

QC failures



QC failures—and the resulting rework and repeat analysis—can cause major problems with the productivity of your lab and the job satisfaction of your techs.

In the best-case scenario, a QC failure while using the EPA 200.7 method will result in having to rerun the calibration, an IPC, a blank, and then repeat the last 10 samples.

Assessing the cost of QC failures

Let's look at the numbers:

To recalibrate, then run an IPC + blank and the last **10 samples will take around 27 minutes**. Let's say it takes 25 minutes.



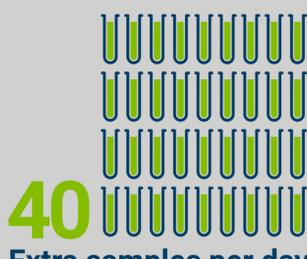
If you get **3 of these failures per day**, that's about 75 minutes of time wasted doing reanalysis per day.



If we say that it takes 1.5 minutes to analyze a sample, that's 50 additional measurements you could have done in the same time.

Based on the EPA 200.7 method, that's

40 extra samples you could have measured per day (with the rest of the measurements being QC solutions—assuming no additional failures)



That's **10,000 samples per year*** you could have run—all lost to the rework associated with QC failures.



*Assuming 250 working days per year

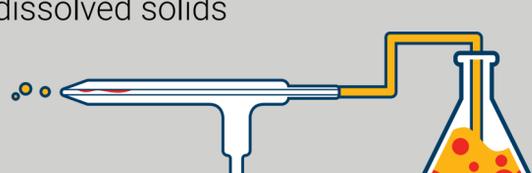
As you can see from this example, preventing QC failures is a worthwhile investment.

The 6 tips below show how easy it is to do.

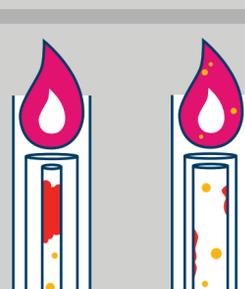
6 tips to prevent QC failures



1 Change the nebulizer type to improve tolerance to dissolved solids



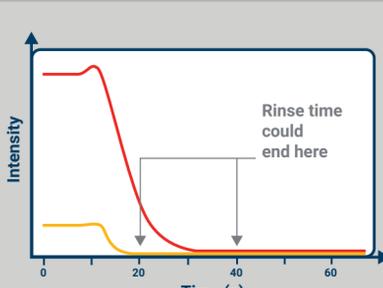
2 Select a torch with a wider bore to reduce blockages (a vertical torch is also a better choice for high-matrix samples)



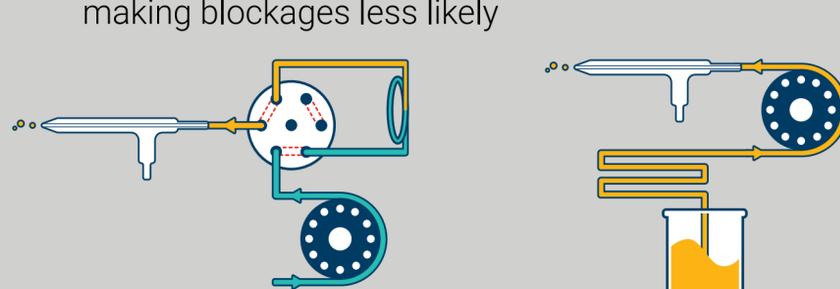
3 Use longer rinse times in your methods to reduce the carry over between samples



4 Use a software function that automatically adjusts the rinse time according to the sample concentration, ensuring you rinse for the right amount of time to wash the sample out (and no more).



5 Add a switching valve to reduce the time the sample spends in the sample introduction system, making blockages less likely



6 Use an argon humidifier to keep tip of the nebulizer moist; solids won't be deposited on the end of the nebulizer, thereby reducing blockages

