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Isopropyl Alcohol-based Fires for Rituals

Dick Johnson, Head Verger, Trinity Episcopal Church, The Woodlands, TX

Alcohol plus Colorant fires are used by many Episcopal Churches. They are easier to assemble, safer, and easier to extinguish than are wood kindling fires. The following information is taken from several web sites plus experimentation at Trinity Woodlands.

Safety

- Do not light with short match or small lighter. The fire does not flare, but it is initially very hard to see
- Do not poor more alcohol into a lit bowl. The fire will almost instantly crawl up the liquid being poured
- When salt is exposed to the air as the fire burns up the alcohol, it will pop. Small pieces may shoot out of the container. While some prefer rock salt, it is much more prone to shoot out than regular salt.
- Putting out the fire
  - You can put it out with water. The alcohol will initially float, but the fire will then go out
  - You can smother it with a wet towel or a lid of some kind. *We use a lid to extinguish our fire*

Setup

- Medium metal or stone bowl (6" – 8" diameter is fine), colorant and Isopropyl Alcohol (rubbing alcohol). The alcohol should be high concentration – 90% best, 70% OK, 40% no – to cut down on water absorption by salts
- If on a table, put a pad below the bowl to keep from scorching the table
- If inside a room, have plenty of ventilation and move away from a fire alarm smoke or heat detector

Color Additives (colorants)

Mix the colorant and alcohol. Some of the colorant will not dissolve and will form a bottom layer in the container. Do not mix colorants together. The resulting mixture usually just produces a yellow flame

- **Table Salt and Rock Salt** produce a yellow flame
- **Epson Salt** produces a light yellow or even white flame. It makes the flames more even and less wild
- **Boric acid**, instead of a salt, will give a much more pronounced effect, turning much of the fire bright green

For salts, mix together at a 1:1 ratio (equal amounts of salt and alcohol). You can use the mix immediately or later. For boric acid, mix 1:1, then add more boric acid until it forms a thin paste. Mix well and let stand for a while.

Mixes using one cup of rubbing alcohol should burn about 10 minutes and, with the colorant, produce a flame between 9 inches and 2 ft high, depending on the colorant and the bowl opening. A higher alcohol concentration gives a hotter flame and more ash, but also more flame action.

At Trinity Woodlands, we use a 90% concentration alcohol and sodium chloride (table salt or rock salt). The New Fire of the Easter Vigil is not extinguished until after the Exsultet is chanted.

Flame Colorants in Rubbing Alcohol

Color	**Chemical**
Faint Pale Blue	Rubbing Alcohol by itself, almost invisible flame
Carmine	Lithium Chloride or any soluble lithium salt
Red	Strontium Chloride (bulk powder, health store) ---Avoid metal containers
Orange	Calcium Chloride (a bleaching powder)
Yellow Slightly darker yellow, a little more flame action	Sodium Carbonate Sodium Chloride (common table salt, rock salt)
Yellowish Green Darker Green	Boric Acid Copper Sulfate
Blue	Copper Chloride or Calcium Chloride (Bleach Powder)
Violet	3 parts Potassium Sulfate, 1 part Potassium Nitrate (saltpeter)
Purple	Pure Potassium Chloride (concentration of Potassium Chloride table salt is only 14%, not enough to give a purple color)
Light Yellow to White, more even fire	Magnesium Sulfate (Epsom salts)