



Get Wet

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Flow Visualization: 4151-4200-001

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The image used depicts the flow properties of fire. In this image, fire is burned using alcohol as fuel. The alcohol is on the surface of the thumb, which isn't being burned due to the high water content of the alcohol being used. This shows the characteristics of fire and certain types of alcohol. Brandon Toves helped produce this image.



*Figure 1 Original Picture*

This picture was taken in a controlled environment such that there was minimal air flow to influence the characteristics of the flame. The pointed shape results from temperature differences in the air. The large surface/ base the alcohol is on in this picture results in the wide flame with sharp tip. Because heat rises, the flame in this picture still manages the iconic teardrop shape that everyone knows.



*Figure 2 Alcohol used for picture*

The picture was taken in a room using a 1:2:8 18-55 mm lens on a Cannon EOS T5 camera. My thumb was dipped into alcohol then briefly lit on fire. The fire only lasts a brief moment because of the low alcohol content of the alcohol being used. The backdrop was just one of the white walls in the room which had a bad texture to it. With only one light on the room, my roommate took the picture.

In this picture, the camera was placed about 1 foot away from the flame. This allowed for a 5184x3456 picture that captured plenty more than the subject flame. It had an aperture of f/4 and a shutter speed of 1/40 sec. The ISO set to 3200. The editing resulted in a picture to make the background as solid black as possible and leave just the flame in the picture.

The final image results in just the flame depicting the flame to a black background. It depicts a flame in relative stability on a solid surface. The flame has little to no disturbance on it resulting in a calming picture. If I did this again, I would use a solid black background to begin with in order to allow better enhancement of the flame since that is the subject of the picture.

Sources:

<http://pratt.duke.edu/news/shape-perfect-fire>