

## INSIDE THE FLAME OF A POOL FIRE

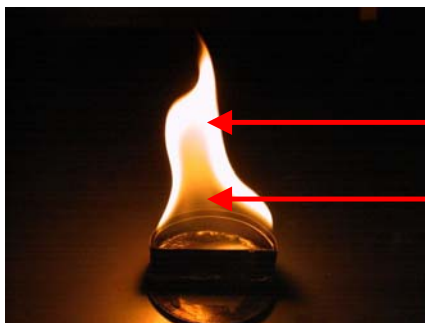
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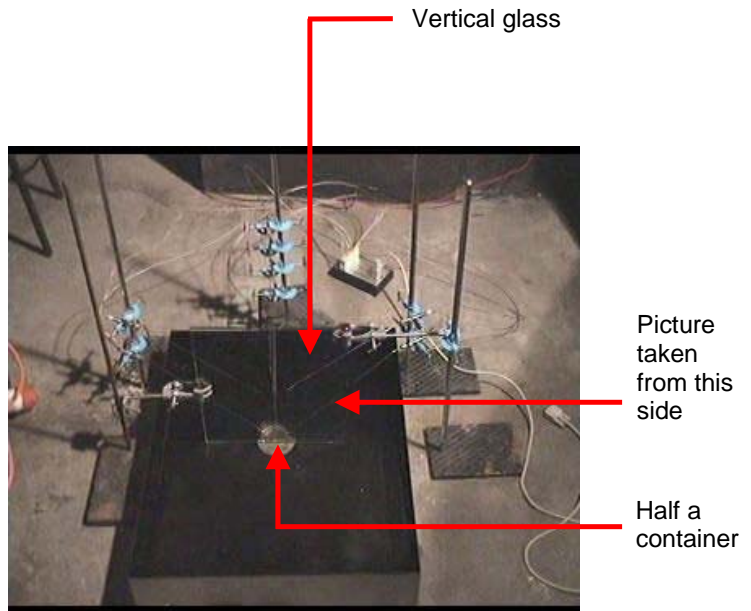
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A flame is formed above the surface of a liquid pool fire. The flame looks like a three-dimensional fire cone. However, the interior of the fire cone should have no flame because of too much fuel. Oxygen is not adequate to sustain combustion inside the cone. This can be demonstrated by cutting the pool fire into half.

In this study, the circular container of a liquid pool fire was cut into half. A piece of glass was put along the section in the vertical direction as in the figure. A propanol pool fire with half of the container was set up. Pictures were taken from the other side of the glass. It is clearly observed that there is no flame at the central part of the flame cone. It contains only fuel vapour in this part. The flame is in fact a thin sheet as in the figure. This setup would illustrate what is inside a pool fire.



Propanol Flame



The Rig

Flaming sheet

No flame