THE OBTAINING OF CRYSTAL LITHARGE IN AQUEOUS MEDIUM

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1. The chief factor for the conversion of hydrooxide of lead into crystalline litharge is the presence in the reacting medium, of soluble salts of lead or anions of any acid which together with lead give soluble salts. Hence it follows that.

There does not exist any minimum of concentration of alkali which can dehydrate the hydrooxide of lead.

2. Hydrooxide of lead, containing a very small quantity of anions of acid connected with lead, dehydrate when heated to 100° for several minutes by an alkali of any concentration and even by pure water.

3. Chemically pure hydrate of oxide of lead. obtained by thorough washing with weak alkali, may also be quickly dehydrated with the obtaining of crystalline litharge, however, not by alkali, but by a weak solution of acid.

4. The rate of dehydration principally depends on the temperature, then on the concentration of the soluble salts of lead present in the dehydrating medium and lastly, in a less measure, on the concentration of alkali in the dehydrating liquid.

5. The presence of micrócrystals of litharge and also stirring, accelerates the dehydration.

6. The anions of acid, the presense of which is necessary for the process of dehydration do not react alike. By their activity in this process they may be arranged in the following sequence $CH_3COO' - ClO_4 - ClO_3 - NO_3'$.

7. By varying the concentration of the substances which take part in the process of dehydration, likewise the temperature and stirring, one can obtain crystalline litharge of various size, color and structure of crystal. In accordance with the change in the shade of the color of litharge from yellow to red the density of the litharge increases and its reacting capacity decreases; but in all cases it is considerably higher, than in litharges by a igneous process.

8. The formation of litharge in an aqueous medium, takes place by intermedial formation of basic salts of lead.

9. The described mechanism of formation of crystalline litharge in an aqueous medium is also confirmed by the factor, that litharge is likewise obtained in direct mixing of alkali solutions heated to 100° with a solution of any salt of lead and that in such a case one may observe a temporary appearance of intermedial basic salts of lead in the form of a plentiful white sediment.

10. The highest practical value of this method is seen in connection with the electrolytic method of dissolution of lead as the electrolyte after regeneration is again made use of.

11. „Electrolytic litharge" is distinguished by:

a) high purity;

b) capacity to be easily and completely washed away from the electrolyte in the medium in which it is obtained;

c) great reacting capacity.

ПОЛУЧЕНИЕ КРИСТАЛЛИЧЕСКОГО ГЛЕТА В ВОДНОЙ СРЕДЕ

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