γ-MODIFICATION OF MANGANESE DIOXIDE FOR PRIMARY CELLS

Description
A new method for obtaining γ-manganese dioxide used in the production of primary cells (Zn-Mn systems) has been developed. The quality of the electrolytic manganese dioxide (EMD) produced is evaluated according to State Standard No. 25823-83 and also by its phase composition as determined by X-ray diffraction analysis and from the specific capacity of the primary cells produced.

Technical appraisal and economic benefits
The specific capacity of primary cells based on γ-EDM is about 100 W⋅h/kg, which is twice that of primary cells fabricated using EDM produced by conventional methods.

Application areas
Production of primary cells of the Zn-Mn system

Development stage
A pilot plant for producing γ-EDM has been constructed. A pilot run of primary cells was produced at the Vostsibelement plant (Svirsk, Irkutsk region). The pilot run was successfully tested for the discharge stability of primary cells sized R6(316)1.513.

Patent situation
The development was patented in the Russian Federation (1996).

Commercial offers
Investment contract to commercialize the development.

Estimated Cost
The total cost of the annually produced amount of manganese dioxide (2500 tons/year) is about US$ 5 million.
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