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Bi

Bismuth

# Bi drop electrode

A novel non-toxic alternative for metal analysis  
down to the ppt range

## HIGHLIGHTS

- New working electrode for voltammetric measurements
- Non-toxic, completely mercury-free
- Limit of detection in low  $\mu\text{g/L}$  and even  $\text{ng/L}$  range
- Monitoring of legal limit values in drinking water for Cd, Pb, Ni, Co, Fe
- Fits all Metrohm VA Stands
- Especially suitable for online systems



# Drinking water analysis

## Straightforward determination of heavy metals

Providing drinking water to the population is one of the main concerns of the 21st century. Millions of people do not have access to clean water. Monitoring low concentrations of heavy metals in lakes, rivers, aquifers and groundwater is the first step of countermeasures against contaminated drinking water.

## A new, mercury-free approach

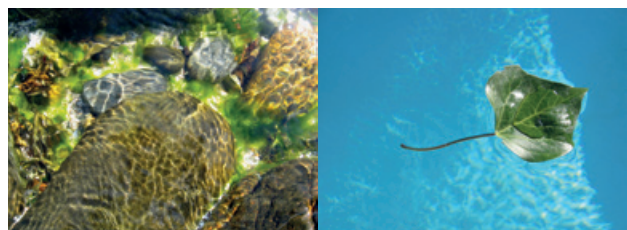
With the Bi drop electrode, a novel electrode is now available for the determination of metal ions. Bismuth is a non-toxic metal that is solid at room temperature. It is a suitable electrode material for trace analysis, thus replacing the traditional mercury electrode for some applications.

A bismuth drop of approx. 2 mm diameter is serving as working electrode in the voltammetric measurement. The electrode works right out of the box. No polishing or film deposition, only electrochemical activation is required. Once activated, series of heavy metal determinations with high repeatability in the low  $\mu\text{g/L}$  and even  $\text{ng/L}$  range are possible.

The Bi drop electrode allows the mercury-free monitoring of the limit values of the heavy metals cadmium, lead, nickel, cobalt and iron. Since the electrode does not require mechanical treatment, it is especially suitable for online applications.



Bi drop electrode



## ORDERING INFORMATION

Instrument	
6.0346.000	Bi drop electrode
6.5339.080	Electrode equipment with Bi drop electrode for 884 Professional VA