

COMPOSER Georg Furxer - SEIBOLD Online-Analyser for Lead

Sources

Natural sources. Inorganic lead rarely exists in its elemental state but is found in the environment in various complexes.

Industry. Lead is used principally in the production of lead-acid batteries, solder and alloys; the organolead compounds used extensively as antiknock and lubricating agents in petrol.

Drinking water. Lead is rarely present in tap water as a result of its dissolution from natural sources; from household plumbing systems. Concentrations in drinking-water are generally below 5 mg/litre. Guideline value for lead is 0.01 mg/L.

Toxicity. Lead is a general toxicant that accumulates in the skeleton. Lead is toxic to both the central and peripheral nervous systems, inducing subencephalopathic neurological and behavioural effects.

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	Lead (Pb)
Measurement application	Drinking water, river monitoring, electroplating and semiconducting industry
Measurement ranges	0.005 – 1.00 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

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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

