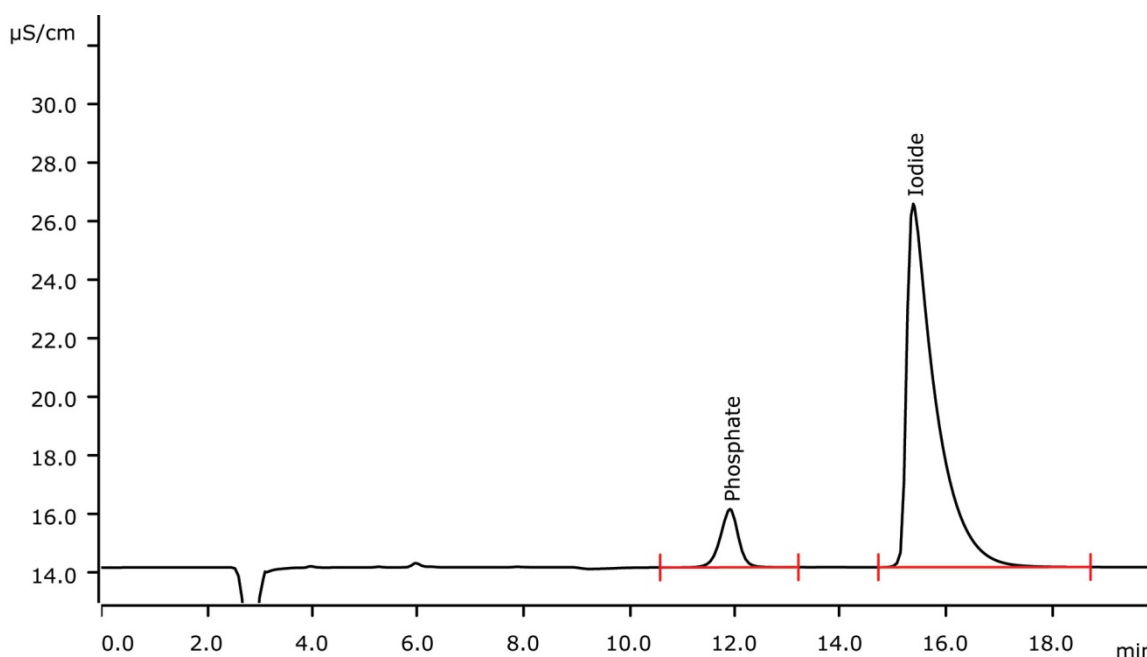


Iodine in a pharmaceutical product applying Combustion IC with Inline Matrix Elimination



Iodine content in numerous iodinated X-ray contrast media (ICM) is approx. about 50% and is best determined by Combustion IC. For complete absorption of the iodine, high amounts of H_2O_2 (1000 mg/L) are required. Similarly, concentration of the internal standard should be 50 mg/L. The water content in the ICM is determined via Metrohm's Karl Fischer oven method and has to be considered in the final calculation.

Results

Analyte	Internal standard [mg/L]	Concentration [%]	Theoretical [%]	RSD [%]
Phosphate	50.0			
Iodide		45.4	45.6	1.0
Water		1.09		

Method description

Sample

Contrast medium

Sample preparation

Combustion, inline injection of the absorption solution after Inline Matrix Elimination.

Column

Metrosep A Supp 4 - 250/4.0	6.1006.430
Metrosep A Supp 4/5 Guard/4.0	6.1006.500
Metrosep A PCC 1 HC/4.0	6.1006.310

Solutions

Eluent (Combustion IC)	1.8 mmol/L sodium carbonate 1.7 mmol/L sodium hydrogen carbonate
Absorption solution	1.8 mmol/L sodium carbonate 1.7 mmol/L sodium hydrogen carbonate 1000 mg/L hydrogen peroxide 50 mg/L phosphate (IS)
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	Ultrapure water

Analysis

Suppressed conductivity

Parameters

Flow rate	1.0 mL/min
Injection volume	5 µL
P _{max}	12.0 MPa
Recording time	20 min
Column temperature	Room temperature

Combustion parameters

Oven temperature	
Inlet / Outlet	900 / 1000 °C
Absorption solution	10.0 mL

Instrumentation (Combustion IC)

881 Compact IC pro – Anion	2.881.0020
IC Conductivity Detector	2.850.9010
800 Dosino	2.800.0010
Remote box	6.2148.010
Mitsubishi AQF-100	*
Mitsubishi ABC-100	*
Mitsubishi WS-100	*
Mitsubishi GA-100	*

* from local Mitsubishi distributor / not shown in system graphic below

Instrumentation (KF)

874 USB Oven Sample Processor	2.874.0010
851 Titrande	2.851.0110
801 Magnetic Stirrer	2.801.0010

No graphic shown



www.metrohm.com

 **Metrohm**