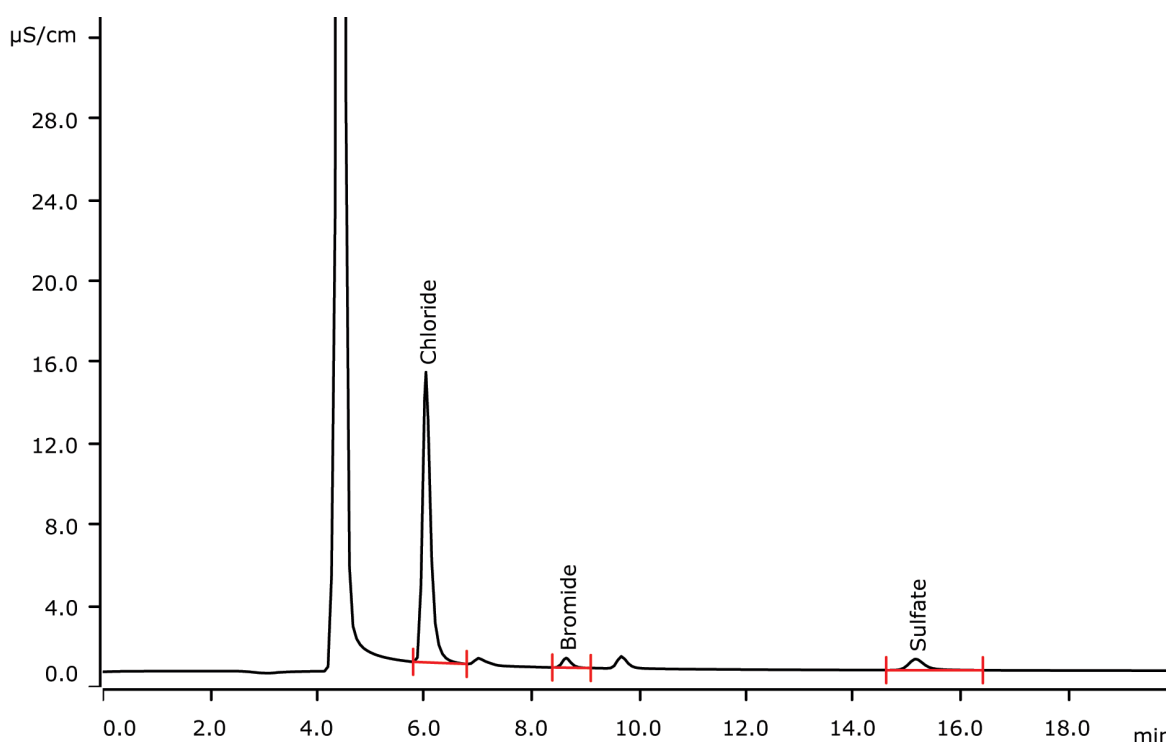


# Electronic base material tested for halogen-free definition applying Metrohm Combustion IC



The Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) as well as IEC 61249-2-21 stipulate maximum limits of halogens in electronic materials. Testing polymeric base materials for printed circuit boards (PCBs) in accordance with IEC 61189-2 by Metrohm Combustion IC combines sample preparation and analysis in an optimal way.

## Results

	Mean [mg/kg] (n = 3)	RSD [%] (n = 3)
Chlorine	746.6	2.8
Bromine	88.4	2.6
Sulfur	n.q.	

## Sample

Base material for PCBs

## Sample preparation

The sample is analyzed by Combustion IC with flame sensor technology and intelligent Partial Loop Injection Technique with Inline Matrix Elimination.

## Columns

Metrosep A Supp 5 - 150/4.0	6.1006.520
Metrosep A Supp 4/5 Guard/4.0	6.1006.500
Metrosep A PCC 1 HC/4.0	6.1006.310

## Solutions

Eluent	3.2 mmol/L sodium carbonate 1.0 mmol/L sodium hydrogen carbonate
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM
Absorber solution	100 mg/L hydrogen peroxide

## Parameters

Flow rate	0.7 mL/min
Injection volume (IC)	100 µL (MiPT)
P <sub>max</sub>	15 MPa
Recording time	20 min
Column temperature	30 °C

## Combustion parameters

Argon	100 mL/min
Oxygen	300 mL/min
Oven temperature	1050 °C
Post-combustion time	300 s
Initial volume of absorption solution	2.0 mL
Water inlet	0.1 mL/min

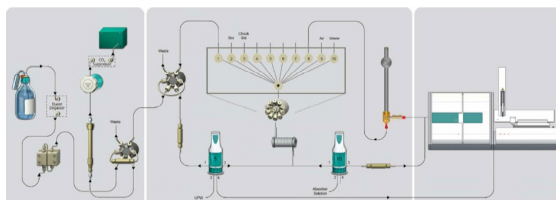
## Analysis

Conductivity after sequential suppression

## Instrumentation

930 Compact IC Flex Oven/SeS/PP/Deg	2.930.2560*
IC Conductivity Detector	2.850.9010*
MSM Rotor A	6.2832.000*
Adapter sleeve for Suppressor Vario	6.2842.020*
920 Absorber Module	2.920.0010*
Combustion Module (oven and ABD)	2.136.0700*
Autosampler MMS 5000	6.7304.030
Kit for solid sampling	6.7302.000

\* available as 930 Metrohm Combustion IC (2.930.9010)



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