

## ELECTROCHEMICAL PURIFICATION OF PHOSPHORIC ACID

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1. A method of electrochemical purification of thermic phosphoric acid from the admixtures of arsenic and lead is elaborated; it is found the applicability as electrodes of a platinum anode and of a copper cathode.

2. It is found that it is useful before the electrolysis to add the copper ions in the amount not less than fourfold comparing to the present quantity of arsenic.

3. Together with the ions of copper, arsenic is the first to fall out in the form of a chemical compound  $\text{Cu}_3\text{As}_2$ .

For this purpose with the most favorable density of current at the copper cathode of 0,005 to 0,01, A/cm<sup>2</sup>, 10—12 A/hours are necessary per 1 kg of acid.

4. After full elimination of arsenic, begins the precipitations of lead. For the removal of the last traces of lead, a potential of not less than 0,355 V is necessary. Lead is reduced the quickest from acid of 70—75%.

5. The anode density of current on the platinum at a temperature of 50° may be brought to 1 A/cm<sup>2</sup> without loss for the process of electrolysis.

6. After electrolysis the acid must be filtered from the cathode mud consisting chiefly of metallic arsenic.

7. For the purification of 1 ton of 70—75% phosphoric acid at a temperature of 50°, 4,3 V and 15000—20000 A/hours are necessary, which make 65—86 kW/h.

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*ЖУРНАЛ ПРИКЛАДНОЙ ХИМИИ*

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## ЭЛЕКТРОХИМИЧЕСКАЯ ОЧИСТКА ФОСФОРНОЙ КИСЛОТЫ

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