



Accurate Temperature Reading

Depending on what you are distilling (fruit, grains, sugar, flowers, crude and derivatives etc.) a mixture of different chemical substances will be obtained in the distillation process. If the intention is to obtain alcohol fit for human consumption, independently of what is being distilled, what we want is the ethanol alcohol. The different chemical substances in a batch (liquid or matter being distilled) begin to vaporise (their boiling point) at specific temperatures.

If isolated these would be:

- Acetone 56.5°C (134F)
- Methanol (wood alcohol) 64°C (147F)
- Ethanol 78°C (172F)
- 2-Propanol (rubbing alcohol) 82°C (180F)
- 1-Propanol 97°C (207F)
- Water 100°C (212F)
- Butanol 116°C (241F)
- Amyl alcohol 137.8°C (280F)
- Furfural 161°C (322F)

However, as the different substances are not produced separately but as a mixture, there is a greater variance in the temperatures for each one. Fortunately each of the substances will tend to dominate around its boiling point temperature, thus we can determine which alcohol is dominating and being produced at that point. Temperature readings of a distillation are taken in the vapour chamber area of the still, usually the lid where vapours gather before proceeding to the condensing recipient. By tracking the temperature of the vapour you will know when you are collecting the desired ethanol and how the purity of the run is proceeding. Temperature reading must be between 78° to 82°C or other chemical substances will be obtained. If you are not obtaining the desired temperature, you will have to increase or decrease the heat source accordingly. This is the first stage of obtaining the desired alcohol. Once the distillate starts to exit the condensing recipient, basic temperatures must be respected to define cutting off points.

