

How to Operate a Wickless Alcohol Burner

Introduction

The wickless alcohol burner is a safer alternative to the traditional alcohol burner! It is unbreakable, tip-resistant, and fully leak proof. Learn how to safely operate this laboratory apparatus.



Safety Precautions

Ethyl alcohol is a dangerous fire risk and the addition of a denaturant makes the product poisonous—it cannot be made nonpoisonous. Only use denatured ethyl alcohol as burner fuel. The use of other substitutes could result in serious injury. Do not light the burner if any of the alcohol leaks when tested according to the procedure described in step 6 of the procedure. Wear chemical splash goggles, chemical-resistant gloves, and a chemical-resistant apron. Wash hands thoroughly with soap and water before leaving the laboratory. Follow all laboratory safety guidelines. Please review current Material Safety Data Sheets for additional safety, handling, and disposal information.

Procedure

1. Unpack the unit and check to make sure all parts are accounted for. *Note:* The heat shield may be packed inside the burner tank. This shield must be removed before filling the tank with alcohol.
2. Remove the black rubber stopper from the copper torch.
3. Remove the top of the tank by turning it counter-clockwise.
4. Fill the tank approximately $\frac{2}{3}$ full with ethyl alcohol.
5. Replace the top and secure it by turning clockwise. Tighten as much as possible (see Figure 1).
6. Verify that the top is completely sealed against the tank by turning the filled burner on its side and rotating it so the liquid is in contact with the seal. If alcohol leaks out of the unit, then the seal is not sufficient. Retighten as necessary.
7. The burner tank may get very hot during operation. Place the burner on a ceramic pad or noncombustible surface before lighting.
8. Allow the burner to sit at least five minutes after filling so that the alcohol vapors can move up into the copper torch.
9. Light a butane safety lighter and place the flame under the torch loop. Allow the flame to burn for approximately one minute (see Figure 2).



Figure 1.

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- Place the heat shield on the top of the burner to direct the flame and heat upward.
- To extinguish the flame, place the snuffer cap on top of the burner (see Figure 3).
- Once cooled, reinsert the rubber stopper into the copper torch to reduce the evaporation of the alcohol. If the burner will not be used for more than one week, remove the alcohol from the tank. Dry the tank and top with a paper towel or cloth before storing the burner.

Disposal

Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures, and review all federal, state, and local regulations that may apply, before proceeding. Ethyl alcohol may be flushed down the drain with excess water according to Flinn Suggested Disposal Method #26b.

Tips

- The burner safety fuel ethyl alcohol (E0025) contains sodium salt to make the flame more visible for increased safety.
- If desired, matches may be used instead of a butane safety lighter to light the burner.



Figure 2.



Figure 3.

Materials for *How to Operate a Wickless Alcohol Burner* are available from Flinn Scientific, Inc.

Catalog No.	Description
AP6173	Wickless Alcohol Burner
AP8960	Butane Safety Lighter
E0025	Ethyl Alcohol, Safety Burner Fuel, 4 L

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.