

TRENDS IN MEDICINAL AND ENVIRONMENTAL SCIENCE: AN INTRODUCTION

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CHAPTER - 4

ASSESSMENT OF HEAVY METAL CONTAMINATION IN POLYMERIC DISPOSABLE ITEMS

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Abstract

Exposure to heavy metals in our environment continues to pose considerable risks to both human and animal health. The main aim of this study was to monitor the concentrations of heavy metals in leachates from different brands of locally made plastic disposable items commonly used across different districts of Uttar Pradesh, India. The study was carried out under various simulated conditions to determine heavy metal concentrations in accordance with BIS, IP, and other international guidelines using an atomic absorption spectrophotometer (AAS). The results showed that the presence of metals was in the range of 0.21 -1.12, 0.003-0.118, 0.-1.099, 0.120-1.111, 0.011-0.900, 0.067-0.211, and 0-0.19 (ppm) for Pb, Cd, Ni, Zn, Cr, Co, and Mn, respectively. A comparison of the mean concentrations of these metals analyzed in different samples showed the following pattern.

Ni> Pb> Zn> Mn> Cr> Co> Cd.

Keywords: Heavy metals, ppm, leachates, plastics.

4.1. Introduction

We are currently at an age dominated by plastic. The advent of

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