



Total Organic Carbon (TOC) Measurement of Surface Water by TRLI-OnlineTOC2000

1. Introduction

In this study, the TRL-OnlineTOC2000 analyzer was modified to analyze up to 2000 ppm. TRL-OnlineTOC2000 operating performance at 0-2000 ppm is a very important, especially for surface water, ground water/raw surface water, rivers analysis. Details on the repeatability of the assay are presented below.

Sample Description: Synthetic Sample (with KHP) - Liquid

2. Experimental Conditions

Synthetic water samples carrying about 1200 ppm TOC are prepared to check performance of TRLI-OnlineTOC2000.

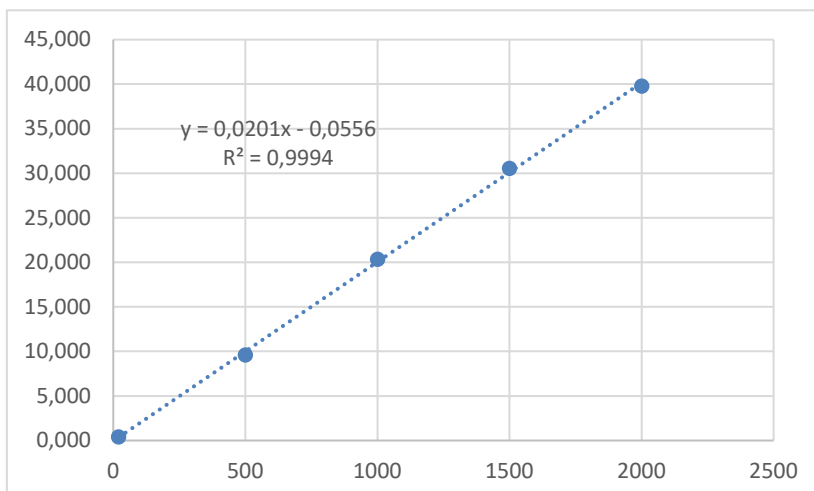
Parametre	Value
Decomposition Area Temp.	900 °C
Catalytic Area Temp.	750 °C
Air Pressure	1.5 bar
Carrier Gas Flow Rate	250 mL/min

3. Calibration

Calibration is done according to the solution having below specification and calibration curve is represented. Calibration was made with 5 points with 20-500-1000-1500 and 2000 ppm.

Standart Name	Standart Concentration
KHP	2000 ppm

Calibration Equation (TC)	R ²
$y = 0.0201x - 0.0556$	0.9994





4. Results

The results of the validation study are given below.

Table 1: Validation Results				
Repeat Number	Sample Size (mL)	TOC Result (ppm)	TOC Average (ppm)	RSD (%)
1	0.5	1195.93	1194.94	1.08
2	0.5	1197.10		
3	0.5	1175.22		
4	0.5	1211.52		

5. Conclusion

In this study, a method study was carried out with KHP solution in the range of 0-2000 ppm and a linear calibration was obtained. As seen in the table above, validation studies carried out with 1200 ppm a high repeatability was achieved at 1200 ppm with the TRL-OnlineTOC2000 analyzer.