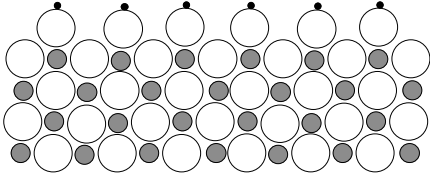


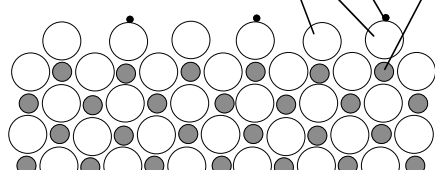
An explanation of "point of zero charge" - Part I

"Point of zero charge" for a given mineral surface is the pH at which that surface has a net neutral charge.

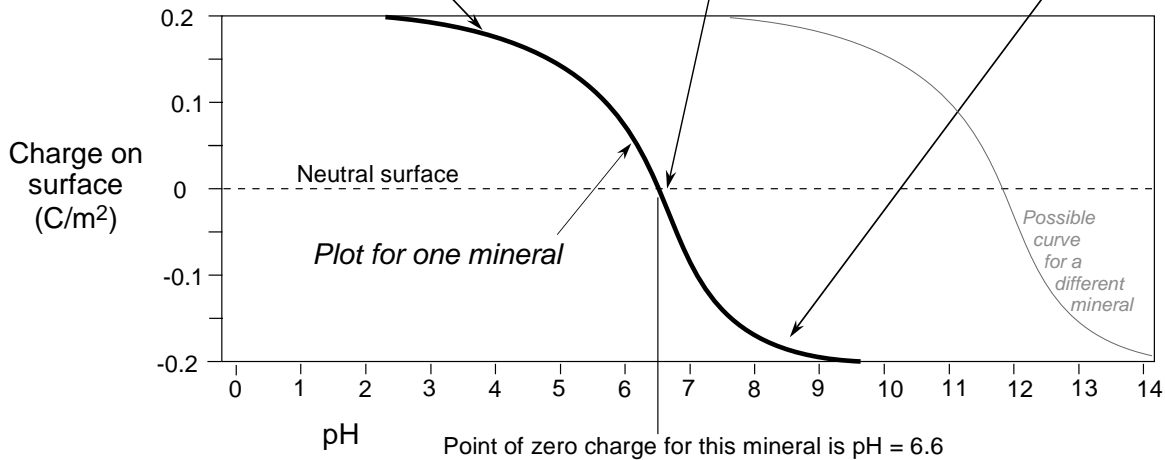
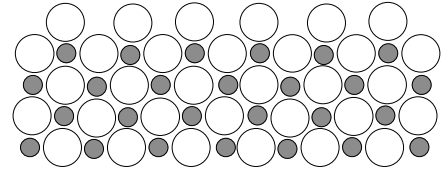
H⁺ ions reside on surface rather than enter low-pH (H⁺-rich) solution, resulting in positively charged (H⁺-rich) surface:



Neutral surface:



H⁺ ions enter high-pH solution, resulting in negatively charged (H⁺-poor) surface:



The significance of this kind of plot is that a given mineral surface will have positive charge at solution pH values less than the pzc and thus be a surface on which anions may adsorb. On the other hand, that mineral surface will have negative charge at solution pH values greater than the pzc and thus be a surface on which cations may adsorb.

The position of the curve differs among the various minerals. See "An explanation of 'point of zero charge' - Part II" for an explanation of why at least some vary as they do.