Create a robust and sustainable QC program to deliver more confidence

Waters™ | ERA

Quality Control generally applies to four basic functions of the analytical process

- Method Development
- Staff Training
- Ongoing Performance
- Corrective Action

CORRECTIVE ACTION

CRMs are effective when conducting root cause analysis of laboratory deviations. CRMs can help identify the source of the error – human, machine, materials, or method. Once the root cause is identified and corrective action implemented, analysis of a CRM can prove and document that corrective action was effective.

METHOD DEVELOPMENT

When a new method is being developed by a laboratory, it is important to determine if the method meets defined criteria.

- Precision: Degree of agreement between independent measurements under controlled conditions
- Accuracy: Degree of agreement of a measure valued with the true or expected value
- Linear Range: Ability to analyze samples ranging from reporting limit to estimated upper end
- Ruggedness: Ability to accommodate change in various factors such as sample size, pH adjustment, column type, amount of acid, or composition of sample matrix

ONGOING PERFORMANCE

Once a method is established in your laboratory, there are many variables that can affect its performance.

- Analysts
- Instruments
- Standards and reagents
- Laboratory environment
- Sample matrix
- Random errors

A routine QC program can help to minimize problems that may arise as a result of a change in these and other variables.

STAFF TRAINING

A change in laboratory personnel is a significant variable that needs to be evaluated. Use certified reference materials to ensure newly hired staff is appropriately and sufficiently trained to conduct your routine analyses. Certified Reference Materials (CRMs) or Quality Control standards (QCs) can also be used to regularly document the accuracy and precision of your experienced analysts. QCs can also be used when expanding the analytical responsibilities of staff by giving analysts an opportunity to analyze real world samples under direct supervision.

To start a routine QC program, call ERA and speak with a Customer Service Representative +1 303-431-8454