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JAY

DEFLUORIDATION OF WATER

PROJECT REPORT PRESENTED

BY

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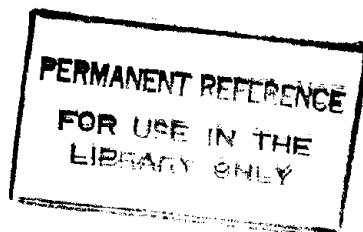
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ABSTRACT

Fluoride is present in high concentration in drinking water in a large number of bore hole, hand pump wells and ordinary wells. This creates a major fluorosis problems i.e. mottling of teeth, stiffness of joints and crippling.

Various defluoridation methods have been known to remove the excess of fluoride in drinking water. For examples, Nalgonda Method, ICOH Defluoridator, Nagurdota Defluoridation Plant etc. The lack of awareness of the cause of the problem among the inhabitants in fluoride rich areas, and also on account of economic constraints, a simple, easy to operate household defluoridator, is most essential to alleviate the problem. Such a low cost household defluoridator using burnt bricks was developed and tested in fluoride rich regions of Sri Lanka.

In this research, the above mentioned method is applied and laterite is used instead of bricks. Three sizes of laterite particles < 4.00mm, 4 -8 mm, 8 - 16 mm are used and the best particle size of the laterite for defluoridation was determined in this work. The methods used for detection of fluoride are Colorimetric Method, Ion Selective Electrode Method and Ion Chromatographic Method. Out of these three methods, the best method is selected to detect fluoride content in water when it is present in high concentration such as 2.5 mg/l