

Quaternary Ammonium

The best way to use quaternary ammonium as a routine sanitizer is to really understand what is needed in terms of strength. This is why using our [Quats Test Strips](#) is the key to really doing it the right way.

"Quats" are active against a wide variety of microorganisms. Unlike bleach, "quats" are odorless and colorless. And, also unlike bleach, they are non-corrosive, so they will be safer to use over time with metal equipment and surfaces. Their antimicrobial action is varied and selective, but they are generally as effective as bleach/chlorine solutions.

The most common "quat" is benzalkonium chloride. It is commonly used in water dilution to create a highly effective sanitizing solution. The standard for "quat" mixing is 200 PPM. There are over 40 suppliers that provide "quat" sanitizing concentrates. Each one needs testing to be sure that appropriate concentration has been achieved.

Using the test kit is simple:

- Remove the foil covering the paper roll in the plastic roll holder
- Place the roll back in the dispenser so that you can tear off strips of the paper for testing
- Use the quat mixing guidelines below to mix your Concentrate solution
- TEST to make sure that the solution is strong enough to sanitize
- Make sure that your quat solution is at 200 PPM (or other appropriate concentration) using the color reference chart.
- If the solution is below 200, add more quat concentrate
- If the solution is obviously above 200, you must dilute down to 200



Why Use Test Strips?

The answer is simple: you don't always get "quat" solutions of the right strength, even if you follow mixing instructions. What causes this? Sometimes water used for "quat" preparation contains natural chemicals that work to weaken the solution and sometimes the "quat" concentrate itself has lost strength.

Health inspectors look for "quat" solutions to have at least 200PPM concentration of quaternary ammonium. Best practice requires 200PPM and not above (health inspectors cite too much "quat" concentration much more that not enough). Appropriate levels can only be confirmed by test strips.

If you have known hard water conditions, then it is necessary to increase the quats concentration for equal effectiveness. Over twice the concentration may be required. Contact your local health inspector for information that is related to the local water supply.

How to Mix and Use Quat Solutions

There are many different types of "quat" concentrates, so there are no general guidelines for mixing. Most commercial containers will describe in detail how to mix the compound to a certain concentration, but it is always best to **mix, then test**.

"Quats" must not be used directly with soaps or detergents. An intermediary hot rinse step is necessary if quats are used for immersion sanitation of utensils.

"Quats" can be sprayed or wiped directly on certain non-food-contact surfaces and then allowed to dry.

"Quats" at normal concentration is the only sanitizer proven effective as a "hand dip" for hand wash procedures.

A standard for time of exposure is 1 minute for most sanitizers, including "quats". A minimum exposure time standard would be 30 seconds. Generally, food touching surfaces should be post-rinsed, unless processing equipment is being treated (see chart below).

Here is a guideline for mixing and using "quat" solutions:

Sanitizing Activity	Ratio	Should Test to <u>Minimum</u> PPM	If Low / If High
Pots, Pans, Dishes and Utensils	Mix according to manufacturer's instructions	200 PPM	Test and adjust
Food Contact Surfaces	Mix according to manufacturer's instructions	200 PPM	Test and adjust
Hand Dip	Mix according to manufacturer's instructions	200 PPM	Test and adjust
Food Processing Equipment	Mix according to manufacturer's instructions	200 - 400 PPM (or use higher concentrations to treat, then rinse, then final wipe or spray with lower concentration)	Test and adjust
Non Food Contact Surfaces (walls and floors)	Increase concentration	above 400 PPM	Test and adjust
Cleaning Tools, Boots	Increase concentration	800 to 1000 PPM	Test and adjust

Clearly, it is difficult for any food preparation operation to "get it right" without some simple strength-testing procedure.