

Difference in Arsenic Removal Performance among Types of Magnesium Reagents

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In some areas of developing countries, health effects have been feared because underground water contaminated with arsenic has been used as drinking water. Therefore it is desired that effective and inexpensive 'arsenic removal agents' should be developed and provided to reduced health risk. To develop the arsenic removal agents (arsenic adsorbents or flocculants), systematic experiments that focused on the components related closely to arsenic removal need to be carried out and also the fundamental data that obtained in the experiments need to be stored and organized. In this study, magnesium was focused as one of the components effective for arsenic removal. Arsenic removal tests were carried out using artificial arsenic contaminated water. Six types of magnesium reagents (magnesium chloride, magnesium sulfate, magnesium oxide, magnesium hydroxide, and light and heavy types of magnesium carbonate) were tested. Then the arsenic removal performance was evaluated on the basis of reagent addition concentration and magnesium content in reagent.

Keywords: arsenic removal, magnesium salts, arsenic contaminated water, arsenic removal ratio, arsenic removal efficiency