



New Spectroquant® Test Kit

Phosphate Cell Test (orthophosphate)

Method: In sulfuric solution orthophosphate ions react with molybdate ions to form molybdophosphoric acid. Ascorbic acid reduces this to phosphomolybdenum blue (PMB) that is determined photometrically. **The method is analogous to EPA 365.2+3, APHA 4500-P E, and DIN EN ISO 6878.**

Range: 0.05 – 5.00 mg/l PO₄-P
0.2 – 15.3 mg/l PO₄
0.11 – 11.46 mg/l P₂O₅

No. of tests: 25

Stability: 36 month

Storage conditions: + 15 - + 25 °C

Order No.: **1.00474.0001**

Non-binding List price: Contact your local Merck companies or Merck agents



Applications:

The phosphate ion is a polyatomic ion with the empirical formula PO₄³⁻. A phosphate, an inorganic chemical, is a salt of phosphoric acid. Inorganic phosphates are mined to obtain phosphorus for use in agriculture and industry. Phosphorus is a mineral found in many foods, such as milk, cheese, dried beans, peas, colas, nuts, and peanut butter. Phosphate is the most common form of phosphorus. In the body, phosphate is the most abundant intracellular anion. It is critical for energy storage and metabolism, for the utilization of many B-complex vitamins, to buffer body fluids, for kidney excretion of hydrogen ions, for proper muscle and nerve function, and for maintaining calcium balance. Phosphorus is vital to the formation of bones and teeth, and healthy bones and soft tissues require calcium and phosphorus to grow and develop throughout life.

Phosphate levels of > 0.3 mg/l PO₄ in ground and surface water are often the impact of human contamination. Ground water and clean surface water contains phosphate below 0.01 mg/l P. Seawater has only 0.07 mg/l P. Drinking water contains only trace concentrations. Wastewater from municipal treatment plant should be below 1-2 mg/l P_{tot}, depending on the plant size, but are often lower.

Sample material:

This test measures only orthophosphate. For the measurement of Phosphorus (total) please use item 1.14543.0001 with the same measuring range as above. This test is suitable for the analysis of: Groundwater and surface water, sea water, drinking water, wastewater, nutrient solutions for fertilization, food and soils after appropriate sample pre-treatment.

Benefits: The Phosphate Cell Test contains 25 tests tubes and is a more convenient compared to the reagent test package.

More details: See package insert in the Internet: <http://www.merckmillipore.com/chemicals>