Solid Waste Analysis

Solutions for DOC and TOC Determination in Waste Streams

Highlights at a glance

- Automated DOC and TOC determination for landfill class assignment
- Robust wide-range Focus Radiation-NDIR detector
- Low maintenance and running costs
- Automatic device monitoring for highest operation safety
- Flexible automation options
- Solids modules available for manual or fully automated operation
- High sample masses for good result precision of inhomogeneous samples

According to the legislation in many countries, the content of organic carbon in waste needs to be evaluated for landfill classification or further treatment (e.g., heat generation).

DOC determination

Dissolved organic carbon (DOC) is the dedicated parameter to estimate the leaching behavior of organic waste constituents due to weather effects on landfills. Aqueous waste eluates are analyzed using the NPOC method according to e.g., EN 1484 / ISO 8245. Typical challenges are high salt content and TOC/TIC concentrations ranges

Direct solids TOC analysis

Highly inhomogeneous waste samples have to be evaluated by direct or differential TOC method according to e.g., EN 15936 by high-temperature combustion.

TOC/EC/BOC differentiation

To correctly determine the biologically active waste components (available for microbial digestion, methane production) the pyrolysis method provides a good approach to determine the inert elemental carbon content. After subtraction from the TOC concentration, the biodegradable organic carbon (BOC) is estimated.

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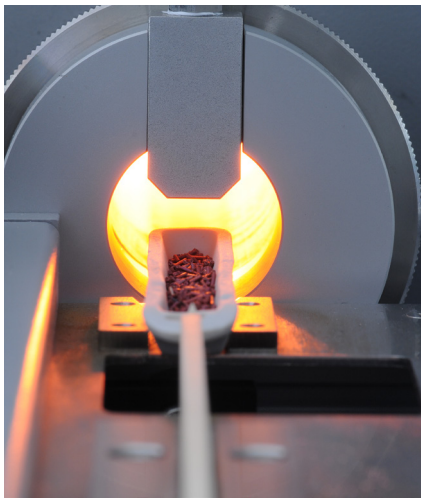

Solids TOC by multi N/C duo / multi EA 4000

multi N/C 2300 duo

multi N/C x300 series

multi N/C 2300 and multi N/C 3300 offer reliable catalytic sample oxidation at flexible combustion temperatures of up to 950 °C by an economic combustion tube filling and design for DOC analysis.

- High throughput in NPOC mode by parallel purge and analysis
- Ideal for particle-rich samples
- Maintenance-free wide-range Focus Radiation NDIR detector
- 10-year warranty on NDIR and furnace technique
- Flexible automation by economic or high-throughput samplers
- Upgrade option for solids applications by HT 1300 and TIC manual module

multi N/C x300 duo systems

The multi N/C 2300 duo and multi N/C 3300 duo provide fully automated liquid and solid TOC/DOC measurement in one analyzer.

- Catalyst-free high temperature combustion for solids at up to 1,300 °C
- Durable ceramic combustion tube
- High sample quantities in ceramic boats (up to 3 g)
- High result precision with reduced homogenization effort
- No downtime due to fast change from liquid to solid operation and vice-versa without hardware conversion

multi EA 4000

For complete carbon species differentiation in waste matrices, the multi EA 4000 with TIC automatic module and pyrolysis function is the perfect choice.

- Automatic acid dosage for TOC differential method
- Pyrolysis function for automated EC/BOC determination
- Robust catalyst-free oxidation by high temperature ceramic (up to 1,500 °C)
- High automation degree for up to 48 sample boats
- Large boats for inhomogeneous samples (up to 3 g)
- Upgradable for TS and TX analysis

www.analytik-jena.com/waste-analysis ▸

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Subjects to changes in design and scope of delivery as well as further technical development!

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