Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

<table>
<thead>
<tr>
<th>Instrument Type</th>
<th>Cuvette</th>
<th>λ</th>
<th>Measuring Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 600, MD 610, MD 640, XD 7000, XD 7500</td>
<td>ø 16 mm</td>
<td>610 nm</td>
<td>5 - 80 mg/l TOC&lt;sup&gt;b)&lt;/sup&gt;</td>
</tr>
<tr>
<td>SpectroDirect</td>
<td>ø 16 mm</td>
<td>596 nm</td>
<td>5 - 80 mg/l TOC&lt;sup&gt;b)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Material

Required material (partly optional):

<table>
<thead>
<tr>
<th>Reagents</th>
<th>Packaging Unit</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOC Spectroquant 1.14878.0001 tube test&lt;sup&gt;a)&lt;/sup&gt;</td>
<td>25 pc.</td>
<td>420761</td>
</tr>
</tbody>
</table>

The following accessories are required.

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Packaging Unit</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermoreactor RD 125</td>
<td>1 pc.</td>
<td>2418940</td>
</tr>
<tr>
<td>Screw caps TOC</td>
<td>1 Set</td>
<td>420757</td>
</tr>
</tbody>
</table>

Application List

- Drinking Water Treatment
- Waste Water Treatment
- Raw Water Treatment

Preperation

1. Before performing the test, you must read through the original instructions and safety advice that is delivered with the test kit (MSDS are available on the homepage of www.merckmillipore.com).
Notes

1. This method is adapted from MERCK.
2. Spectroquant® is a registered trademark of the company MERCK KGaA.
3. Appropriate safety precautions and good laboratory technique should be used during the whole procedure.
4. Sample volume should always be metered by using a volumetric pipette (class A).
5. TOC = Total Organic Carbon
6. Aluminium caps can be reused (see Merck).
Implementation of the provision TOC LR with MERCK Spectroquant® Cell Test, No. 1.14878.0001

Select the method on the device
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500
Skip steps with Blank.
• Use two clean suitable glass vessels. • Mark one glass vessel for zeroing.
1. Put 25 ml deionised water in the zero sample.
2. Put 25 ml sample in the sample vessel.
3. Add 3 drops of reagent TOC-1K and mix.
4. The pH value of the sample should be under 2.5. If necessary, add sulphuric acid.
5. Stir for 10 minutes at a medium speed. (Magnetic stirrer, stirring stick)

Prepare two reaction vials. Mark one as a blank.
Place 3 ml of prepared zero sample in the blank.
Put 3 ml sample in the sample vial.

Add exactly one level microspoon TOC-2K.
Close the vial(s) immediately with the aluminium caps
Warm vial for 120 minutes at 120 °C in a pre-heated thermoreactor in inverted position.
 Allow vial to stand inverted for 1 hour and to cool. **Do not cool it with water!** After cooling down, rotate it and measure in the photometer **within 10 min**.

**Zero**

Place **blank** in the sample chamber. • Pay attention to the positioning.

Press the **ZERO** button.

**Test**

Remove **vial** from the sample chamber.

Place **sample vial** in the sample chamber. • Pay attention to the positioning.

Press the **TEST** (XD: **START**) button.

The result in mg/l TOC appears on the display.
Chemical Method
H₂SO₄ / Persulphate / Indicator

Appendix

Calibration function for 3rd-party photometers
Conc. = a + b•Abs + c•Abs² + d•Abs³ + e•Abs⁴ + f•Abs⁵

<table>
<thead>
<tr>
<th>ø 16 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>c</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>e</td>
</tr>
<tr>
<td>f</td>
</tr>
</tbody>
</table>

Derived from
EN 1484:1997
Standard Method 5310 C

Reactor is necessary for COD (150 °C), TOC (120 °C) and total -chromium, -phosphate, -nitrogen, (100 °C) | Spectroquant® is a Merck KGaA Trademark