

2029 Chromium Process Analyzer

From Metrohm Process Analytics

Chromium is useful in many industries – in the production of pigments and dyes for textiles, and paints, anodized or plated onto metals for surface finishing applications, as an oxidizing agent to tan and process leather, and as a corrosion inhibitor in industrial cooling towers. Hexavalent chromium (known as chromate, CrO_4^{2-}) is extremely toxic and even exposure to very low concentrations is harmful to people. It is therefore subject to strict monitoring. Chromate is measured mainly in waste water effluent and at the inlet for potable water.

Because of health concerns, the analysis of chromate is of vital importance to measure accurately in the water inlet and waste water effluent. The **2029 Chromium process analyzer** from Metrohm Process Analytics is the most straightforward and easy-to-use tool to do so online.

About the Chromium application

Chromate is determined photometrically with 1,5-Diphenylcarbazide that gives a soluble strongly colored red-violet product with Chromium(VI) in acid medium. The analyzer is able to handle a wide range of Cr(VI) concentrations, from **$\mu\text{g/L}$ to mg/L** .

Benefits for online analysis

- Protect expensive company assets by monitoring your processes
- Process data available at your fingertips 24/7 means no waiting for slow, manual laboratory methods
- Increased safety for employees – no manual sampling necessary, no exposure to dangerous environments
- Save money by reducing downtime: analyzer sends alarms for out-of-specification values which inform the operator sooner

Cr⁶⁺ analysis performed safely online

- Chromium can be measured in 1 or 2 sample streams
- Compact footprint for tight industrial spaces: 326 × 273 mm
- Safe, rugged enclosure designed to IP66 specifications is ideal for process environments
- A 7" full color touchscreen shows trend graphs and allows action modifications
- Remote access and control via Ethernet and Modbus TCP/IP, with USB for data export
- Easy maintenance due to simplicity of the layout
- Automatic data and/or alarm transfer to a DCS system



Applications for Cr⁶⁺

- ... in production for the aviation industry / (galvanic)
- ... in WWTP cokes plant / (steel/metal)
- ... in effluent treatment / (mining)
- ... in chromium production / (chemicals)
- ... in waste water PCB production / (semiconductor)
- ... in inlet river water, well water / (potable water)
- ... in surface water monitoring / (environmental)

