

# Aquasafe Water Test Kit

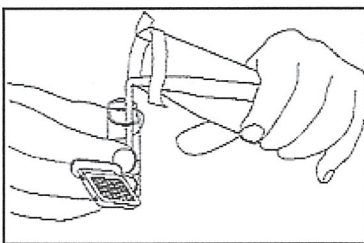
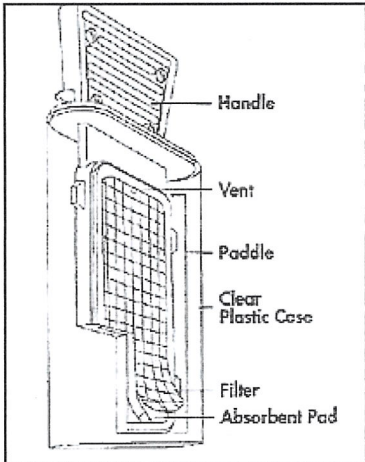
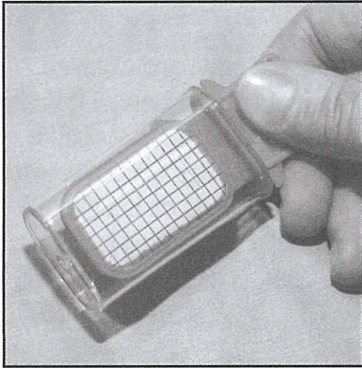


Diagram of the  
Aquasafe Water Test Kit

The Aquasafe water test kit makes microbiological analysis of dental unit waterlines (DUWLs) simple, quick and cost-effective. Samplers consist of a plastic handle with a 0.45µm filter and an absorbent pad containing dehydrated nutrient medium for recovery of specific organisms. Dental unit waterlines often have high microbial counts even when source tap water is chlorinated. To conduct an in-office test to monitor levels of bacteria take a sample from the DUWLs, immerse the paddle in the water, incubate one week, and count the number of bacterial colonies growing on the filter.

## Using the Aquasafe Water Test Kit

Collect a sample from the DUWL at the end of the day or, if the DUWL was not used that day, first flush the lines for a minimum of two minutes. Collect the sample by pouring it directly into the plastic case.

**Note:** Remove the handpiece before collecting samples from handpiece lines.  
Remove syringe tip before collecting samples from 3-way air/water syringes.

1. Label the plastic case with the sample location (room) and date.
2. Remove the paddle from the sampler case. Hold the paddle between the index and middle finger with the handle pointing towards your palm and hold the plastic case in the same hand.

**Note:** Be careful not to touch the inside of the case or any portion of the paddle other than the handle.

3. Add the water sample to the upper line (18 mL) on the plastic case.
4. Place the paddle firmly into the water sample in the case, then lay the sampler case horizontally for 2 minutes with the membrane filter side down.
5. Remove the paddle from the water sample and shake the excess water from the paddle. Empty the sampler case and firmly replace the paddle.
6. Incubate the Aquasafe water test sampler filter side down, at room temperature (75+4F) for seven days.
7. Examine the filter, perform colony counts, and record results.

**Note:** The membrane filter will appear dark in color after immersion in water. This is normal and does not mean you have a high bacteria count. Colonies will grow and appear as spots on top of the membrane filter.

# Analyzing and Corrective Action

## Examining the test

After incubation is complete, remove the paddle from the case, and examine the membrane filter using a loupe or magnifier. The microbial colonies will appear as spots on the filter. Count all the colonies regardless of size, color, or shape. Since the pad absorbed 1 mL of sample, the number of colonies will be recorded as colony-forming units (CFU) per mL. If the number of colonies on the filter is greater than 300 CFU/mL, the colonies may grow together, making it difficult to count. Record this as "too numerous to count" (TNTC).

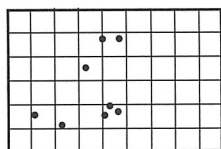
## Confluent Growth

If the microorganism counts are greater than 1000, there may be so many colonies growing that it appears to be one large colony over the entire filter. This is called Confluent growth and the count is recorded as "TNTC". If the filter doesn't appear to have any colonies growing on it, check to be certain there is not confluent growth on the filter by comparing it to a clean wet filter. The confluent growth may glisten compared to the clean filter. You may be able to see the edge of the microbial colonies along the edge of the filter. If you take a toothpick and run it across the filter, you will remove a layer of film if confluent growth is present.

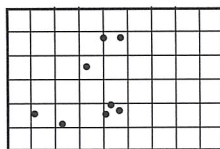
## Analyzing and corrective action

By monitoring your DUWLs using the Aquasafe Water Test Kit, you can determine if you are within acceptable limits or if you must take further action.

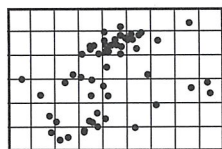
### Small Colonies



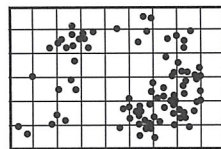
10



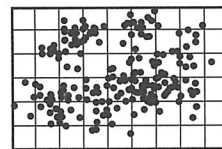
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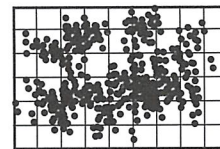
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100

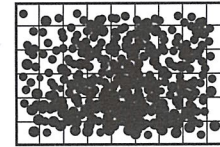
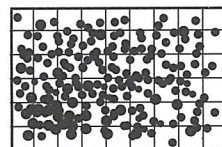
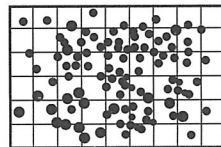
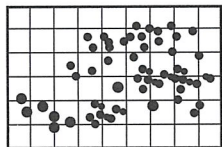
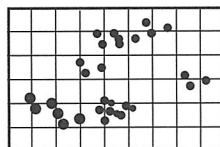
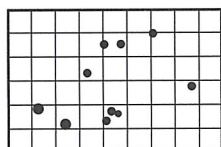


300



TNTC\*

### Large Colonies



Simply align Sampler with photo showing same density of colonies and record that number

\* Too Numerous To Count



# Dental Unit Waterlines, Water Quality and Boil-Water Advisories

The water quality goal for water delivered from dental units is less than 500 colony-forming units per milliliter, which is the EPA standard for safe drinking water. The following dental unit protocols should be practiced at all times in order to obtain this level:

- Self-contained water containers are used on each unit;
- Water containers are filled with distilled water daily and emptied at the end of the day, leaving them to dry overnight;
- All unit water lines (3-way syringe, high-speed handpiece, ultrasonic scaler, etc.) are purged and left to dry overnight;
- Waterline disinfectant is run through the system according to manufacturer's direction;

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(Record your specific manufacturer's disinfection frequency directions here.)

- All handpieces, 3-way syringes, and ultrasonic cleaners are run for 20-30 seconds after each patient to eliminate possible microorganisms from the patient's mouth that may have entered equipment. Even low-speed handpieces that are powered by air should be run for this time period to flush out any foreign matter.

**In order to insure high dental unit water quality (<500 CFUs/1ml), office personnel should test the water from each unit every quarter (3 months). Records of such tests should be maintained in a monitoring log.**

It should be noted that dental unit water is adequate for all procedures normally performed in the office **except surgical procedures**. Under no circumstances should water from the dental unit be utilized when surgery is performed. When surgery requires the use of a handpiece, either a sterile irrigating syringe containing sterile water should be used, or a sterile water source for the handpiece that uses sterilizable or disposable tubing must be employed.

Boil-water advisories are public health announcements that inform the public to boil water before consuming it. Should such an advisory be issued, the following protocols should be initiated:

- Use no device on patients that is connected to the public water supply;
- Use only boiled or distilled water until the advisory has been lifted;
- Use only alcohol-based hand cleansers for hand hygiene. If more thorough cleansing is needed, use only bottled, distilled, or boiled water with disinfectant soap;

When the boil-water advisory is over, all dental units and faucets should be flushed for a minimum of 5 minutes.



**Reorder Code: WTK-A**

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