

## SHC 24. A RESEARCH ABOUT THE LEAD PRESENCE IN CERAMIC, PORCELAIN AND GLASS KITCHENWARE CURRENTLY IN USE AT OUR HOMES

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It is known that, exposure to lead cause to various detrimental effects on the hematopoietic, kidney, reproductive, and central nervous system. One of the sources of lead intake, is colored decorations applied over glazes of some ceramic, porcelain and glass tableware. Also, the cadmium and chromium can be found in these objects.

In this study, aimed to determine the amount of lead, cadmium and chromium found in colorful decorated ceramic, porcelain and glass kitchenware which in daily use at home in Ankara. For this purpose, 84 analyses were performed for 31 samples (18 porcelain, 9 glass, 4 ceramic). 16 of the samples were made in China, 8 in Turkey, 3 in Germany, one each in France, England, Cyprus and Malaysia. Before, the decorated/painted surface and the unpainted glazes of the samples were analyzed and finally the samples that homogenized by grinding, were analyzed by XRF.

As well as lead, the chromium and cadmium were found in the decorated surface analysis of some samples. The average amounts of lead (by weight), chromium and cadmium, were determined as 1.82% (in 26 samples), 0.154% (in 20 samples) and 0.189% (in 6 samples), respectively, in the decorated surface analysis. The lead was determined in the unpainted glazed surface of 3 of 31 samples, only. The chromium and cadmium were not found in the unpainted glazed surfaces of all samples. The average amounts of lead and chromium 0,117% (in 26 samples), 0.021% (in 8 samples) were found in the grinded samples, respectively. The cadmium could not be determined in none of all grinded samples.

The lead, chromium and cadmium were not found in any analyzed parts of 3 Turkish products (1 glass, 1 porcelain, 1 ceramics). A high amount of lead (decor=9.66%, 9.56%=glaze, grinded sample=1.15%) was observed in all analyzed parts of the British ceramic samples. The lead, chromium and cadmium, were determined as 7.18%, 0.118% and 0.409% (the highest amount of cadmium in the study), respectively, in decorated surface of a china glass. The results of this study indicated that the daily use of colorful decorated tableware is a high human health risk factor in the current time, still.

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