70% Ethanol Protocol

To Purchase 200 Proof ETOH:
See Quartzy Inventory (MD Warehouse @ Shop UW 2292-case)

70% EtOH Intro

Ethanol is a commonly used antiseptic in the lab environment. It has the highest effective concentration at 70% compared to a stronger solution. This occurs due to alcohol's ability to coagulate protein on contact. A higher concentration of ethanol inflicts a very rapid coagulation of protein in the cell wall or membrane of the target organism, effectively blocking further penetration of the organism and its subsequent neutralization. Because of this, a more diluted 70% concentration is used for optimal penetration.

Materials Reagents

- 200 proof (100%) ethanol
- Distilled water
- If using for cleaning, tap water is ok (for cleaning work spaces around molecular work, use the filtered water in the shared lab space)

Equipment

- wash bottle
- graduated cylinder

Procedure

1. Preparation of 25 fl oz stock solution
2. Obtain a graduated cylinder with 7.5 fl oz of dH2O/tap water.
3. Obtain a graduated cylinder with 17.5 fl oz ethanol.
4. Transfer 7.5 fl oz of dH2O into a wash bottle.

5. Transfer 17.5 fl oz of ethanol into the wash bottle, minimizing any splashing of the solution.
6. Close the wash bottle and swirl it in circular motion to mix

- If using a different volume, calculate 0.7 of the total volume to determine the EtOH volume, and calculate 0.3 of the total volume to determine how much H2O to use.

For example, to make 10 fl oz of 70% ETOH:
0.70 * 10 = 7 fl oz ETOH
0.30 * 10 = 3 fl oz H20

740 mL

.70*740= 518 mL etoh
.30*740=222 mL h2o