

## عنوان مقاله:

Investigation of iron removal process from silica by acid leaching

## محل انتشار:

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## خلاصه مقاله:

Silica has to possess special properties in certain applications. Amongst the major impurities in silica which adversely affect its properties, are iron and ferrous compounds. In this study an effort has been made to remove iron from silica by phosphoric acid in simple and inexpensive way. The effects of the three parameters of temperature, acid concentration, and time on two different particle sizes of 100 and 200  $\mu\text{m}$  were examined. The amount of iron dissolved in the acid solution of each sample was determined by atomic absorption spectroscopy (AAS). According to the results, it was evident that since the surface areas of the smaller particles in contact with the solution were larger, the efficiency of the process improved. In conclusion, dissolution in the acid solution of 1.0 M, over the time of 120 min, and at the temperature of 80°C resulted in the highest efficiencies of 53% and 41% for the particle sizes of 100  $\mu\text{m}$  and 200  $\mu\text{m}$ , successively.

## کلمات کلیدی:

Silica, Iron removal, Phosphoric acid, Acid leaching, Quartz

## لینک ثابت مقاله در پایگاه سیویلیکا:

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