



MERCK

POWER ON your water analysis

Spectroquant® system for testing
critical water parameters in
the power generation industry



The Life Science business
of Merck operates as
MilliporeSigma in the U.S.
and Canada.

Supelco®
Analytical Products

Spectroquant® Test kits

Achieve accurate and reliable results with chemical consumables of certified quality with the full range of Spectroquant® Test kits. We provide a comprehensive portfolio of analytical test kits and reference standards for your water and environmental analysis.

Our COD cell tests for seawater applications

The first with unlimited chloride tolerance

COD (chemical oxygen demand) measurements are performed to test water for pollutants. But when the sample contains high chloride levels, such as with industrial wastewater or seawater, standard COD tests cannot be used because chloride interferes positively and results in higher COD values. To overcome this challenge, we have developed the first COD cell tests with unlimited chloride tolerance. The high chloride content is extracted by a special pretreatment step prior to adding the sample to the new COD tubes. The two new COD cell tests facilitate measurements in the low range of 5.0 – 60.0 mg/L COD and in the higher range of 50 – 3,000 mg/L COD. This makes them excellent for analyzing a wide variety of industrial wastewater and seawater samples.

Advantages:

- Easy measurement of COD in samples with high chloride content
- Easy sample pre-treatment
- Less toxic waste compared to norm method

Parameter	Measuring range	Determinations	Cat. No.
COD Cell Test for seawater / high chloride contents	5.0 – 60.0 mg/L COD	25	1.17058.0001
COD Cell Test for seawater / high chloride contents	50 – 3,000 mg/L COD	25	1.17059.0001

Accessories	Quantity	Cat. No.
Absorption tube	1 piece	1.15955.0001
Sodalime	500 g	1.06733.0501
	2,500 g	1.06733.2500
Sulfuric Acid for COD determination	1 L	1.17048.1000



Tests for cooling and boiler water applications

As every power plant, chemical, technical or food and beverage company knows, chemicals, such as chloride, silicate and sulfate, can be very damaging to boiler and cooling water systems. Over time, they cause deposit formation and corrosion, leading to higher maintenance costs and even plant shutdowns.

Our Spectroquant® photometric tests help you avoid such risks. That's because they offer highly sensitive measuring ranges. This unique feature allows you to detect significantly lower concentrations of chloride, silicate and sulfate in your boiler or cooling water system as well as more critical monitoring parameters, hence lowering the risk of costly corrosion.

Advantages:

- Easy-to-use tests for sensitive water analysis on-site
- Cost efficient
- Plug & play solution with Prove instrument incl. cell size recognition



Parameter	Measuring range	Determinations	Cat. No.
Chloride Test	0.10 – 5.00 mg/L Cl ⁻	100	1.01807.0001
Chloride Cell Test	0.5 – 15.0 mg/L Cl ⁻	25	1.01804.0001
Silicate (silicic acid) Test	0.0005 – 0.5000 mg/L SiO ₂ 0.0002 – 0.2337 mg/L Si	100	1.01813.0001
Sulfate Test	0.50 – 50.0 mg/L SO ₄ ²⁻	100	1.01812.0001
Acid Capacity Test	20 – 400 mg/L CaCO ₃	120	1.01758.0001
Aluminum Test	0.020 – 1.20 mg/L Al	350	1.14825.0001
Calcium Test	0.20 – 250 mg/L Ca	100	1.00049.0001
Copper Test	0.02 – 8.00 mg/L Cu	250	1.14767.0001
Hydrazine Test	0.005 – 2.00 mg/L N ₂ H ₄	100	1.09711.0001
Iron Test	0.0025 – 50.0 mg/L Fe	250	1.14761.0002
Molybdenum Cell Test	0.02 – 45.0 mg/L Mo	25	1.00860.0001
Oxygen Cell Test	0.5 – 12.0 mg/L O ₂	25	1.14694.0001
Oxygen Scavenger Test	0.020 – 0.500 mg/L DEHA	200	1.19251.0001
Residual Hardness Cell Test	0.50 – 5.00 mg/L Ca	25	1.14683.0001
Silicate (silicic acid) Test	0.011 – 1.600 mg/L SiO ₂	300	1.14794.0001
	0.005 – 5.00 mg/L Si		
Sulfite Test	1.0 – 60.0 mg/L SO ₃ ²⁻	150	1.01746.0001
Total Hardness Cell Test	5 – 215 mg/L Ca	25	1.00961.0001
Zinc Cell Test	0.025 – 5.00 mg/L Zn	25	1.00861.0001

Tests for drinking, surface, and ground water

In addition, other parameters relevant for monitoring surface and ground water are relevant for power plants. The Spectroquant® tests for drinking, surface, and ground water analysis offer reliable results and easy handling. Especially our manganese test for drinking water and volatile organic acid tests for wastewater analysis are to be highlighted for their short reaction time and improved composition to avoid any risk of turbidity in the cell.

Parameter	Measuring range	Determinations	Cat. No.
Manganese Test	0.005 – 2.00 mg/L Mn	250	1.01846.0001
Volatile Organic Acid Cell Test	50 – 3,000 mg/L acetic acid	25	1.01749.0001
Volatile Organic Acid Test	50 – 3,000 mg/L acetic acid	100	1.01809.0001
Ammonium Test	0.010 – 3.00 mg/L NH ₄ -N	250	1.14752.0002
Iron Cell Test	0.05 – 4.00 mg/L Fe	25	1.14549.0001
Phosphate Test	0.0025 – 5.00 mg/L PO ₄ -P	220	1.14848.0002
	0.0077 – 15.3 mg/L PO ₄ ³⁻		

AQA Standards:

Ensured results with the right Reference Material

Analytical Quality Assurance is crucial for ensuring accurate measurements. Whether analyzing drinking water, process water, or wastewater, you can trust our products for accuracy. What standard is recommended for use with our test kits is listed in the respective Instruction for Use.

An overview is given in our brochure "Undisputed Accuracy for Your Quantitative Results"

For more information please also visit
SigmaAldrich.com/qa-test-kits

Accurate results with Spectroquant® System

With our Spectroquant® system, you can focus on your daily work without worrying about the quality of your results. Our convenient, all-in-one solution includes everything you need for reliable analysis, and they work seamlessly together: reliable instruments, high-quality test kits, customized applications and start-to-finish Analytical Quality Assurance.

The Spectroquant® Prove 600 plus provides are the best choice for the process water testing due to use of cell size up to 10 cm for high-sensitivity measurements. All Spectroquant® Prove plus instruments are pre-programmed for over 150 Test Kits and automatic bar code recognition ensures the correct method parameters are applied and all essential information such as lot number, expiry date, and automatic calibration updates are recorded, making the use of analytical Test Kits as easy as never before. These new versions are upgraded highlighting smoother functionality with instant responsiveness, a more receptive display with faster processing, and increased

storage capacity. The Spectroquant® test kits are available in two formats:

- The Spectroquant® Reagent Test kits contain all reagents for your photometric analyses and can be used with any existing cuvettes of various path lengths, 10 - 100 mm rectangular.
- Our Spectroquant® Cell Test kits are ready-to-use 16 mm round cells pre-filled with the reagents you need and no further cuvette needed.

More information can be found on
Sigmaaldrich.com/photometry



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