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(54) Title: ELECTROACTIVE MATERIAL

(57) Abstract: A composition comprising a plurality of elongate elements and a plurality of particles is provided for use in a lithium ion battery. The elongate elements and particles each comprising a metal or semi-metal selected from one or more of the group comprising silicon, tin, germanium and aluminium or mixtures thereof. The composition may include additional ingredients such as a binder, a conductive material and a further electro-active material, such as graphite. The compositions can be used for the fabrication of electrodes, preferably anodes in the manufacture of lithium ion batteries and optionally batteries based on magnesium ions or sodium ions. The silicon comprising composition is able to intercalate and release lithium during the charging and discharging cycles respectively of a battery into which it has been incorporated. Methods of fabricating the composition of the first aspect of the invention and electrodes including the composition are included as well as electrodes thus prepared and devices including such electrodes.



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