# The Importance of Measuring Quat Disinfectant PPM's

At Charlotte Products, we pride ourselves on the ability to educate your facility on making the professional choice for lowering the risk of an outbreak.

Proper dilution directly relates to PPM (parts per million). We've put together this guide to explain the proper steps to ensure your best results.

ENVIRO Solutions®

BY

CHARLOTTE™ PRODUCTS LTD.

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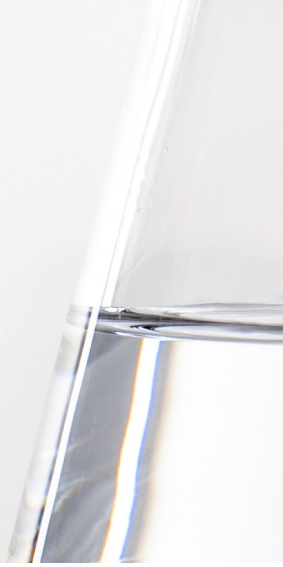
# The Importance of Measuring **Quat Disinfectant PPM's.**



Now more than ever after recently facing a worldwide virus risk, we need to continue to educate facilities on how to lower the risk of an outbreak and create cleaner, safer spaces.

Employee & facility wellness along with public safety is a major focus and must be prioritized.

Facilities need to select the proper disinfectants that meet the current needs of both infection control and environmental cleaning teams. The use of these products will not decrease when the virus threat is lowered, in fact we predict that the need to properly clean and disinfect will increase dramatically in years to come.

The chemistry of disinfectants is more aggressive than typical cleaners. Does this mean they are more dangerous, not really but it does mean that we should respect and follow the 5 critical steps of disinfectant security. This will allow facilities to gain the largest R.O.I.

***As proper dilution directly relates to PPM, let's review the proper steps and education to ensure your best results.***

## PPM (parts per million)

Both the Environmental Protection Agency (EPA#) and Health Canada (DIN#) Drug Identification Number will officially approve and register disinfectants that are effective with killing the stated pathogens or disease-causing micro-organisms. These pathogens (deemed harmful) will be listed on the label and on a microbial efficacy data sheet. The required PPM (parts per million) for specific disinfectants is detailed on the product label and is a measurement of the mass of the active ingredient chemical per unit volume of water. The PPM must be verified after dilution and prior to use to ensure it is accurate.

## *Disinfectant* SECURITY ELEMENTS

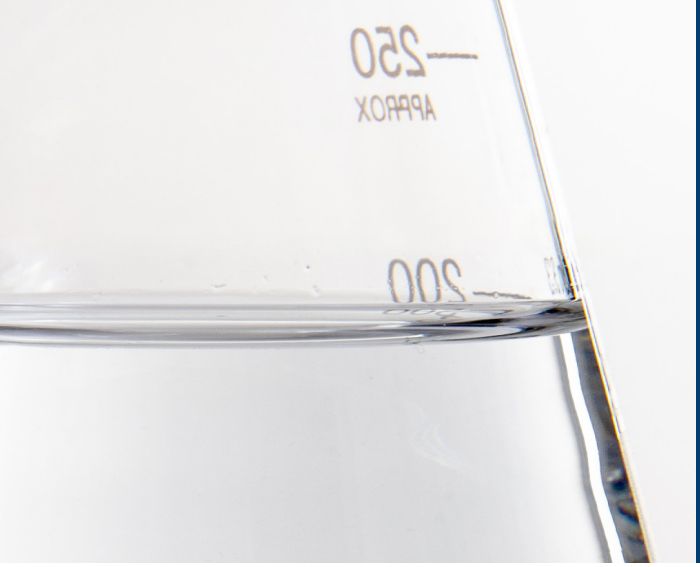
**01** Always use a registered product. Read and understand the label.

**02** Dilute properly regardless of the dilution method. Verify PPM.

**03** Always pre-clean surfaces.

**04** Dwell Contact Time.

**05** Potable water rinse on food contact surfaces and pre-school toys.



**Quats typical range from 300 – 3500 ppm**

**Sanitizers typically range from 200 – 600 ppm**

## PPM Variance

PPM counts will lower throughout a cleaning shift therefore it is critical that facilities frequently measure and validate their PPM counts. If you do not maintain the PPM count as per the label, you will fail at disinfection, which can increase the risk of an outbreak and affect employee wellness.

Here are a few factors that will lower the PPM count:

- Soil load
- Contaminated mopping equipment (wet mops, buckets and cloths) that have not been cleaned or disinfected properly
- The number of areas or rooms of a facility that have been cleaned
- Using the original mixture before changing it out for a fresh disinfectant solution
- Hard water conditions (higher level of minerals, iron and calcium are found in the water and will begin to use up some of the killing properties of a disinfectant even before cleaning begins)

There is generally a facility cleaning policy in place that recommends cleaning staff empty and refill their mopping and cleaning bucket solution after a certain number of rooms or by square footage. A disinfectant solution may start around 600 ppm but after cleaning one patients' room or school classroom, it may lower to 450-500 ppm. After the second room cleaned, it may lower to 350-400ppm.

When developing a registered disinfectant, the testing is done in contaminated water. This is where these solutions are tested in a blood serum (up to a 5% level), which replicates real life soils/ contamination found in facilities. This adds peace of mind for facility infection control officers.

We recommend implementing a proper cleaning and disinfecting protocol at the end of each shift to prevent contamination.

## Testing PPM Solutions

We recommend using PPM test kits to verify your current ppm reading, which are fairly accurate and fast. Be sure to thoroughly follow the instructions on the test kit.

We recommend testing your disinfectant and sanitizer solutions throughout the cleaning shifts. If your PPM reading falls below the facility requirement, empty your bucket and refreshen your cleaning solution. Be sure to always do a ppm test before proceeding.

Choosing the correct disinfectant and sanitizing solution is paramount, exchanging and refreshening the disinfectant solution throughout the day is critical. At Charlotte Products, we pride ourselves on the ability to educate your facility on making the professionals choice for lowering the risk of an outbreak.

### High Level QAC Test Strips

1. Remove single test strip from sealed container.
2. Dip end with test area into room temperature diluted sanitizing solution and remove immediately.
3. Immediately compare test pad to colour scale. Minimum 200ppm required.
4. Reading time (max. 5 seconds) is very important for accuracy of results.


Code: QAC-1500-1V-50

| 0 ppm | 200 ppm | 400 ppm | 750 ppm | 1000 ppm | 1500 ppm |
|---|---|---|---|---|---|

# PPM Calculation

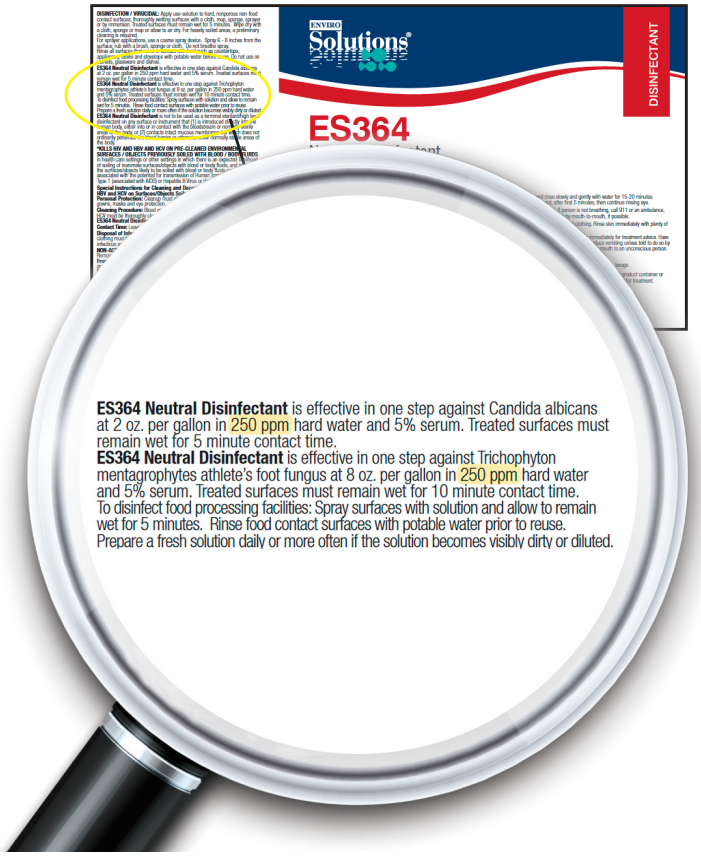
Let's review the importance and how to calculate disinfectant PPM's (parts per million) of active ingredients.

All registered quaternary ammonium compounds and percentages are listed on the label and be calculated with a simple mathematical formula.

(Percentage of all quats x ounces per gallon dilution ratio) divided by 128 x 10,000 = Quat PPM

**Example:** A 2 ounce per gallon disinfectant with a 3.85% total quat available (3.85 x 2) / 128 (x 10,000) = 601 PPM

*(Refer to our Disinfectant PPM Chart below for more accurate reference.)*




# Disinfectant PPM Chart

| PRODUCT | ACTIVE | DISINFECT: DILUTION FACTOR | DISINFECT: END USE CONCENTRATION (PPM) | SANITIZE/CLEAN: DILUTION FACTOR | SANITIZE/CLEAN: END USE CONCENTRATION (PPM) |
|---|---|---|---|---|---|
| ES24C | Quat | 1:20 | 762 | 1:77 | 200 |
| ES25C | Quat | 1:20 | 762 | 1:77 | 200 |
| ES64 | Quat | 1:64 | 592 | | |
| ES64C | Quat | 1:64 | 592 | | |
| ES64H | Quat | 1:6 | 854 | | |
| ES65 | H2o2<br>Quat | 1:12 | 3038<br>1923 | 1:127 (Cleaner) | 309<br>195 |
| ES65H | H2o2 | 1:12 | 5577 | 1:12 (Sanitize)<br>1:20 (Heavy Duty Cleaner)<br>1:32 (Medium Duty Cleaner)<br>1:127 (Light Duty Cleaner) | 5577<br>3452<br>2197<br>566 |
| ES128 | Quat | 1:143 (Medical)<br>1:251 | 521<br>298 | 1:501 (Sanitize) | 150 |
| ES256H | Quat | 1:250 | 865 | | |
| ES364C | Quat | 1:16 (Fungicidal)<br>1:64 | 5159<br>1349 | | |
| ES512C | Quat | 1:125 (HIV-1)<br>1:182 | 800<br>546 | 1:500 (Sanitize) | 200 |

CODE: BRO-PPM-B



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