



## Total Organic Carbon (TOC) Measurement of Unknown Liquid Sample by TRLI-OnlineTOCI50

### 1. Introduction

The aim of this publication is to show the reliability of our TRLI-OnlineTOCI50 analyzer in measuring TOC amounts of unknown salt sample. Determination of TOC is based on the principle of TOC=TC-IC. Total Carbon (TC) and Inorganic Carbon are measured during the analysis Details on the repeatability of the assay and the empirical findings are presented below.

**Sample Description: Unknown Sample - Liquid**

### 2. Experimental Condition

Before starting the experiment, the sample diluted with water by 1/50 ratio. The measurements are done under following conditions:

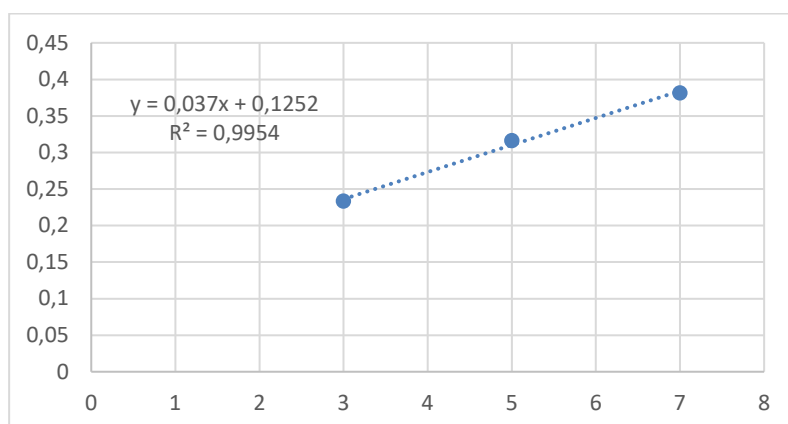
Table1 : Experimental Condition	
Parametre	Value
Decomposition Zone Temp.	900 °C
Catalytic Zone Temp.	750 °C
Air Pressure	1.5 bar
Carrier Gas Flow Rate	250 mL/min

### 3. Calibration

Calibration is done according to the solution having below specification and calibration curve is represented. Calibration was made with 3 points with 3-5 and 7 ppm.

Standart Name	Standart Concentration
KHP	10 ppm

Calibration Equation (TC)	R <sup>2</sup>
$y = 0.037 \cdot x + 0.1252$	0.9954





#### 4. Results

The TOC content for the unknown samples calculated directly by the TRL-OnlineTOCI50 software, along with the RSD values, are as follows:

Repeat No.	Sample Size(mL)	TOC Result (ppm)	TOC Average (ppm)	RSD (%)
1	0.1	286.216	292.3	2.22
2	0.1	299.729		
3	0.1	295.676		
4	0.1	287.568		

#### 5. Conclusion

In this study, the total organic carbon (TOC) content of an unknown liquid sample has been calculated. High repeatability results have been obtained with the TRL-OnlineTOCI50 analyzer in the study conducted with the unknown sample. Due to the dense and salty nature of the sample structure, the studies have been conducted by diluting at a ratio of 1/50.