

Few definitions...

The laboratory's results are **reliable** when the control results oscillate in a random way around the target value and within the control limits.

Reliable means that if your results were repeated you would get the same results.

The laboratory's results are **accurate** when the average of the control results is within the confidence interval of the TITRIVIN used.

A **accurate** result is true to the "true" value.

Find TITRIVIN reference values on our website
www.titrivin.com

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How to create
a control chart
with **TITRIVIN**
reference
materials ?



How TITRIVIN can help you to easily create a control chart?

Step 1 : Collecting a data base

In reproducibility conditions, analyse a same batch of TITRIVIN and collect your results



Step 2 : exploiting the results

You are going to calculate :

- the average
- the reproducibility standard deviation of the laboratory σ_{repro}

Additional information to begin your control chart :

The reproducibility standard deviation can be estimated by two times internal repeatability standard deviation

Step 3 : defining the control chart parameters

⇒ The target value T_v corresponds to the average

⇒ The control limits

-The upper control limit : $T_v + 3 \sigma_{\text{repro}}$

-The lower control limit : $T_v - 3 \sigma_{\text{repro}}$

99.8% of the data normally distributed should be within these limits.

If the control value is outside the control limits, we talk about an "abnormal" result. That means there is a high probability that the analysis is wrong.

So you have to take remedial actions.

⇒ The warning limits :

-The upper warning limit : $T_v + 2 \sigma_{\text{repro}}$

-The lower warning limit : $T_v - 2 \sigma_{\text{repro}}$

Provided that the results are normally distributed, about 95% of the results should be within these limits.

Step 4 : building the graphic

Step 5 : analysing the chart

You will plot the new results of your internal quality control on this control chart.

According to their position, you can interpret your control results.

Refer to our guide :

HOW TO ANALYSE MY CONTROL CHART?

Step 6 : validation or replacement of the control chart parameters

After collecting around thirty values, you have to assess the situation in order to validate or not the different parameters of your control chart.

If your control chart is "abnormal", you will calculate a new target value and / or standard deviation from all the results obtained from step 1.

