

Abstract

The invention relates to binary, ternary and quaternary lithium phosphates of general formula $\text{Li}(\text{Fe}_x\text{M}^1_y\text{M}^2_z)\text{PO}_4$ wherein M^1 represents at least one element of the group comprising Sc, Ti, V, Cr, Mn, Co, Ni, Cu, Zn, Be, Mg, Ca, Sr, Ba, Al, Zr, and La; M^2 represents at least one element of the group comprising Sc, Ti, V, Cr, Mn, Co, Ni, Cu, Zn, Be, Mg, Ca, Sr, Ba, Al, Zr, and La; x = between 0.5 and 1, y = between 0 and 0.5, z = between 0 and 0.5, provided that $x + y + z = 1$, or $x = 0$, $y = 1$ and $z = 0$. The said lithium phosphates can be obtained according to a method whereby precursor compounds of elements Li, Fe, M^1 and/or M^2 are precipitated from aqueous solutions and the precipitation product is dried in an inert gas atmosphere or a reducing atmosphere at a temperature which is between room temperature and approximately 200° C and tempered at a temperature of between 300° C and 1000° C. The inventive lithium phosphates have a very high capacity when used as cathode material in lithium accumulators.



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