

Abstract

Production of iron orthophosphate

A process for the production of iron (III) orthophosphate of the general formula $\text{FePO}_4 \times n\text{H}_2\text{O}$ ($n \leq 2.5$) in which

a) an aqueous solution containing Fe^{2+} ions is produced in that oxidic iron (II), iron (III) or mixed iron (II, III) compounds selected from hydroxides, oxides, oxide hydroxides, oxide hydrates, carbonates and hydroxide carbonates, together with elementary iron, are introduced into a phosphoric acid-bearing aqueous medium, and Fe^{2+} ions are dissolved and Fe^{3+} is reacted with elementary Fe (in a comproportionation reaction) to give Fe^{2+} ,

b) solids are separated from the phosphoric-acid aqueous Fe^{2+} solution, and

c) an oxidation agent is added to the phosphoric-acid aqueous Fe^{2+} solution to oxidise iron (II) in the solution and iron (III) orthophosphate of the general formula $\text{FePO}_4 \times n\text{H}_2\text{O}$ precipitates.

Figure 2a