

INVESTIGATION OF VARIOUS INFLUENCING FACTORS OF HYDROTHERMAL SYNTHESIS OF ANALCIME ZEOLITE

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Abstract. The analcime zeolite of potential practical importance has been obtained based on the natural mineral of Nakhchivan Autonomous Republic. Analcime has a wide range of application and therefore its optimal synthesis conditions have been determined. The influence of temperature and crystallization time, the concentration of alkaline solution and mineralizer on the process of synthesis of analcime has been studied. The optimal conditions established in this study for the synthesis of analcime zeolite with a 100% degree of crystallinity are as follows: temperature of 180°C, alkaline and mineralizer solution of 10-15% KOH and 5-10% KCl and processing time of 50 hours. It has been shown that the presence of the KCl mineralizer promotes the production of pure analcime with a 100% crystallinity, and the natural mineral of Nakhchivan represents a good source for the synthesis process.

Keywords: analcime, hydrothermal synthesis, natural mineral, zeolite, crystallization.

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