

Iso Is Fun

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Introduction

For the first group assignment, my group gravitated towards doing an experiment with isopropyl and alcohol. Together, we decided to study the flame propagation in a large glass jug. The goal was to capture a series of flames propagating through the glass jug with Isopropyl alcohol that was set on the walls. After the alcohol sat in the jug for a while, the vaporized alcohol was then ignited with a blow torch and we captured as many images of the flame as possible.

Flow Apparatus



The flow apparatus in this case was a 1 gallon glass jug, perched in front of a black poster board. For the experiment we used isopropyl alcohol and a blow torch for lighting the jug. Fortunately, this set up worked out for us since we filmed inside Michael's garage. We knew that in order for this experiment to be successful we needed the room to be completely dark. We wanted the fire to stick out the most, and we wanted to make sure the glass didn't have any glare on it from other light because we knew that would be distracting. The jug was placed on a table (so that it was at the same height as the camera) that had a black table cloth draped over it, and placed in front of a black piece of poster board. The glass jug was filled with approximately 3 tablespoons of isopropyl and then capped. With the bottle capped one team member shook the bottle, and then left it outside in the sun. The shaking of the bottle allowed for the inside surfaces to be covered in isopropyl, and the sun helped the alcohol evaporate. Once this had been finished we shook the bottle once more and the cap was removed. The bottle was placed on the table and the blowtorch was brought to the top of the bottle and ignited the vaporizing alcohol. We did this experiment around ten times to make sure we had the perfect image, and to take videos as well.

Photographic Technique

The final image I chose was a video. You can see the differences in the video that I edited versus the original. Before turning the lights off, we made sure that the camera was set up in a very specific way so that the final image could be as well focused and well composed as possible. During the flame propagation we took an assortment of photos and videos. In order to successfully capture this photo the room had to be as dark as possible and a high ISO was required. This video was taken with an iPhone X in the slow-motion mode. I made sure the ISO was as high as it could get at 1600 to ensure that the quick flame could be absorbed. With using an iPhone I made sure that my hand was as steady as possible so I kept my elbow still on my leg and used this as a sort of tripod to stabilize my shot. The f-number was set at 5.6 to allow for a good amount of light to get in. The iPhone was held at approximately the same amount of space that the camera was set up. Overall, I am extremely happy with the final image.

Post Processing

Here are the before and after pictures so you can see what I did to the image in post. I made the blacks blacker and brightened the blue flame. I didn't do much else to it since it was already in slow motion and I was happy with the image. These are screen shots of the video that was used.

Before



After

