

Phosphate

A phosphate is an inorganic chemical and a salt of phosphoric acid. In organic chemistry, a phosphate, or organophosphate, is an ester of phosphoric acid. Of the various phosphoric acids and phosphates, organic phosphates are important in biochemistry and biogeochemistry (ecology), and inorganic phosphates are mined to obtain phosphorus for use in agriculture and industry.

At elevated temperatures in the solid state, phosphates can condense to form pyrophosphates.

Adding and removing phosphates from proteins in all cells is a pivotal strategy in the regulation of metabolic processes. Phosphorylation and dephosphorylation are important ways that energy is stored and released in living systems.

Higher serum phosphate levels were associated with an increased risk of [brain hemorrhage](#), whereas low levels were associated with an increased risk of [cerebral infarction](#) in [hemodialysis](#) patients. These results suggest the importance of managing serum phosphate levels within an appropriate range in hemodialysis patients ¹⁾.

¹⁾

Yamada S, Tsuruya K, Taniguchi M, Tokumoto M, Fujisaki K, Hirakata H, Fujimi S, Kitazono T. Association Between Serum Phosphate Levels and Stroke Risk in Patients Undergoing Hemodialysis: The Q-Cohort Study. *Stroke*. 2016 Sep;47(9):2189-96. doi: 10.1161/STROKEAHA.116.013195. Epub 2016 Aug 9. PubMed PMID: 27507862.

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