

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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