

# Basic Fire Safety Outline & Information

This is a living document of basic fire dancing safety procedures and information for performers as compiled by the Chicago Fire Tribe, The Ignite Fire Keepers, and the Phoenix Fire Collective. Each fire community has a different protocol. Please use this as a guideline to remember details & educate yourself & others - this protects our fire spinning communities, reduces risk for all, & allows for the beloved art form to remain alive. **Watch the [Video](#)** recorded from our Shine Your Light Retreat training 2021 to listen to this information, and watch how various tools can be extinguished.

You assume all personal risk when you spin fire. It is a dangerous art form.  
Respect the fire.

## IMPORTANT:

- **Never light up alone.** Always have a 'Safety', especially when spinning gear that can tangle (poi/rope dart).
- **Be Smart!** Do tricks you know how to do well, wear fire safe clothing
- Keep **fuel** safely contained & away from spectators.
- Be in the **right frame of mind.** Do not spin while exhausted or inebriated.
- **Never smoke ANYTHING in the fueling area!!!**
- Ask First.

**\*\*Maintain sobriety\*\***  
**\*\*Be Safe\*\***  
**\*\*Reduce Risks\***  
**\*\*Protect the Community\*\***  
**HAVE FUN!!**

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# EQUIPMENT for fire spinning

**Fire Gear:** Get to know your gear intimately. Be very familiar with any tool before you light it on fire. Check your gear for safety: Are all the bolts tightened? Screwed tight? Make sure to clip any loose kevlar.

**Fire Blankets:** The fire blanket must be large enough to put out the piece of fire equipment.

- Damp towel - Damp towels will smother the flames quicker and easier than duvetyne, are more heat resistant, and less toxic for you and the environment.
- Duvetyne - a thick fire retardant black cloth. NOTE: Duvetyne becomes permanently ineffective if wet. The chemicals used in duvetyne are carcinogenic, so we encourage limiting exposure. However, since fire marshals, event producers, and venues are familiar with duvetyne, having it on hand makes them feel safer.
- Matrix Fire Blanket - A blend of aramid & cotton, this is inherently fire safe & washable. It's chemical free, as well. [www.matrixfiresafety.com](http://www.matrixfiresafety.com)

**Fire Extinguishers:** Essential to have on hand for professional performances or for fuel dump fires - know the different types & use the one most appropriate.

- ABC: For use with dry material/wood/fuel/oil fires. Dry chemical - **NEVER use on a person**, they will have to go to a hospital to get the foam scraped out of skin with a wire brush.
- BC: For electrical/liquid fuel fires. Contains pressurized sodium bicarbonate or potassium bicarbonate. Most common. **Use this for a fuel bucket fire.**
- CO<sub>2</sub>: For fuel/oil fires. Contains pressurized carbon dioxide. Can shoot ice crystals. Use on a person only when they are holding their breath
- Water: ok to use on a person. **do not use on ignited lamp oil, it'll cause the fire to spread.**

**Dip Bucket:** Re-sealable metal paint cans work best, but anything metal with a secure top will work. Double-contain your dip bucket: store the fuel bucket in a larger plastic container (like a larger plastic 5 gal bucket or tote.) Clearly label whatever containers you are using as FUEL.

**Storage:** Only store in its original container. Do not store fuel in plastic or glass. Do not reuse beverage containers. Keep out of extreme heat & direct sunlight. Store in a garage or basement or outdoors, never indoor living areas.

**Lights:** Flashlights/Headlamps make fueling & finding equipment easier in the dark.

**Tools:** Have tools such as pliers + wire pieces + scissors on hand to tighten/adjust gear as needed.

**Small first aid kit:** bandages, band aids, burn ointment (like A&D), painkiller, antibiotics, baby wipes.

**Ziplock Bags:** Use to spin off excess fuel without spraying into the world, to store gear for travel & keep dipped props wet & safe.

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## FUEL types for Fire Spinners

**Naptha/White Gas/Coleman Camp Fuel:** “naptha”. A fast-burning fuel with a low flash point (quick to light), high flammability, big bright HOT fire. Emits vapors and evaporates, which can be potentially dangerous. For use indoors. Will evaporate off your prop when dipped. Cleanest burning.

Brands such as Coleman, Ozark Trail, Crown. Available at stores that sell camping gear. It's also found in “Lighter Fluids”, such as Zippo or Ronsonol. Solvent, non-polar, high vapor pressure (vaporizes easily) Evaporates easily, shorter burning transfers flame easily. It has the lowest boiling point of all the petrols, which gives it the highest vapor pressure. This means that it will produce flammable vapors whenever it's not contained in a vapor-seal container, but those vapors will disperse quickly if well ventilated. Naphtha is very easy to light (it's always producing fumes), it burns on many surfaces (including ice), it will evaporate quickly (in about 15 minutes) from most surfaces, and must be very carefully contained at all times. Unfortunately, since it can contain a high percentage of aromatics, it can also be smoky, toxic, and carcinogenic. Some naphtha-based fuels (Coleman) have a somewhat reduced aromatic content, but many are naturally high or augmented in aromatics. This fuel is one of the few that can be used for contact fire (raking), will burn off the ground for spin-out tricks, and produces the biggest, brightest, hottest flames possible.

**Paraffin/Lamp Oil/Tiki Torch Fuel:** slow/long burning fuel with a high flash point, slow to light, oil-based & hard to clean up—does not evaporate & leaves a slippery residue. Smokey, so it is not recommended for indoors. Comes in different grades, from “common” to “pure” to “ultra pure”—only “ultra pure” grades are acceptable for fire performance. Longer burning transfers flame poorly. Lamp oil does not create combustible vapors from heat/sunlight. Lamp oil is very hard to light under most circumstances. It will often stain any surface it touches because of the difficulty it has migrating and evaporating. Lamp oil, when burned, produces more smoke but has a longer burn time than other fuels. It has a very high flash point (the lowest temperature at which a liquid can form an ignitable mixture in air near the surface of the liquid), which means that it usually won't burn on your body if a wick comes into contact. When lamp oil is applied to cotton balls, wood shavings, fur, or feathers, it will begin to produce a cloud of vapors almost immediately. This cloud stays in a form that is readily ignitable from spark or intense heat. This also degrades Kevlar wicks. (faster than white gas.)

**50/50 Combination:** of white gas/lamp oil provides a large flame that's quick to light, but lasts a good amount of time.

**Kerosene:** medium flash point, medium brightness. Middle ground between lamp oil and white gas. But! It smells the most and emits the most amount of smoke. **(not good for indoors).** Check out “Kleen Heat” for a cleaner, less smokey oil based fuel, designed for indoors.

**Ethanol or Ethyl Alcohol (fire eaters & breathers)**: blue flame, expensive, has the ability for a big kick back. Pure alcohol, grain alcohol, or drinking alcohol. It is colorless and flammable. Ethanol creates combustible vapors if exposed to heat/sunlight, & is commonly used for fire eating. Ethanol is the ONLY fuel that can be extinguished with water.

**Corn Starch (fire breathers)**- Corn Starch is the starch of the corn grain obtained from the endosperm of the corn kernel. Corn starch is used and is the preferred fuel for fire breathing due to its low toxicity.

## Fire-Safe CLOTHING

**Fire-Safe Natural Fibers:** (when burned, will catch fire and singe.)

- Leather
- Cotton
- Wool
- Hemp
- Silk

**Combination Natural-Synthetic Fibers** (Derived from natural fibers but chemically processed. Do a burn test.)

- Rayon
- Modal

**Avoid Synthetics:** (when burned, will melt to your skin!)

- Fleece
- Polyester
- Acrylic

**Blends:**

- Lowest acceptable: 80% natural fiber: 20% synthetic (ie: a 90% cotton 10% lycra is ok).
- When in doubt, test a corner of the fabric to see if it melts when lit on fire.

**\*\*Dryer sheets make clothes more flammable – don't use dryer sheets with your spinning clothes!**

**Hair:** Tie back and wet small flyaway areas (bangs), or cover with a hat/bandana/scarf (natural fiber only!) If you have accents in your hair (feathers, wraps, beads, etc.) some dyes and materials in them may be flammable, so make sure to keep them covered.

## ENVIRONMENT

**Location :** Be aware of and survey your surroundings

- Footing, ground (sand, concrete, gravel, grass)
- Above your head: trees, wires, roofs.
- Potentially flammable objects: trash, fabrics, people, carpets.
- People : make sure your perimeter is set and you are 6 feet away from people.
- Sound: check before igniting—can you hear your safety?

**Weather:** Pay attention & cancel the performance if necessary.

- WIND blows flames onto your skin, and makes fuel burn faster.
- RAIN wet ground effects footing, fire tools should not get wet.
- DRY conditions can lead to ground fires (leaves, dry brush, dead leaves in trees, etc...)
- COLD will make your hands numb, hard to grip props.
- HOT will make flash burns more common, and sweat gets slippery.

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## Burn Care

### Burn procedure:

1. **Put out any fire.** The first thing to do is to stop the burning!
2. **Remove the heat source.** Get any hot metal & clothing away from the skin.
3. **Inspect immediately.** Examine (without touching!) the burned area to assess the class of burn.

If you spin fire, you will eventually get burned.

### FIRST AID FOR BURNS:

Of all the injuries that fire performers accumulate, burns are probably the most common. This guide aims to teach performers how to identify the three main classes of heat burns and the appropriate first aid procedures for each class.

### **Classes of Burns:**

- **First Degree Burns.** A first degree burn is caused by brief exposure to heat. In a first degree burn, the skin is intact, but red, and the burned area is painful. Sunburn is a type of first degree burn.
- **Second Degree Burns.** A second degree burn is caused by prolonged exposure to heat or very high temperatures. In a second degree burn, 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 in a second-degree burn.
- **Third Degree Burns.** A third degree burn is the most serious type of burn and is caused by prolonged exposure to very high temperatures. In a third degree burn, the skin is burned through its full thickness. The tissues 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.

### **Care for First degree Burns:**

Immediately immerse or run the burned area under cool water for 5-15 minutes. This lowers the temperature of the burned skin and stops the burn from getting any worse.

After the skin has cooled, **do not** apply lotions or salves right away. Leave the skin uncovered and dry. A hydrating Burn Cream with an antibiotic can keep the wound from getting infected. Cover with a bandage and change twice a day- airing the wound out in between. Once the wound has healed and closed, you can apply lavender cream, aloe, and/or vitamin E.

Most first degree burns resolve after 1-2 days. For pain while the burn is healing, apply cool, wet cloths on the burned area and use acetaminophen ("Tylenol") every 4-6 hours or ibuprofen ("Motrin" or "Advil") every 6 hours as directed on the package.

### **Care for Second degree Burns:**

If the skin is intact (not peeling) then immerse in or run under cold water for at least 5 minutes to stop the burning. 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.

After the skin has cooled, apply an antibiotic ointment or cream such as bacitracin, a neomycin/polymyxin blend ("Neosporin"), or any approved burn cream. Do not burst the blisters.

The burn will usually resolve with minimal to no scarring within 14 days, although it may take as long as three weeks. Once the blisters burst on their own, try to trim off the dead skin with fine, clean scissors. This is painless and helps to prevent infection.

For pain, use cold, wet cloths on the burned area and use acetaminophen ("Tylenol") or ibuprofen ("Motrin" or "Advil") as directed on the package.

### **Care for Third degree Burns:**

After removing the heat source; cover the area in a clean, dry dressing. If there is clothing stuck to the burn, do not try to remove it. Victims of third degree burns can go into shock suddenly, call an ambulance rather than taking the victim to the emergency room if possible. 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 sepsis (infection of the blood, which is often lethal).

### When to seek immediate medical attention for a burn:

- If a blister is greater in diameter than 2 inches (4-5 cm), or involving a skin break
- If the burn is an electrical or chemical burn.

### When to seek medical attention during the healing of a burn:

- If a burn starts to look infected (red, painful, swollen, and warm) or if an area of redness appears around a burn, go to an emergency room. This may signify a serious infection.
- If the burn does not seem to be improving after 10 days or if you feel the burn is getting worse call your doctor.

**\*Remember:** When in doubt, seek medical attention for a burn. Burns are complicated medical injuries and may require very advanced care for severe cases.

## **EXTINGUISHING FIRE**

As the safety, you are doing a DUET with the spinner. You must be fully attentive to the spinner. No side conversations, phones, or distractions. You must have a safety blanket in hand BEFORE the spinner ignites.

Verbally confirm names, props, and flow BEFORE fire is introduced.

As a spinner, never light up before your safety is ready. Always verbally confirm.

Know how to put out many kinds of fire toys with fire blankets, as well as how to put out fire on people. When you spin fire, you MUST also know how to Safety for that prop to educate others.

Ask First. As a safety, ask names and about what prop they are about to spin & if you need to know anything. If you are unfamiliar with the prop, ask thoroughly & get help if needed- find someone experienced.

### Extinguishing gear:

- Establish a dedicated safety person BEFORE you light anything up. Know where they are, and ensure they know how to put out your tool.
- Ask first, make sure your safety is ready. Communication is key!
- When ready, the spinner places lit gear on the center of the fire blanket & steps back slightly, unless holding a large prop like a hoop or staff.
- The safety quickly rolls & folds the blanket around the tool to **remove all the air** & squelch the fire. Never pat. Press any areas around shafts or connections where air may still get in.
- Count to 3.
- Open carefully. (Sometimes there's a fiery surprise left inside.)
- Spinner should pick up their gear + express gratitude. Hold or put gear somewhere where no one can accidentally step on or touch it until it is completely cooled.

- *Spin one, safety one!* The spinner trades off with safety, so the safety can spin if they wish.

### Extinguishing people:

- If a person catches fire:
  - the safety calls out to the spinner “STOP! FIRE, <BODY PART>”
  - Spinner should stop, drop tools or hold them UP and out of the way, and **BRUSH** fire off clothing if reachable, **do not pat**. Patting will **add** oxygen, fanning the flame larger.
  - If the spinner can’t reach fire or put it out, the safety should smother the flame by firmly wrapping the towel around the flame, or pressing it to it and swiping down, but not patting the flame.
  - If a metal object is involved (i.e. a poi tangle) **do not** press it into the skin but lift it away and out from the body, then circle the flame with the towel over the hands.
  - The person on fire SHOULD NOT RUN, but stay in place!
- If gear becomes tangled:
  - The spinner should STOP and relax the grip/shake to RELEASE gear, dropping arms/hands down to the ground. gear should slip off.
  - If not, Safety should pull gear AWAY from spinner’s hands/skin before wrapping to smother.
- **Never use a fire extinguisher on people. Ever.**

### Extinguishing Fuel Can/Fuel Dump:

- If the fire is still small, put the metal lid on your fuel can to **squelch out oxygen and stop the fire**. Use a safety blanket to wrap & smother the can if the fire has spread to the outside.
  - If it’s a large fire, use a fire extinguisher.
  - If fire is spreading rapidly, **Clear the area and call 911 immediately**.
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## **Fire Spinning Checklist: Minimize Risks**

### Check Fire Gear:

- **Always check gear before spinning:** tighten nuts, bolts, screws & check chain links.
- Snip any frayed Kevlar pieces.
- Double check handles/holders.

### Set up Safety Station & Dip Station:

- Set up safety & dip stations separately and a good distance away from each other, so dipped props can flow right into the performance area.
- Ensure dip buckets are in a larger secondary container (double bucket system) & **fuel types are clearly labeled**.
- Set out safety towels & extinguishers around the perimeter & ensure all Safeties know what to do.

## Environment & Perimeter

- Survey your spinning area—take note of footing & weather.
- Create a perimeter so spectators cannot get too close (use tiki torches or small oil candles or rope, etc)

## Communicate

- Make sure the property owner sanctions the fire spinning
- Brief all Safety persons.
- Let everyone know it's happening - including the audience. **Ask First.**

## Spinning off – to remove excess fuel:

- Consider  $\frac{3}{4}$  dipping, don't wait until wick is fully saturated (when all bubbles disappear). Less spin off.
- Spinning off protects the environment & your audience from (potentially flaming) drips.
- Use heavy-duty ziplock bags or a bucket, or thick rubber gloves to squeeze wicks out.
- Check the bucket/bags/gloves for any holes so that you **don't spray fuel.**
- Spin off (and dip) outdoors, ideally on concrete—**Ensure no one is in your spin-off path.**
- **Burn off extra fuel by moving slowly at the beginning of your burn** or doing a "burn off" (be trained in this) before moving your props quickly so you don't spit ignited fuel into the spinning environment.

## The Final Check before spinning:

1. If performing, remind venue contact about safety procedures and ask that they keep the audience away from the performance area (if necessary).
2. Check fire gear for any loose connections/fittings.
3. Check clothing + hair for any hanging or synthetic materials.
4. Check in with your Safety.
5. Close lids on dip buckets and move equipment to **avoid tripping hazards.**
6. Breathe & center yourself.

## Insurance:

If you are interested in performance, we recommend investing in Performance Insurance for Fire Dancing through Performers of the US/ Specialty Insurance Agency. Policies begin in April each year for the fire season. <https://www.specialtyinsuranceagency.com/>

## **A note on FIRE BREATHING**

- Fire breathing is safest with ultra pure lamp oil.
- **Wind conditions must be perfect** or you risk burning your face.
- You should have a personal-wipe towel to **clean fuel off of your face every time fuel goes in or out** of your mouth.

- Fire breathers must have their own dedicated Safeties who feel comfortable with fire breathing. We suggest bringing your own laundered safety towel that has never been used to put out props.
- **Do not attempt to learn fire breathing on your own.**

## **HAVE FUN!!**

**\*\*Maintain Sobriety\*\***

**\*\*Be Safe\*\***

**\*\*Minimize Risks\*\***

**\*\*Protect the Community\*\***

**\*\*Flow & Share\*\***

## **Self Care Practices & Health**

*The following is from Liz Campanella-Breen, with added notes by Gaea Lady.*

I wanted to share the tips and tricks I have learned over the years to keep my body "clean" and healthy after fire dancing. Fire dancing exposes our body to harmful smoke, chemicals, burns, skin dryness and lots of soot. To find balance, below are the things I use/bring with me for post fire dancing care.

### **Cleaning the Body & Health Care**

#### **Nose Cleaner**

What: Similar to a neti pot, I use this [Nose Wash Cleaner](#). I like it better than a neti pot because I can control the water pressure. I tend to squeeze it to blast the saline into my nose to dislodge any of the black boogers or soot. I use saline in small packages (available at any pharmacy), and use two packets to clean twice after a big fire session.

Why: As we spin, we inhale the smoke that is burning off of our gear. White gas produces a cleaner smoke (still harmful and gross but cleaner) than lamp oil. In Costa Rica, we use lamp oil which produces a sticky thick black smoke causing black boogers—a common experience. The inside of our nasal passages will be coated in this soot and we want to clean it.

#### **Nail/Hand Brush**

What: Scrub away all the fire/fuel marks and clean under your nails. [Nail/Hand brush](#)

Why: Handling our gear, touching fire heads, using fire safety cloth (duveteen etc) will get grime on our hands and under our nails that need cleaning to keep it from getting on anything else (like nice sheets).

### **Wash your Body!**

(from Gaea) The fuel residue clings to skin, hair, and clothing, and soot transfers to other items (and is hard to impossible to get out of certain white fabrics). Best practice is to wash your body fully with soap & water after every big fire session as soon as you can to keep black soot off items in your home and remove toxic residue from your skin.

**Burn Cream & Burns** :: \*\*\* *This is a very quick overview. See above for more*

It's bound to happen. Your fire poi touches your arm, your hand gets too close to the wick on your fire hoop, the fire sword flames lick your hand. As fire dancers we always have to be prepared for those moments when we are burned by what we love.

There are 2 main kinds of burn cream. I like little packets to be able to put into all my different gear bags.

[Hydrating](#) Lidocaine & [Healing](#) Lidocaine

Other first aid items

- [Moist 2nd skin pads.](#)
- Band-aids and medical style tape.
- Neosporin.
- Diluted Lavender Oil.
- Small bag to put all these items in and I keep this in my fire gear bag

The kind you use will all depend on what kind of burn you have gotten. Hopefully you will only ever deal with 1st degree burn (sunburn, slight kissing of our fire gear). These burns need to be lovingly cleaned with soap and water and a healing burn cream applied and in some cases maybe a bandaid or covering. NEVER put ice, ice packs or very cold water on any kind of burn. When a burn is exposed to cold, our body reacts by trying to warm up the area. This causes more heat to go to an area that is already having trauma from heat. Slightly cool water or in some cases, slightly warm water is best. Room temperature is what we should strive for but a little bit of coolness often feels good.

For 2nd degree burns: a blister will form. These are more serious and need to be treated. Your blister is your friend and needs to be protected at all cost. If it pops, it's not the end of the world but you need to keep it covered, cleaned and ideally sealed so nothing can get into the area and infect it. This kind of burn needs to be kept hydrated while your skin heals and from there you need to treat it. You will need a hydrating gel and 'second skin' pads for this kind of burn.

### **Chapstick**

Any chapstick will do. Long fire dancing benders will dry out your lips.

### **Heavy Duty Lotion**

After all the scrubbing, sand and use, our hands will get DRY even in moist climates. Keep them hydrated to be able to spin more the next day. I LOVE [gold bond ultimate hand lotion](#). Whatever works for you, bring some. (Gaea loves a thick natural beeswax & cocoa butter based salve)

### **Eye Drops**

The constant exposure to smoke from fire dancing will dry your eyes out.

### **Hydration: Water & Electrolytes**

After a big night of dancing, electrolytes support my body after all the exertion. Anything that is designed for post workout support is great.

### **Activated Charcoal**

(from Gaea) Especially when fire eating and fleshing, taking activated charcoal in powdered form, mixed with water, or in a tablet/capsule helps to clear the body of any toxins. Your skin is your largest organ and is highly permeable - thus taking in the toxins from fuel. Activated charcoal is best taken on an empty stomach after fire spinning - or 30 min after eating. If taken with food it will absorb and clear out the nutrients from your food or supplements, just as it does the toxins. .

## **Protective Clothing/Gear**

### **Arm Protectors**

Arm covers protect my forearms when I spin big fire a bunch. For many years I just cut off the feet from natural fiber black tube socks and used the leg portion of the sock. Some people use kevlar sleeves. Both work well.

### **Leather Gloves**

Certain gear calls for gloves- fire swords and palm torches especially. They protect my hands from the heat and licking flames. The gloves also allow me to really flow and move with palm torches and not worry about my hands getting too hot/burned.

### **Hair Covering / Small Water Spray Bottle**

Burnt hair is the worst! Surprisingly it smells the worst when you get in the shower and water hits it. No idea why but it does. Cover hair with a bandana, wrap, or hood especially when I'm deep into practicing new moves close to the head. An alternative is bringing a small spray bottle with water to wet down your flyaway hairs or bangs etc. This will help keep the burnt hair to a minimum.

### **Baby Wipes**

Baby wipes are great for when you've packed up your gear and are done for the night but you aren't going right to the shower and you need to clean off your hands (and anything else like the handles of your gear if they get fuel/soot on them, etc...) While I usually don't like the wipes with alcohol, I find them VERY USEFUL for cutting through the grime from lamp oil fire dancing.

### **Unusual Flammable Items**

There are many things that are flammable that you might not realize:

- Mascara is flammable and will increase the likelihood of your eyelashes singe.
- Fabric softener can increase the likelihood of our clothes catching on fire.

**HAVE FUN!!**

**\*\*Maintain Sobriety\*\***

**\*\*Be Safe\*\***

**\*\*Minimize Risks\*\***

**\*\*Protect the Community\*\***

## **\*\*Flow & Share\*\***