

Sulphur determination of low concentrations with rapid CS cube

In environmental analysis even very low sulphur concentrations have to be measured, e.g. in contaminated soils or industrial raw materials.

Special methods have to be applied to work with a standard for low absolute concentrations.

Task

Instrument		Sample	
Basic instrument:	rapid CS cube	Amount:	100 µl
Mode:	S	Consistency:	Solid residue
Peripheral:	-	Preparation:	100 µl, 10 ppm solution dried

Specification

Instead of direct weighing of a sulphur containing substance, one can prepare a 10 ppm solution of sulfanilic acid, inject 100 µl in a tin capsule and evaporate the water. This generates an absolute weight of sulphur of 1 µg per capsule.

Procedure

Sample no.		S [%]
100 mg 10 ppm Sulfanilic acid (dried)	1	0.0013
	2	0.0011
	3	0.0010
	4	0.0013
	5	0.0011
	6	0.0010
	7	0.0007
	8	0.0009
	9	0.0009
Mean		0.0010 ± 0.0002

Results

An absolute standard deviation (SD) of 2 ppm at 100 mg sample weight represents the excellent sensitivity of the **rapid CS cube**.