

## **PURIFICATION OF WATER USING SILVER BASED NANOFILTER**

**KAUSHIK LONDHE<sup>1</sup>, RUJUTA MAMADAPUR<sup>1</sup>,  
UTSAV VORA<sup>1</sup> AND ALPANA MAHAPATRA<sup>2</sup>**

<sup>1</sup>Student, Dept. of Chemical Engineering, DJSCOE, Mumbai, India

<sup>2</sup>Professor and former head, Dept. of Chemical Engineering, DJSCOE, Mumbai, India

### **Abstract**

A tenth of the world's population does not have access to clean, drinking water. Millions of people worldwide die due to the consumption of water contaminated with lead, arsenic etc. and also water containing bacteria and viruses. So these waters require suitable treatment before consumption. This paper has discussed the synthesis and working of an innovative and relatively inexpensive device such as the **Nanofilter** which can remove Iron, Arsenic, Lead and Bacteria present in water. This filter structurally consists of a cage-like arrangement which is made up of aluminium and chitosan with Silver Nanoparticles embedded in it as Silver has an inherent antimicrobial property. Chitosan basically is a carbohydrate which is derived from the chitin present in the crustacean cells. A comparison has been made between the Silver based Nanofilter and the Conventional Reverse Osmosis filter. It has been found that the Silver based Nanofilter is most suitable and relatively cost effective as compared to other filters.

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