looks cleaner, however, contrary to popular belief; the additives that make it more aesthetically pleasing also make it more **poisonous**. *Available at supermarkets & hardware stores.*
- **RECOLOG (the fire fuel we supply)** is also known as Isoparaffin and Hydrotreated Heavy Naphtha, is bright, clean, odorless, produces minimal smoke, has a low temperature flame and is a non-explosive fuel. It is used and recommended by professional fire performers and is available from Fyregear and the Perth Fire Group, pick up only as it cannot be posted. (In the eastern states of Australia it is supplied under the brand name "ShellSolD60")
- **COLEMAN FUEL AND LIGHTER FLUID**, such as Zippo, consists of shellite (naphtha) with various additives. Shellite is much more volatile than kerosene - this means that it's **more likely to explode or get out of control**. You can't dip extinguished but still smoldering fire equipment into shellite because it will instantly set the contents of your fuel container on fire. You must completely extinguish all smoldering

and wait at least 30 seconds before re-fueling. This fuel does not need a wick to burn, whereas, kerosene does. Naphtha is as toxic as kerosene.

- **GASOLINE (PETROL), PAINT THINNER, AIRPLANE FUEL** and other **highly volatile** fuels are **extremely explosive** and **extremely toxic**. It's strongly advised that you **DO NOT use these fuels**. When it's hot and humid, gasoline fumes will not readily disperse and may be ignited as much as half an hour after the fuel has been sealed and stored. The fumes from Coleman fuel and lighter fluid will explode almost as readily, but not with the same force. In comparison, Kerosene and lamp oil are fairly hard to blow up.
- **GRAIN ALCOHOL** is not immediately poisonous and beverages with an alcohol content of 60% (120 proof) or higher are volatile enough to be used with fire equipment. However, they produce a poor flame. Grain alcohol which is pure (100%, 200 proof) has a **similar volatility to gasoline** making blowbacks inevitable for fire-breathers. The main problem with liquor is that what you ingest from doing a few blasts of fire breathing will get you quite drunk and this is not a safe condition to be in if you are using fire.
- **METHYLATED SPIRITS** ("Metho") are another **highly volatile** fuel like paint thinner; however, in the fire spinning world, it is used in combination with chemical compounds to create "coloured" flames. Methylated Spirits produce a weaker flame than kerosene and combining it with chemical compounds results in a **very toxic** fuel that rapidly deteriorates the condition of your wicks.

**Material Safety Data Sheet (MSDS)** contains information for handling or working with a particular fuel/substance. MSDS's include information like the flash point, toxicity, health issues, handling procedures and what to do in case of an accident. Every company that manufactures or distributes hazardous chemicals must have/provide an MSDS. The purchaser has the right to know everything about the material that they are purchasing and hence, the seller must assist you in obtaining a copy of the MSDS. We recommend that you obtain the MSDS for any fuel you are considering using and familiarize yourself with the information before proceeding. **Fyregear can provide you with the MSDS for most fuels, just ask!**

## CLOTHING

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- Unless labeled as flame resistant or flame retardant, all fabrics should be treated as highly flammable. **Natural materials, in tight weaves** (the thicker the better) give better protection and tighter clothing is less likely to catch fire.
- As a guide, the best readily available clothing materials to wear are; **heavy cotton drill (like tradie's work pants & shirts), denim (without frays), wool and leather**. Other materials such as silk are slow to ignite but once burning burn easily. Synthetic fabrics such as polyester and nylon are also slow to ignite but will eventually burn with a flame and produce melting residue. The melting residue is a very high temperature and can cause deep and severe burns as it tends to stick to skin.
- If you are creating a costume, it is wise to test how flammable the materials are. Test the fabric by running fire (consisting of the same fuel and wicking you perform with) over and around a fabric sample. If it doesn't burn immediately, hold the flame to it and see how long it takes to burn or melt. This will give you a good indication of the flammability of your costume.
- Spinning in wet clothes will prevent them catching fire BUT **wet clothing can lead to severe steam burns** when the heat of the fire equipment is applied to the water in the fabric (most likely if you get entangled in your equipment).
- **A natural fibre beanie or cap** is recommended for your head, as hair burns instantly on contact with a flame. It may also help to wet your hair. Gels, hair spray and other hair products are not recommended as these act as fuel within your hair and make it easier to set on fire.

## DIPPING - LIGHTING - EXTINGUISHING

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### Dipping

Fully submerge the wick in a container of fuel. As the liquid fuel displaces the air in the wick it produces air bubbles. The wick is fully soaked when there are no more air bubbles coming out. Shake off any excess fuel using big downward sweeps (with a staff) or spin off excess fuel (if using poi). Other equipment should be shaken or spun as best as possible to remove excess fuel. If fuel has run down the shaft or handle of your staff or onto the handles of poi, be sure to wipe or wash it off before lighting. More information on using a fire staff is in the "fire staff info" sheet.

### Lighting

Always light your fire equipment from underneath the wick (because fire burns upwards) at a safe distance away from the fuel container. Ensure the wick is fully lit before starting to spin as spinning straight after lighting may cause your wicks to self extinguish.

### Extinguishing

It is best to extinguish equipment before all the fuel has burned out of the wick so as to prevent just the fuel residue on the wick burning. Extinguishing equipment extends the life of the wick and means you need to replace it less often. To extinguish the equipment, blow out the flame from the bottom (to the top) of the wick or use a damp towel to smother it. Wicks that are left to burn out and smolder will not last as long as equipment which is extinguished.

## FIRST AID FOR BURNS

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All fire spinners get burned. Described below are the three main classes of heat burn and the appropriate first aid for each class.

- **FIRST DEGREE BURNS**
  - **Identification** - The skin is intact, but red and the burned area is painful.
  - **Treatment** - Run the burned area under cold water for 20 minutes. Do not use ice as it reduces the blood flow to the area. After the skin has been cooled, do not apply lotions or salves. Leave the skin uncovered and dry. Most first degree burns heal after 1-2 days.
- **SECOND DEGREE BURNS**
  - **Identification** - The skin may be intact or it may appear to be partially peeling. It may also appear moist or have a mottled appearance. Any burn with blisters is second degree. The burned area is very painful.
  - **Treatment** - If the skin is intact (not peeling), run the burn under cold water for 20 minutes. Then you may apply an antibiotic ointment or cream. Don't try to burst the blisters. The burn will usually heal with minimal to no scarring within 7-14 days. Once the blisters burst on their own, trim off the dead skin with fine scissors. This helps to prevent infection. If the skin is broken, do not immerse in water as this can lead to infection. Cover the burn in a clean, dry dressing and go to the nearest emergency room.
- **THIRD DEGREE BURNS**
  - **Identification** - The skin is burned through its full thickness. The tissue underneath the skin may show through. The edges of the burn are frequently charred. The center of the burned area may not be painful because the pain receptors in the skin have been destroyed along with the skin.
  - **Treatment** - Cover the area in a clean, dry dressing. If there is clothing stuck to the burn, do not try to remove it. Third degree burns are notorious for getting infected and prompt medical treatment is required. Failure to receive prompt medical attention can result in gangrene, loss of a limb, or infection of the blood.

## DISCLAIMER

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By using this fire equipment, you acknowledge that you have read and accepted these disclaimers.

The information supplied here is intended only as an introduction and guide to fire spinning. While every care has been taken to supply accurate information, errors and omissions may occur. Fyregear does not accept any liability for loss or damage, which may directly or indirectly result from any advice, opinion, information, representation or omission, whether negligent or otherwise, contained within these pages and/or on our website.