

# Need to Know

- Straight talk for professionals about pests and pest control products

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## Foaming Premise<sup>®</sup> 2 Insecticide: Proper Mixing and Calibration

Technology has given us reliable foaming equipment to apply insecticides to areas we could never reach before. There is an art and a science to using foaming equipment, but proper mixing of insecticides and calibration of foaming equipment is absolutely essential for safe and effective use. Many variables affect the production of foam, including different types of equipment, foaming agents, air and water temperature, and water quality. Fortunately, the mixing and calibration process is fairly simple. It requires only a 1 gallon container, water, foaming agent, a measuring device, a watch with a second hand, a pen and paper or a calculator and the insecticide label.

Sub-slab treatments with foam are often times more efficacious than simple liquid treatments because the foam can give better coverage. Sub-slab foams are best prepared by adding enough foaming agent to create foam with a 1:8 or 1:10 expansion ratio. The expansion ratio of 1:10 means that 1 gal of water with the required amount of foaming agent will expand to make 10 gal of foam.

### Step 1.

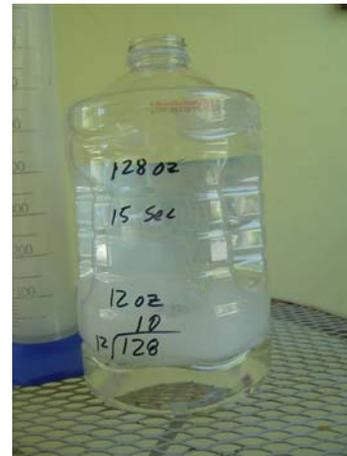
To begin, pour 1 gal of bottled water into the foamer tank, add the labeled amount of foaming agent, properly set up the foaming machine and run it according to manufacturer directions. Do not add any insecticide at this time. Now that the foamer is ready to use, fill a 1 gal (128 oz) jug with foam, and record the time required to fill the jug. Normally, it will take between 15-30 seconds to fill the 1 gal jug. This measurement lets you know how much foam per minute you are applying. For example, if the 1 gal jug was filled in 15 seconds (1/4 of a minute), the foamer would be pumping 4 gal of foam per minute which would properly treat 10 linear feet.

### Step 2.

Next, determine the expansion ratio by letting the foam break down and measuring the liquid remaining in the 1 gal jug. Break down can require a few minutes to an hour or more so it's best to begin this exercise early. To determine the expansion ratio, simply divide the number 128 (number of oz in 1 gal) by the number of oz of liquid remaining. For example, if 1 gal (128 oz) of foam breaks down to 12 oz of liquid ( $128 \div 12 = 10$ ) then you have a 1:10 expansion ratio.



Foam Phase



Liquid Phase

### Step 3.

Once you know the expansion ratio, you can then determine the proper amount of insecticide to mix to obtain the proper end use dilution.

The Premise<sup>®</sup> 2 label indicates that to make a 0.05% end use dilution you must add 8 ml of insecticide per gal of water. However, because in this example with the foaming equipment we are using 1 gal of water to make 10 gal of foam (1:10 expansion ratio) you must use the expansion ratio as a multiplier to obtain the correct end use dilution. Thus, we multiply 8 ml by 10 to determine that we must add 80 ml to the foamer to get the proper 0.05% end use dilution.

For above ground usage, such as wall voids and around doors and windows it is probably best to use the dry foam produced by Premise<sup>®</sup> Foam in a Can. This ready to use dry foam was designed to contain very little moisture upon breakdown which makes it ideal for use in these sensitive areas.

With proper calibration and mixing, the art and the science of foaming is well within reach of any and all PMPs.

*Contributed by Dr. John Paige III*

**Always read and follow label instructions.**

