

**ARSENIC DETERMINATION AND REMOVAL
FROM DRINKING WATER**

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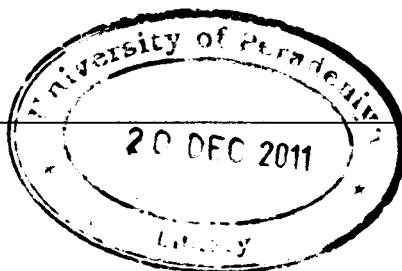
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The contamination of ground water with arsenic leads to several health problems. The delayed health effects of exposure to arsenic are one of the major problems determining the extent of arsenic in water. There are over 10 billion people in the world exposed to this severe crisis. Even a very low concentration of arsenic in drinking water may cause several health problems.

Wide range of analytical techniques and combination of techniques are available for the determination of arsenic in water. According to the review, Among these techniques, the combination of hydride generation technique with Atomic Absorption Spectrometer (AAS) method was found as a simple, sensitive, economic and fast analytical method.

Spectrophotometric technique using the silver diethyl dithiocarbamate is a simplest method of determination of arsenic in water. This method has not been used to a considerable extent so far in the detection of arsenic. Still it seems to be a very accurate method. But it was found that the spectrophotometric technique is not suitable at low limits of arsenic concentrations.

One of the principal techniques used to remove arsenic from water is adsorption. It's accumulation of materials at the interface of, the liquid /solid boundary layer. Activated alumina, activated carbon, kaolin clay, silica sand, iron oxides coated sand etc. are commonly used adsorbents.

In this study calcium molybdate, zinc molybdate and, barium molybdate were used to remove arsenic from water. According to the FTIR spectral data of arsenate treated calcium molybdate, zinc molybdate and, barium molybdate it was found that arsenate is incorporated to calcium molybdate and zinc molybdate. Hence it has been found that arsenate can be removed by adsorption using calcium molybdate and zinc molybdate.

