

## ARSENIC CONTAMINATION PROBLEM AND ARSENIC REMOVAL TECHNOLOGIES IN DRINKING WATERS

R. Irkin<sup>1\*</sup>, N. Degirmencioglu<sup>2</sup>

<sup>1)</sup> Balıkesir Univ, Susurluk Vocational School, Susurluk, Balıkesir, Turkey

<sup>2)</sup> Balıkesir University, Bandırma Vocational School, Balıkesir, Turkey

Arsenic contamination of ground and surface waters is one of the most important environmental problems. Natural water sources contain much higher amounts of arsenic concentrations than the permissible limit (10µg/L). Arsenic compound is known as toxic, mutagenic and carcinogenic. It can cause cancer of bladder, lungs, skin, kidney, liver and prostate. Because of its high toxicity on human health, the USEPA (US Environmental Protection Agency) and WHO (World Health Organization) have lowered the maximum contaminant level in drinking water 50 to 10 µg/L. In some studies, researchers have studied the effect on the removal of arsenic from waters in the recent years. Electrocoagulation or electrochemically ways, modified coagulation filtration, manganese greensand filtration, modified lime softening, electrodialysis reversal, oxidation/filtration ion exchange, adsorption by adsorbents, iron oxide coated sand have been reported for arsenic removal. There is a great need for new cost-effective methods to remove arsenic from drinking water. However, the efficiency of the process is highly dependent on the raw water source quality. In this review it was discussed arsenic contamination risks of drinking waters all over the world and the last removal technological studies about arsenic. Also, comparison of the techniques, advantages and disadvantages of the removal processes showed in the study.

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\* Corresponding author: reyhan@balikesir.edu.tr