

COMPOSER Franz von Suppe - SEIBOLD Online-Analyser for Aluminium

Sources

Natural sources. Aluminum (Al) is the most abundant metallic element in the lithosphere.

Industry. Aluminium salts are widely used in water treatment as coagulants to reduce organic matter, colour, turbidity and microorganism levels. Such use may lead to increased concentrations of aluminium in finished water.

Drinking water. Important sources of elevated Al concentrations in drinking water are the use of Al-based flocculating agents such as $Al_2(SO_4)_3$. Concentrations of aluminium of 0.1 mg/litre or less are achievable in large water treatment facilities.

Toxicity. There is little indication that orally ingested aluminium is acutely toxic to humans despite the widespread occurrence of the element in foods, drinking-water and many antacid preparations. It has been hypothesized that aluminium exposure is a risk factor for the development or acceleration of onset of Alzheimer disease (AD) in humans

Method

Metal is measured as chelate complex between metal ions in the waste water and sensitive spectrophotometric

reagent dye. Change of the intensity of the visible light throughout cuvette containing formed metal complex is directly proportional to metal concentration.



Advantage of the system

- Robust design.
- Minimal maintenance.
- Easy handling.
- High accuracy and precision.
- Suitable for mission critical applications.
- Automated cleaning and calibration.

System information	
Measurement variable	Aluminium (Al)
Measurement application	Drinking water, river monitoring, semiconducting industry,
Measurement ranges	0.005 – 1.000 mg/L (ppm) other ranges possible upon request
Accuracy and Precision	± 3 % (based on full scale)
Resolution	0.005 mg/L
Calibration and cleaning	automated
Seibold Reagent kit	Buffer and Dye Provided by Sigma Aldrich

Continuous Analysis. Reliable Results.

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MEASUREMENT INFORMATION
Measurement method
Spectrophotometric (LED, detector)
Measurement interval
Continuous; Discontinuous (programmable, external start)
Sample and Reagents consumption per measurement
Sample: ~ 75 - 200 ml
Seibold Buffer and Reagent: ~ 3 ml
ENVIRONMENTAL DATA
Ambient operating temperature, sample temperature: 5 to 40°C
Ambient operating humidity: Up to 95 % RH non-condensing (bellow the condensation limit)
ELECTRICAL DATA
Power supply
Supply voltage: 220 ... 230 V AC, 50...60 Hz (110 V AC or 24 V DC, optional)
Power consumption: approx 50 VA
Output signal: 4...20 mA
Screen
Color, TFT, liquid crystal display (LCD) with built-in backlight and brightness adjustment.
MAINTENANCE
Maintenance interval: 3 months



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