



Total Organic Carbon (TOC) Measurement of Drinking Water by TRLI-OnlineTOC150

1. Introduction

In this study, the TRLI-OnlineTOC150 analyzer was tested for low concentrations. TRLI-OnlineTOC150 operating performance at low concentrations are a very important, especially for drinking water. Details on the repeatability of the assay are presented below.

Sample Description: Synthetic Water Sample (with KHP) - Liquid

2. Experimental Conditions

Synthetic water samples carrying about 1 ppm TOC are prepared to check performance of TRI-OnlineTOC150.

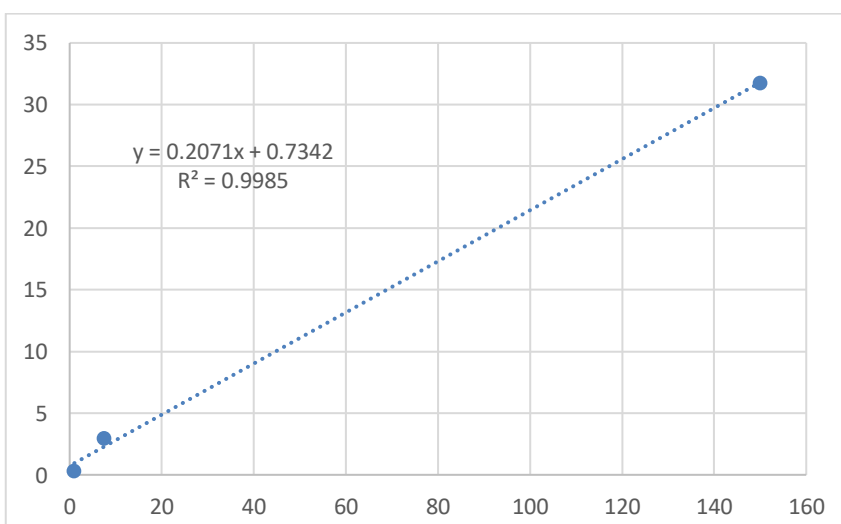
| Parametre | Value |
|--------------------------|------------|
| Decomposition Zone Temp. | 900 °C |
| Catalytic Zone Temp. | 750 °C |
| Air Pressure | 1.5 bar |
| Carrier Gas Flow Rate | 250 mL/min |

3. Calibration

Calibration is done according to the solution having below specification and calibration curve is represented. Calibration was made with 3 points with 1-7.5 and 150 ppm.

| Standart Name | Standart Concentration |
|---------------|------------------------|
| KHP | 150 ppm |

| Calibration Equation (TC) | R ² |
|---------------------------|----------------|
| $y = 0.2071x + 0.7342$ | 0.9985 |





4. Results

The results of the validation study are given below.

| Table 1: MDL Validation Results | | | | |
|---------------------------------|------------------|------------------|-------------------|---------|
| Repeat Number | Sample Size (mL) | TOC Result (ppm) | TOC Average (ppm) | RSD (%) |
| 1 | 0.5 | 1.05 | 1.06 | 1.16 |
| 2 | 0.5 | 1.08 | | |
| 3 | 0.5 | 1.05 | | |
| 4 | 0.5 | 1.06 | | |

5. Conclusion

In this study, a method study was carried out with KHP solution in the range of 0-150 ppm and a linear calibration was obtained. As seen in the table above, studies carried out with 1 ppm solution a high repeatability proved to be achieved at 1 ppm with the TRL-OnlineTOC150 analyzer.